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Financial Advisory

Ministry of Education Effectiveness & Efficiency Review

Phase 2 Review
Tri-Board Student Transportation Services

May 2008

Table of Contents

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

Executive Summary

Introduction

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

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

Effectiveness and Efficiency Review Summary

Tri-Board is a Consortium providing transportation for approximately 36,000 students utilizing 645 bus routes traveling over 97,000 km daily across a geographic area covering approximately 17,000 square kilometres.

The Consortium was formed by three Partner Boards: Algonquin and Lakeshore Catholic District School Board ("Algonquin"), Hastings and Prince Edward District School Board ("Hastings") and the Limestone District School Board ("Limestone"). Tri-Board Student Transportation Services also sells transportation services to Conseil des écoles catholiques de langues françaises du Centre-Est ("CECLFCE") and Conseil des écoles publiques de l'Est de l'Ontario ("CEPEO") for French language students within the coterminous area.

Tri-Board has been operating as a consortium since 1996 in one form or another. It was initially set up as a transportation authority, then a partnership (2002), and most recently in 2006 as a non-share capital corporation. Since its incorporation in September 2006, Tri-Board has continued to quickly and functionally organize resources to effectively and efficiently deliver student transportation in their catchment area. Tri-Board has accomplished many of the key steps necessary in order to fulfil its mandate as a student transportation consortium. Notable achievements include:

- Establishment of an operation that is physically and legally separated from the Partner Boards. The Consortium has clearly defined relationships, cost sharing mechanisms and oversight roles and responsibilities. The Board of Directors that oversee the Consortium has equal representation from each Partner Board which promotes fairness and equal participation in decision making and ensures the rights of the stakeholders are considered equally. There is a clear delineation, demonstrated both in formally documented terms and as observed operationally, between the roles executed by those in a governance capacity versus those considered management of the Consortium; this is a key element in effective governance and management.

- Bell time changes in the Hastings and Algonquin boards have allowed Tri-Board to achieve route efficiencies resulting in the reduction of 66 busses in the 2004/2005 fiscal year. Tri-Board has taken steps to utilize current information technology to facilitate communication between boards, Tri-Board, and the Operators.

- The future plans of Tri-Board include further improvements related to the effective and efficient delivery of services through the implementation of a voice response system; assessing the business case related to GPS systems on buses; ongoing route optimization; and greater

integration of the MapNetWeb application to facilitate information flow between the boards and the consortium. These goals have been documented by the Consortium in their ongoing goals and objectives tracking document.

- Tri-Board and its Partner Boards have developed, documented, and enforced a full array of harmonized policies and operational practices to ensure that transportation is delivered safely and equitably to all users. These policies and practices establish the level of transportation service that will be provided. They also establish the basis on which the Consortium's management supports and communicates its daily operational and long term planning decisions.

- Tri-Board aggressively uses technology, including the use of a single comprehensive digital map, to optimize their routing and service strategies. Tri-Board's use of technology to improve the quality and timeliness of information available to users and stakeholders in the system enhances the quality of service, and improves the effectiveness and efficiency of Tri-Board operations. Tri-Board makes use of a detailed, hierarchical approach to student coding which facilitates comprehensive data extraction and reporting of student-specific transportation information.

- Tri-Board monitors Operator compliance with policies of the Consortium and terms of the operator agreements at the beginning of the school year with key safety requirements such as CVOR and CPIC records, insurance requirements and compliance with vehicle age policy.

The primary opportunity for improvement relates to Tri-Board's contracting practices. At the time of our E&E Review (late October), the Consortium was still negotiating some terms in the Operator contracts, and as such, not all contracts were signed and in place prior to service beginning. This could pose a liability issue for the Consortium should an incident occur as there could be disconnect between the expectation of Tri-Board (as defined in the standard contract) and the expectations of the Operators (who have yet to sign the contract). Additional recommendations related to contracting practices include:

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

- Ensuring the nature of the route is reflected in the remuneration structure. The Operator rate structure is such that Tri-Board is paying both the Driver wages and the variable kilometre cost for the time and distance travelled by the Operators between the last drop off and first pick up. For some of the longer routes in the region, this may not be appropriate. If a Driver does not return to the point of the first pick up, and instead remains in the population centre near the school between the morning and afternoon runs, then payment of the kilometres may not be necessary, as the return kilometres may not be driven. While it may be good practice to pay the Driver wage component during this time, it is recommended that the practice of paying the variable per kilometre rate be examined to ensure that it is not paid when return kilometres are not actually being driven.

The policies and practices that the Consortium has established are indicative of a strong working relationship with the Partner Boards, effective management and administrative structures, and routing practices that consider the balance between the level of service to be provided and costs. 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 Tri-Board to a consortium that is highly effective and efficient.

Funding Adjustment

As a result of this review of current performance, Tri-Board has been rated as a **Moderate-High** Consortium. Based on this evaluation, the Ministry will provide additional transportation funding that

will narrow the 2007-08 transportation funding gap for Algonquin and Lakeshore Catholic District School Board, Hastings and Prince Edward District School Board and Limestone District School Board. Conseil des écoles catholiques de langues françaises du Centre-Est and Conseil des écoles publiques de l'Est de l'Ontario will have their 2007-08 transportation funding gap reduced on the same basis but proportionately to the amount of transportation expenditures which they purchased from Tri-Board in 2005-06.

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

Algonquin and Lakeshore Catholic District School Board	$47,672
Hastings and Prince Edward District School Board	$236,847
Limestone District School Board	$834,352
Conseil des écoles catholiques de langues françaises du Centre-Est	$43,968
Conseil des écoles publiques de l'Est de l'Ontario	$203,361

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

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. From 1998-1999 to 2007-2008, an increase of over $195 million in funding has been provided to address increasing costs for student transportation, such as fuel price increases, despite the fact that there has been a general decline in student enrolment in recent years.

1.1.2 Transportation Reform

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

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

1.1.3 The Formation of School Transportation Consortia

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

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

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

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

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

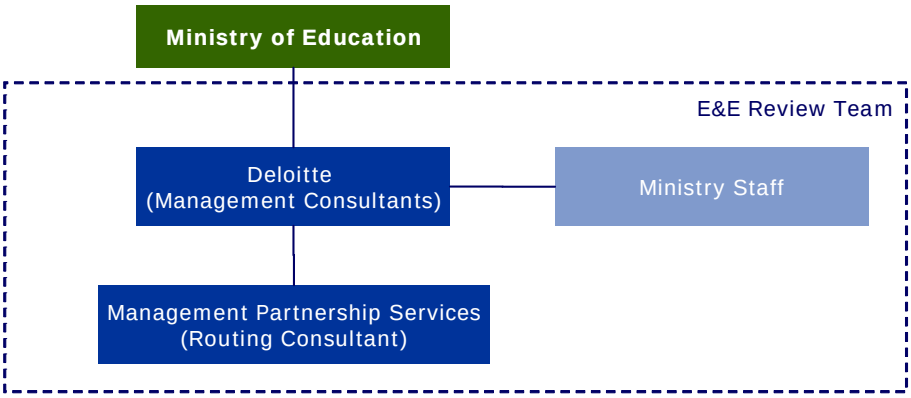
1.1.4 Effectiveness and Efficiency Review

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

1.1.5 The E&E Review Team

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

Figure 1: E&E Review Team



1.2 Scope of Deloitte Engagement

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

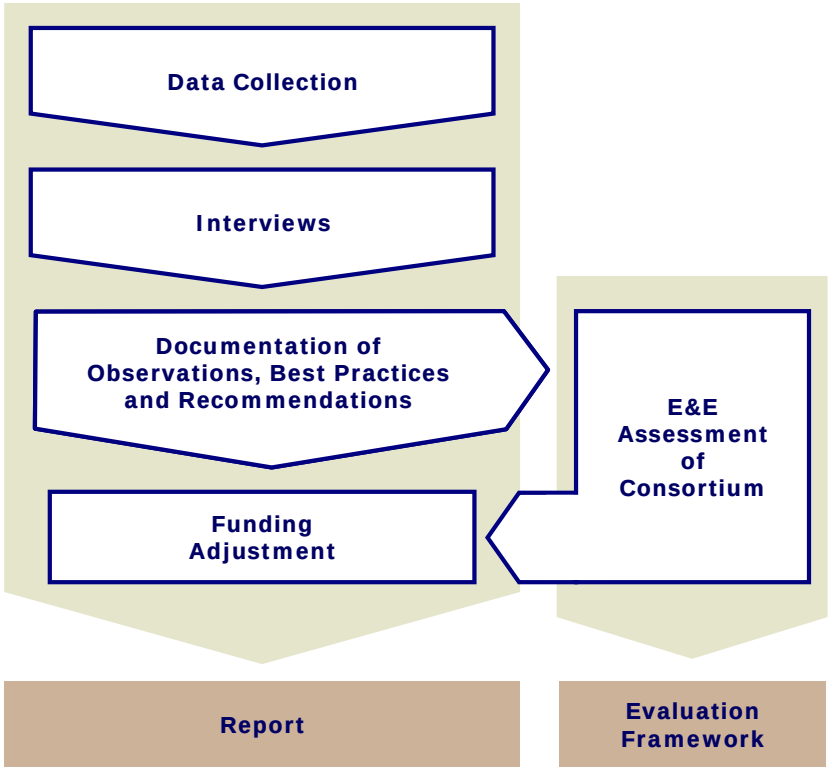
- Lead the E&E Review for each of the five (5) transportation Consortium to be reviewed in Phase Two (refer to Section 1.1.4);
- At the beginning of each E&E Review, convene and moderate planning meetings to determine data required and availability prior to the review;
- Lead the execution of each E&E Review. The Ministry facilitated the process by providing the Consortium with information required in advance so that preparation and collection of information would be done prior to the on-site review;
- Review Consortium arrangement and governance structures, and contracting procedures;
- Incorporate the results of the routing and technology review in addition to the policies and practices review to be completed by MPS; and
- Prepare a report for each Consortium which has undergone an E&E Review in Phase Two. The

target audience for the report will be the Ministry, the Consortium and its Partner Boards. Once finalized, each report will be released to the Consortium and its Partner Boards.

1.3 Methodology Used to Complete E&E Review

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

Figure 2: E&E Review Methodology



A site review Report which documents the observations, assessments and recommendations is produced at the end of a site review. The Evaluation Framework, which provides the details on how the Assessment Guide was applied to reach an Overall Rating of each review site, has been developed to provide consistency.

1.3.1 Step 1 – Data Collection

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

Data is collected in four main areas:

1. Consortium Management;
2. Policies and Practices;
3. Routing and Technology; and
4. Contracts.

1.3.2 Step 2 – Interviews

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

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

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

- Observations which involved fact based findings of the review, including current practices and policies;
- Best Practices used by the Consortium under each area; and
- Recommendations for improvements based on the Assessment Guide. Figure 3 provides a summary of the key criteria used in the Assessment Guide to determine the effectiveness and efficiency of each Consortium.

The observations, best practices, and recommendations in the report were vetted through a peer reviewer, who was not on-site during the review, to ensure consistency in terms of providing valuable sector perspective in the process.

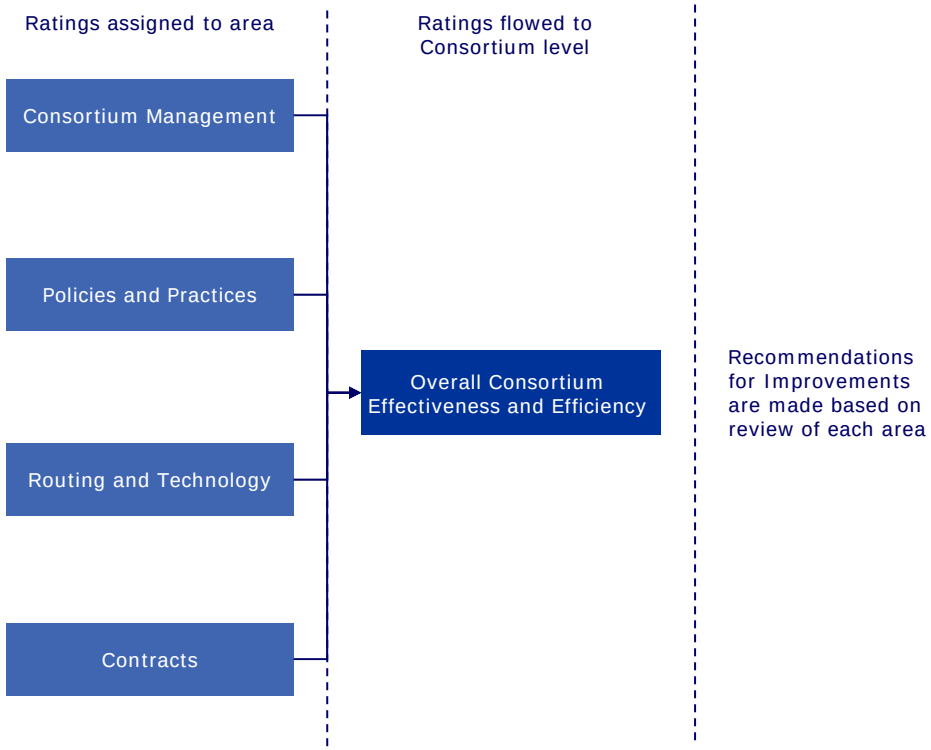
Figure 3: Criteria of an Effective and Efficient Consortium

	Consortium Management	Policies and Practices	Routing and Technology	Contracts
Effectiveness	• 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	• 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 o Policy decisions are made with due consideration to financial and service impacts to partner boards o Communication between the consortium and partner boards facilitates informed decision making on issues directly affecting student transportation o Consortium's policies and practices are adequate and in compliance with all relevant safety regulation and standards o Practices on the ground follow policies	• 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	• 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	• 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	• 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	• 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 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 4 for diagram of process).

Figure 4: Assessment of Consortium – Diagram Flow



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

1.3.5 Funding Adjustment

The Ministry will use the results of the E&E reviews and the cost benchmark study to inform any future funding adjustments. Only Boards that have undergone E&E Reviews are eligible for a funding adjustment. Figure 5 illustrates how the Overall Rating will affect a Board's transportation expenditure-allocation gap.

Figure 5: Funding Adjustment Formula

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

1.3.6 Purpose of Report

This Report serves as the deliverable for the E&E Review conducted on Tri-Board Student Transportation Services by the E&E Review Team during the week of October 16, 2007.

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

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

2. Overview of Consortium

2.1 Introduction to Tri-Board Student Transportation Services

Tri-Board Student Transportation Services ("Tri-Board" or the "Consortium") provides student transportation to approximately 36,000 students daily on 645 bus routes. The geographic area which Tri-Board serves is approximately 17,000 square kilometres.

The Consortium is formed by three Partner Boards: Limestone District School Board ("Limestone"), Algonquin and Lakeshore Catholic District School Board ("Algonquin"), and the Hastings and Prince Edward District School Board ("Hastings"). Tri-Board also sells transportation services to Conseil des écoles publiques de l'Est de l'Ontario ("CEPEO") and Conseil des écoles catholiques de langues françaises du Centre-Est ("CECLFCE") for French language students within the coterminous areas.

Table 1 below provides a summary of key statistics of each Board.

Table 1: 2006-07 Transportation Survey Data

Item	Algonquin	Hastings	Limestone	CECLFCE	CEPEO
Number of schools served	41	53	65	3	4
Total special needs[3] transported students	162	350	483	1	-
Total riders requiring wheelchair accessible transportation	22	32	38	-	-
Total specialized program[4] transportation	921	471	1234	-	-
Total courtesy riders	51	31	25	-	-
Total hazard riders	158	58	289	-	-
Total students transported daily	9,139	12,262	14,108	613[5]	423[6]
Total contracted full- and mid-sized buses[7]	137	197	185	10	9
Total contracted mini-buses	19	42	53	4	2
Total contracted school purpose vehicles[8]	2	-	11	-	1
Total contracted physically disabled passenger vehicles (PDPV)	2	-	10	-	-
Total contracted taxis	19	50	27	5	7
Total Number of Contracted Vehicles	179	375	286	19	18

[3] Includes students requiring special transportation such as congregated and integrated special education students who require dedicated routes and/or vehicles; students who must ride alone; students who require an attendant on the vehicle.

[4] Includes students transported to French immersion, magnet and gifted programs. Students with special needs who are transported to specialized programs are captured as special needs transported students.

[5] CECLFCE transport 13,004 (including 169 students using Public Transit) total students on a daily basis; the number of those students transported by Tri-Board only is shown in the table.

[6] CEPEO transport 11,380 total students (including 3,582 students using Public Transit) on a daily basis; the number of those students transported by Tri-Board only is shown in the table.

[7] Includes full-sized buses, mid-sized buses, full-sized buses adapted for wheelchair use and mid-sized buses adapted for wheelchair use; all vehicle counts are rounded to the nearest whole number.

[8] Includes school-purpose vans, mini-vans and sedans

Table 2: 2006-07 Financial Data[9]

Item	Algonquin	Hastings	Limestone	CECLFCE	CEPEO
2006/2007 Transportation Allocation	8,387,843	12,240,182	11,634,201	416,360	337,353
2006/2007 Transportation Expenditure	8,440,811	12,503,345	12,561,259	453,273	499,741
2006/2007 Transportation Surplus (Deficit)	(52,968)	(263,163)	(927,058)	(36,913)	(162,388)
Percentage of transportation expenditure attributed to Tri-Board Student Transportation Services	100%	100%	100%	4.84%	7.24%

The establishment of Tri-Board is the result of a long history of cooperation and collaboration between the participating Boards. In 1974, the Catholic School Boards and Public School Boards in the area started sharing student transportation services. Seeing the benefit of service and cost sharing, Hastings and Algonquin (West) formed a Bi-Board Transportation Authority in 1998.

In the meantime, a common walking policy was developed for Algonquin, Hastings and Limestone. This policy paved the way for the future development of the Consortium. In 2002, the three boards formed Tri-Board in the form of a non-incorporated partnership. Due to the flexible business nature of the Consortium, it also provided services to CEPEO and CECLFCE for French language students within the areas. In September 2006, Tri-Board was incorporated as a separate non-share capital corporation and currently provides transportation services to an average of about 36,000 students per day.

[9] Based on Ministry Data – see Appendix 2.

3. Consortium Management

3.1 Introduction

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

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

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

Consortium Management – E&E Rating:	**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

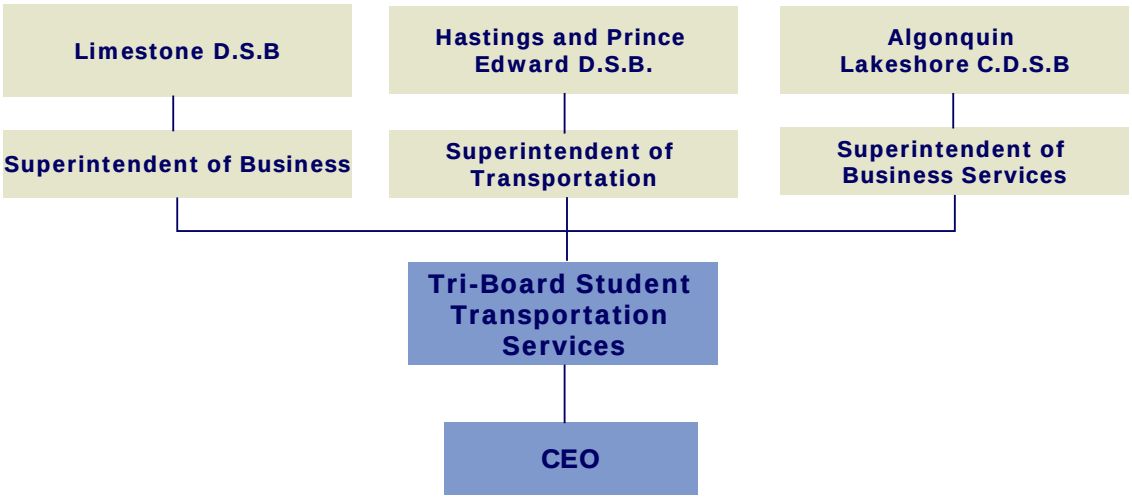
Governance Structure

An effective governance committee is one that provides oversight and ensures that all key stakeholders are appropriately represented. The role of a governance committee is to ensure that the Consortium is focused on an overarching objective while allowing management to run the day to day operations. Governance committees are considered efficient when they are providing sufficient guidance yet not interfering with daily operations.

Tri-Board has a Board of Directors in place to provide oversight for the Consortium. Each of the Partner Boards is represented on the Board of Directors by one individual (refer to Figure 6). The Boards of Directors meets monthly to approve policies/regulations, long term strategy decisions, capital procurement and the annual budget of the Consortium. The Board of Directors is also an important communication conduit back to the Partner Boards and as such the members of the Board of Directors are responsible for relaying information on the activities of the Consortium back to the Partner Boards.

The CEO / General Manager of the Consortium is responsible for the overall operation of the corporation.

Figure 6: Tri-Board Governance Structure



Services Purchased from Tri-Board

In addition to serving the Partner Boards, Tri-Board provides student transportation services to CEPEO and CEFLFCE. Service purchasing boards are not involved in the governance or administration of the Consortium. The terms of the service purchasing arrangement are defined in formal contracts with the Consortium. Services purchased from Tri-Board are provided at the cost of transportation services plus an administrative fee. The cost is determined based on the Rate Formula negotiated by the Consortium with the local Bus Operators Association ("BOA") and allocated based on the number of students per bus. The administrative fee charged is 4% of total costs.

3.2.2 Best Practices

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

- The Board of Directors has equal representation from the Partner Boards. This is important as it ensures fairness and equal participation in decision making and it ensures the rights of the stakeholders are considered equally. Additionally, this concept of truly equal partners is echoed in the Consortium's cost sharing mechanism with regard to administrative costs – see Section 3.4.1 below; and
- The Board of Directors is responsible for the guidance of Tri-Board and approval of major items, and the Board of Directors defers non-oversight issues to the Consortium staff. It is important that the governance committee focuses on providing oversight so that they are not involved in daily decision making. The Board of Directors is independent of the daily operations and management of the Consortium. The autonomy that is enjoyed by the Consortium management team allows the oversight function to operate objectively and in the best interest of the Consortium. These defined roles also ensure that there is no ambiguity in the function of the Board of Directors. It allows for effective and efficient decision making as the Board of Directors can refer to their defined roles and responsibilities when faced with issues.

3.3 Organizational Structure

An organizational structure can have the power to provide for effective communication and coordination which will enable operations to run efficiently. The roles and responsibilities within the organization should be well defined. This will lead to operational efficiencies by ensuring tasks are not being duplicated and issues raised can be addressed effectively by managing up the chain of command. Ideally, the organization is divided functionally (by department and/or area) and all core business functions are identified.

3.3.1 Observations

Entity Status

The Consortium was formed as a distinct non-share capital corporation on September 12, 2006 by Algonquin, Hastings and Limestone. The principal business of the Consortium is to provide "safe, secure, on-time transportation and related services to students".

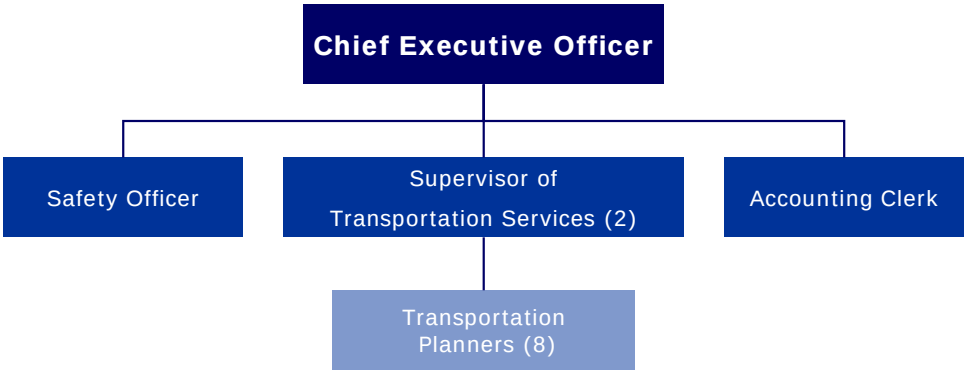
The decision to incorporate the Consortium was brought forth mainly to protect the Boards from a liability perspective. It was recognized that since the Consortium is negotiating Operator contracts and entering into other contractual arrangements, it should be legally separate to ensure it is not subjecting the Partner Boards to additional liability. The Consortium's office, located in Napanee, Ontario, is a self-contained office which is physically independent from its Partner Boards. The Consortium's office is housed in leased facilities. These leased facilities are owned by Limestone and have been leased to the Consortium under a signed two (2) year lease agreement.

Organization of Entity

Tri-Board's organizational structure is such that reporting relationships are clear. The structure is managed by the Chief Executive Officer ("CEO"). The CEO has been delegated full authority to run the day to day operations of the Consortium. The CEO is employed by Limestone but has been seconded to Tri-Board via a signed Agreement. A Safety Officer, an accounting clerk and two (2) supervisors report directly to the CEO. The Safety Officer and the Supervisors are directly employed by the Consortium. The Safety Officer's responsibilities include: the delivery of safety programs, such as School Bus Patroller CAA, Safety Rider Program and SOAR (Safety, Order, and Rights); performance of safety audits; and the organization of ambulance and safety training for Operators and monitors. The accounting clerk is in charge of the entity's financial reporting. Eight Transportation Planners work hand in hand with their supervisors to carry out the daily operation of the bus planning and data updating according to their assigned geographical areas. Although Tri-Board is a separate legal entity, the accounting clerk and the Transportation Planners are employees of their respective school boards, some of whom are 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 7 shows the structure of the Consortium.

In addition to documented structures and responsibilities, the Consortium holds weekly staff meetings. These staff meetings have been proactively organized by the CEO principally to balance workload between Transportation Planners and between other staff. The weekly staff meetings are followed by a meeting between the CEO and department heads where other issues can also be raised and resolved.

Figure 7: Tri-Board Organizational Chart



3.3.2 Best Practices

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

- Tri-Board is incorporated as a non-share capital corporation. This structure provides the Consortium with independence in terms of managing the daily operations and also provides contractual benefits. As a separate legal entity, the Consortium can enter into binding legal contracts, including with bus Operators, for all services purchased, and as such is limiting liability to the Consortium and in turn limiting liability to the school boards; and

- Tri-Board has established a logical organizational structure with clear lines of communication and reporting and it has clearly defined the roles and responsibilities of staff members 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.

3.4 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

Consortium Agreement

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

Tri-Board has a signed agreement in place with the Partner Boards which covers key clauses such as Term, Cost sharing mechanism, Extension of Agreement, Billing Procedure and Provision of Transportation Services. The agreement is dated November 17, 2006. It was noted that the Partner Boards at Tri-Board have a long history of cooperation. This cooperation has led to the Consortium's success in continually improving the operations and management of the Consortium.

Operational Monitoring/Goals and Objectives

A key aspect of continual improvement is the concept of setting and monitoring goals and objectives. The Consortium has a clearly stated mandate, and clearly stated goals and objectives which have been documented regularly using an operational review form (document #39 of Appendix 3). For each goal and objective, there is a plan of action, expected outcome, resources available, timeline, staff responsibilities and status. These goals and objectives are reviewed by the Transportation Supervisors monthly and their status is reported to the CEO quarterly. Once per year, during the Board of Director's meeting, goals and objectives are discussed and approved by the Board of Directors. This is an effective method of keeping the Consortium focused as it seeks to continue to deliver safe, reliable, student transportation services in its catchment area.

Staff Management

When Tri-Board was formed, the Transportation Planners were hired from existing positions within their respective Partner Boards. This mitigated the risk of disruption during the creation of the new organization because those employees hired were already trained to perform the functions of the positions at Tri-Board. The Tri-Board management team is 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. Staff development training, both job specific and general, is provided on a regular basis by the Consortium. The internal training provided by the Consortium includes MapNetWeb and Trapeze software and Digital Map technology training. This allows managers to link employee goals and objectives to the larger goals established annually by the Consortium.

Support Services

A critical management function is determining what services the Consortium should be providing directly versus what services are more effectively purchased from outside vendors. Tri-Board contracts purchasing and facility management services from Limestone and IT Support services from third party

vendors. All support services have appropriate signed contracts in place that define terms and payments.

Dispute Resolution

The Consortium has a defined dispute resolution policy in place for issues raised by students, parents, or individual school officials. If a student or parent has an issue or complaint it is directed first to the Principal of the school who in turn reports to the respective Transportation Planner of the route and the Transportation Supervisor. If the issue cannot be resolved, then it is escalated to the CEO and potentially the Board of Directors at Tri-Board and then ultimately the Trustees for resolution. Though this is the current hierarchy, occasionally, parents will go directly to the Consortium or Trustee. If this situation occurs, parents are directed to the Transportation Planner to address the issue. The E&E Review Team did not note any instances where the policy was not appropriately followed. The Consortium has a separate and appropriate policy in place for dispute resolution between member boards.

Cost Sharing Mechanism

The cost sharing mechanism is a key aspect to the Consortium's operations. Transportation costs generally represent 95% of all Consortium costs, with the balance of 5% for administrative functions. That being said, the Consortium needs to have an equitable method of allocating these costs amongst the Partner Boards. Tri-Board has an equitable cost sharing mechanism in place between school boards based on the ratio of students riding the bus as documented in the Consortium Agreement. Tri-Board is evaluating a new method of cost sharing based on weighted students. Once the system has been evaluated and deemed to be acceptable it will be presented to the Board of Directors for action. If the process is approved, policy and procedures will be formally drafted and presented to the member Boards for approval and then will be implemented. Administrative expenses of the Consortium are shared equally amongst the Partner Boards.

The two service Purchasing Boards are charged for the base transportation cost based on their share of the total planned students on each bus plus an administration fee of 4%.

The Consortium generally pays for all transportation related costs; however, in cases where Consortium employees are employed by one of the Partner Boards, the payroll costs are paid first by the Partner Board who employs the staff member. These costs are then charged back to the Consortium and split equally amongst all Partner Boards. Invoices are exchanged between the Partner Board and Consortium to represent this inter-organizational charge.

3.4.2 Best Practices

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

- Tri-Board has a Consortium Agreement in place between the 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 it clearly defines the relationship between the Boards in the delivery of safe, effective and efficient student transportation services;

- There are agreements in place between the Consortium and the School Boards for support services which the School Boards provide to the Consortium. The amount and the level of services expected to be received by the Consortium are clearly defined and protected by the Agreement. The Agreements ensure that the Partner Boards are properly compensated for the services they provide;

- Training is provided to staff regularly to ensure they have sufficient knowledge to do their job efficiently. Tri-Board has a formal process in place to evaluate staff performance. The result of the evaluation is discussed with the staff. The evaluation process provides management with knowledge in terms of understanding the training and development needs of staff. 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 Consortium has top talent working for them; and

- The Consortium cost sharing mechanism is documented in their Consortium agreement and provides a fair allocation of costs. The cost sharing mechanism ensures that there is no ambiguity with regard to payment terms/sharing which could limit the potential for disputes.

3.5 Financial Management

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

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

3.5.1 Observations

Accounting

Accounting processes are a necessity and can be effective and efficient if the process is well defined and provides sufficient controls over assets. The accounting function is outsourced to Limestone, however, there is a full time Accounting Clerk on site to record all financial transactions and consolidate the general ledger. Limestone has established a separate cost centre within their financial accounting software to capture the charges to and from the Consortium. The chart of accounts is split by type of transportation expense. Consortium staff can edit the assigned account codes for charges through the Access Direct portal to the Limestone financial system. Reconciliations are executed monthly through the "purchasing card monthly reconciliation". The Consortium has its own bank account and had its 2006-2007 financial statement audited since it became a separate entity in 2006. The accounting processes and policies used by the Board are in place for all transportation expenses and revenues.

Board-based transportation costs, including wages of employees from the Boards, are charged back to Consortium at year end and then re-allocated amongst the Partner Boards.

It was noted through discussions with the management of the Consortium that there were past situations where invoices were:

- Paid directly by the Partner Boards that relate to the provision of student transportation without being processed; and/or
- Otherwise recorded by Limestone in their GL but not properly coded to the cost centre which contains the financial transactions of the Consortium.

Each situation was identified by the Consortium and the Consortium has taken corrective measures instituting controls to ensure that all invoices are processed for approval by the Consortium prior to processing by Limestone as an accounting service provider.

Processing Payables

Tri-Board uses a computerized Transportation Payment System (TPS) to calculate and pay the bus Operators and to allocate the costs to the Partner and Service Purchasing Boards. Therefore, the Consortium is not billed by the Operators for services provided rather the terms and conditions of the prevailing Operator contracts are captured within the TPS which provides an automated means for settlement of payments between the Operators, Consortium, and school boards which receive transportation services. The Operators are paid on the 15th of each month and the Boards are billed twice per year, the results of a cost reconciliation process. All billings are processed through Limestone's accounting system.

Tri-Board pays all of the Operator payments through their own bank account and recovers each Board's expenditures semi-annually from the estimated invoices. These transactions are recorded by Limestone in a cost centre which represents the Consortium. All of these transactions are subject to approval at the Consortium level, documented by journal entry level approval by the Consortium.

Twice per year, on June 30 and August 31st, Tri-Board invoices all Boards based on actual expenditures incurred to provide transportation services. For the Service Purchasing Boards, these invoices include a 4% Administration fee as an expenditure recovery for administrative costs. In addition, any costs relating specifically to a board will be billed to them directly, as is the case for

board specific summer school transportation. The E&E Review Team did not note any deficiencies related to the timeliness or accuracy of the reconciliation process nor in the way costs are shared.

Budget Planning and Monitoring

The Consortium's budget planning goes hand in hand with the School Boards' planning schedule. Every January, the Consortium estimates the costs for the following year, which evolves to the preliminary budget that is submitted to the School Boards for review. In May, after receiving board feedback, the Consortium refines and adjusts the budget accordingly and resubmits the budget for final board approval.

After the budget is finalized, the CEO reviews the actual expenditures versus the budgeted expenditures on a monthly basis. Additionally, Tri-Board presents a quarterly variance report to the Board of Directors. The Board of Directors is responsible for approving the reasonableness of overall expenditures and variances in budgeted amounts. This is an excellent process that allows each Board to regularly monitor transportation expenditures and to utilize the knowledge and expertise of the Board to both explain and understand budget variances.

3.5.2 Best Practices

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

- Appropriate controls over financial accounting are in place at Tri-Board. This is important to ensure assets are safeguarded and only valid expenses are paid;
- Financial management policies are complete in that they fully capture the Consortium's guidelines for roles and responsibilities, authorization levels, and reporting requirements; and
- A budgeting process is in place at Tri-Board which ensures timely completion and appropriate approval of budgets as well as ongoing monitoring of actual expenses.

3.6 Results of E&E Review

Consortium management has been assessed as **High** in terms of effectiveness and efficiency. The Consortium has made great strides to look for efficiencies in their operations. Tri-Board has demonstrated that it is operating in the best interest of all stakeholders. 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.

4. Policies and Practices

4.1 Introduction

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

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

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

Policies and Practices – E&E Rating:	**High**

4.2 Transportation Policies & Practices

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

4.2.1 Observations

General Policy Development

A wide array of policies and regulations are required to fully address the many operational aspects of a large and complex transportation operation such as Tri-Board. Policies or guidelines should cover, at a minimum: general transportation eligibility criteria; allowable walking distances to a stop or school; stop placement criteria; allowable student ride times; courtesy transportation eligibility; identification of hazards and related transportation eligibility; the management of school bell times to improve service efficiency; the use of transfers and other specialty transportation to improve service efficiency; allowable fleet age and maintenance/equipment standards; student behaviour management; and weather related events and closings. Two subjects that require separate attention due to their large impact on operations are special needs transportation and safety programs and training. Clear and concise policy statements and service guidelines provide the parameters under which the service will operate, and constrains the system to remain within established and agreed upon levels of service.

Tri-Board has established policies that are supported by a complete set of regulations that encompass most of the required areas, and that are fully harmonized between the Partner and Service Purchasing Boards. Transportation Supervisors and Transportation Planners are fully conversant with each of the policies and regulations and apply them equitably between the Partner and Service Purchasing Boards. An appropriate appeal process has been established for service delivery disputes, with all appeals being reviewed by either a Tri-Board Transportation Supervisor or the CEO. In the event that transportation is denied by Tri-Board management, an appeal may be heard by the Board of Directors.

Observations related to specific policy statements and regulations are as follows:

- *General Transportation Eligibility* – Students are eligible for transportation when walking distances exceed the distance to school as established in the current Student Transportation Policy Manual

(January 2002). The starting point of a route may be determined to be on a maintained city, township, county road or provincial highway. The policy manual clearly states that the Consortium will *endeavour* to provide services but does not explicitly guarantee transportation.

- *Walking Distances and Stop Placement* – Walking distance to a student's school of attendance or a stop is fully covered by regulation in the Student Transportation Policy Manual. Chart 1 summarizes allowable walk distances. These are fully harmonized between the Partner Boards and the Service Purchasing Boards.

Grade Level	Distance to School	Distance to Bus Stop
Jr. Kindergarten to Grade 6	1.6 km.	0.8 km.
Grades 7 and 8	3.2 km.	0.8 km.
Grades 9 to 12	3.2 km.	1.6 km.

The determination of stop locations is the exclusive responsibility of Tri-Board staff, and is based on industry best practices, established guidelines, and statutory requirements. Elements that are considered in stop locations include topography, line of sight, traffic conditions, roadway geometry, and others.

- *Alternate Bus Stops* – Alternate bus stops may be used for court-ordered joint custody agreements and for caregivers. The alternate stop must be in the normal attendance area of the school, on one of the existing bus routes, and at a pre-existing stop location.

- *Student Ride Times* – Student ride times are an important indicator of the overall service level being provided by a transportation operation. Considering the impact on student achievement, extra curricular activities, and safety, and given the constraints of safety, time, and distance the overarching goal of transportation is to *minimize* the amount of time that students spend on a bus. The Consortium has fully harmonized maximum ride times between the Partner Boards at 60 minutes for all JK through grade 12 students *unless* a student has attended a school/program outside of their attendance area or if there are geographical impediments that overly constrain the Consortium from meeting this target. An example might be when a single student resides at a much greater distance to school than other students. If all of these students are logically grouped onto a single route from an efficiency standpoint, then the route may be longer than the 60 minute constraint for that one student. In no instance is a ride time expected to exceed 90 minutes. These policies are illustrated below.

Grade Level	Tri-Board Student Transportation Services
Jr. Kindergarten to Grade 6	60 minutes
Grades 7 and 8	60 minutes
Grades 9 to 12	60 minutes

An analysis of ride times conducted as part of the E&E Review indicates that on average the *maximum* student ride time is 46 minutes for all routes within the system. This analysis also indicates that approximately 2,435 student trips, or 3.3% of the total, have ride times exceeding the 60 minute guideline. Given the rural nature of the service delivery area, this is very acceptable and well within the intent of the policy statement.

- *Courtesy and Hazard Transportation* – Courtesy transportation is provided contingent upon approval by Consortium management. An application must be submitted by the requesting parent at the student's home school. These requests are forwarded to the Consortium for review and approval. Transportation may be granted pending a review of the request providing the residence is on an established route and there is room on the bus. Currently, there are approximately 3,500 riders with a courtesy transportation code, accounting for approximately 10 percent of all transported students. Courtesy transportation is discussed in greater detail in the following section specific to Routing and Technology.

  Hazardous boundaries are established and maintained on the digital map as a responsibility of the Data Management Planner. Currently, there are approximately 1,800 students (5 percent of total transported) with a hazard transportation code. Hazardous considerations include railway

crossings, topography, sidewalk systems, water crossings, four lane roads, and traffic conditions. Parents or guardians are responsible for ensuring the safety of their student to and from their pick-up location or school of attendance. Hazard transportation is discussed in greater detail in the following section specific to Routing and Technology.

- *Student Behaviour Management* – Student conduct expectations are fully described and supported by the Consortium's Policy Manual. Per Consortium policy and Education Act, the student is responsible to the principal, with authority delegated to the driver, for his conduct while riding on a school bus. Student conduct is documented on a Student Behaviour Form for follow through by the principal. Student management training programs are provided by the Consortium to all contracted Operators.

- *Weather Related Events and Closings* – Policies prescribe the procedures that each operator and driver must adhere to in the event of inclement weather. These include communications to the school building administrator, radio stations, and Consortium management. The general cancellation of transportation is determined by Consortium management after consultation with the Directors of Education.

Operating Practices

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

Examples of those in use by Tri-Board include:

- *School Bell Time Management* – The Consortium has been given latitude in the determination of school bell times, and to investigate and propose potential adjustments that will increase system efficiency. Although this is not documented in a formal policy statement, a high degree of cooperation exists among all stakeholders in this process.

- *Fleet Age and Condition* – Operator contracts are unambiguous regarding the allowable age of the fleet. All daily route buses are expected to be less than 11 years of age. At least 50 percent of the fleet must be less than 6 years of age with the remainder in the 7 to 11 year range. The Consortium does allow Operators to utilize buses as old as 13 years as occasional spares.

- *Use of Transfers* – Routing strategies include the use of transfer for students in outlying rural areas or for students attending schools with specialized programs. Approximately 3.7 percent of the total or 1,300 transported students utilize transfers. The Consortium generally establishes transfer points at board schools or neighbourhood stops using existing drop-off and pick-up zones with paraprofessionals providing supervision at the larger sites. Transfers are determined by the Transportation Planner taking into consideration the student's home address and the program of attendance. Established practices limit the maximum number of transfers to three.

Policy Harmonization

All policies, regulations, and operational practices and procedures are fully harmonized between the Partner and Service Purchasing Boards. This ensures consistent and equitable service delivery across the entire system, and is consistent with the expectations of the E&E process.

Policy Enforcement

Adherence to established policies and practices is critical to ensure that service is delivered safely and equitably to the partner and service purchasing Boards. Observations and interviews indicate that a strict adherence and uniform enforcement of Consortium policies and practices is in place throughout the system.

4.2.2 Best Practices

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

- Tri-Board and its Partner Boards have developed, documented, and enforced a full array of harmonized policies and operational practices to ensure that transportation is delivered safely and equitably to all users. These policies and practices establish the level of transportation service that will be provided and establish the basis on which Consortium management supports and communicates its daily operational and long term planning decisions.

4.2.3 Recommendations

Ongoing Policy and Practice Evaluation and Documentation

The ongoing success of the Consortium in providing consistent and equitable service to its member Boards will be dependent on its continued use and enforcement of documented policies and operational practices. Currently, some of the success enjoyed by the Consortium can be attributed to the respect and trust that is exhibited between current Consortium management and the Board of Directors. As the Consortium evolves and continues operations into the future, staff will turn over and change both within the Consortium and its member Boards. A continuous evaluation of existing documentation, and expansion to include currently undocumented but established practices such as bell time management and courtesy riders (discussed further in section 5), will be important to ensure that the current success survives future staff turnover and changes in expectations. It is recommended that Tri-Board Student Transportation Services – Partner Board Policies (Document #40 per Appendix 3) be updated to reflect any changes to the Consortium's policies since it was last Board approved in January 2002.

Bilingual Translations

Purchasers of service include CEPEO and CECLFCE. Historically the translation of Consortium documents into French has not been necessary. According to Consortium management, there is no demand for, or request from, the French language boards for translated documents. We suggest that the consortium solicit formal confirmation on an annual basis as to whether their purchasing boards wish to be communicated with in French or English. Furthermore, it may be necessary to ensure translation resources are in place as Tri-Board's usage of Web enabled communication media with parents increases. There will likely be a need for French translated versions of specific pages of the Tri-Board website.

4.3 Special Needs and Specialized Programs

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

This section examines the policies and practices that determine the approach to special needs and specialized transportation, and how well practice conforms to established policies.

4.3.1 Observations

Policies and practices governing special needs transportation in particular are defined in both the general policy statements and also in a separate and comprehensive *Rules and Regulations for Specialized Transportation* manual. The eligibility for special needs transportation is determined by the Special Education Coordinators within each Board. Transportation Planners are advised by the Educational Services Department as to the specific needs of the student. Every effort is made to deliver service in the most efficient manner; however, the child's specific needs ultimately determine the method of transportation and may include a special needs operator or a parent contract. Transportation via a regular education route *may* occur when appropriate and within the needs of the student.

Initial and ongoing training programs support the established policies and include:

- Student/Driver Relations;
- Disability Awareness including physical, developmental, speech etc.;
- The safe use of wheelchairs and other assistive devices;
- Students with allergies; and
- General evacuation and specific evacuation procedures including wheelchairs and car seats.

4.3.2 Best Practices

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

- The *Rules and Regulation for Special Education Manual* is comprehensive and clear in its detail of special needs transportation and the specific guidelines for each potential disability.

4.4 Safety Policy

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

4.4.1 Observations

Tri-Board has established a comprehensive safety program that clearly demonstrates its commitment to the safe transportation of students. Examples of this include:

- The hiring of a full time Safety Officer with the responsibility for providing and overseeing safety related training programs for Operators, drivers, students, parents, and the community;
- Establishing a dedicated budget to support safety initiatives reducing the potential for expenditure conflicts and a reduction of safety related programs; and
- Participating in the production of innovative public service programs for both television and radio release.

Policies require each of the Operators to provide initial and ongoing driver training programs. These programs include Epi-Pen use, bus evacuations, and student management. The Consortium provides a variety of programs for both students and drivers. For students this includes First Time Rider and Buster the Bus for kindergarten to grade 3, and the Safety, Order, and Rights program and School Bus Survivor Extreme for grades 4 through 8. For drivers, program offerings include First Aid, CPR, and the requirements specific to special needs transportation.

4.4.2 Best Practices

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

- Safety and Training programs, supported by a full time Safety Officer with a dedicated budget, endeavour to educate Operators, drivers, students, and parents on their role and responsibility in the safe transportation of students; and
- Community outreach programs including the "*Think of Us on the Bus"* program, public service announcements on both radio and television, and the participation of the Consortium in parades and community events all seek to promote school bus safety.

4.5 Results of E&E Review

Policies and Procedures development and implementation has been rated as **High**. The Consortium has done an excellent job in the creation and implementation of the policies and procedures that govern the delivery of transportation service. The evidence of respect and cooperation between the Partner Boards and the Consortium management sets an example for others to follow in their implementation of the Consortium model. The Consortium's dedication to the safe transportation of students is clearly demonstrated by the establishment of a Safety Officer's position and dedication of budgetary support to training materials and supplies.

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 four key components of:

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

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

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

5.2 Software and Technology Setup and 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 & Related Software

Effective use of software and technology begins with the acquisition and installation of tools appropriate to the task at hand. Tri-Board has purchased and installed the MapNetWeb routing software package from Trapeze. Tri-Board switched from BUSTOPS (MicroAnalytics) to MapNetWeb in April 2006, in preparation for the 2006-2007 school year. Consortium management determined that Trapeze's MapNetWeb would enhance their ability to analyze the route network and improve overall efficiency and effectiveness. MapNetWeb has since been fully implemented. All transportation planning staff have been trained at a basic user level, with key planning staff receiving enhanced training and capabilities for system administration plus data analysis and reporting.

MapNetWeb has been installed as a supplementary reporting tool for online, secure, user-specific route and student information and access is provided to Operators and school administrators. All current route information is available through this tool in real-time. In addition, installation of an IVR (Integrated Voice Response) system is pending for voice-prompt, student-specific route information. This is scheduled to be completed by January 1, 2008, with access provided to parents. Also in progress is an evaluation of AVL (Automatic Vehicle Location) for real-time fleet tracking and route management and analysis. These software tools are supplemented by the Tri-Board website that provides important static information regarding operating policies and practices, and access to key forms that provide the entry point for much of the day-to-day management of the transportation system. The website also provides real-time operational information on overall system delays and cancellations.

Maintenance and Service Agreements

The installed technology must be adequately supported to ensure uninterrupted access. All technology applications are hosted locally in the Tri-Board central office, where all Consortium staff is housed. The

system is fully networked within this office. Broadband online access is provided via a dedicated high-speed DSL (Digital Subscriber Line). The agreement with Trapeze calls for one base plus four additional MapNetWeb seat licenses, in addition to ongoing software upgrades and technical support via telephone. Technical support for hardware and disaster recovery is under contract to a local (Kingston) based company. This support includes a fully mirrored system plus office space for one workstation. Tri-Board's Disaster recovery protocol includes next day restoration of operations with one staff member using these resources, plus additional rented laptops for individual Transportation Planner use from home or other remote locations. An additional daily data backup is taken of the system each night when the office closes. The backup media is removed from site by either the CEO or one of the two Transportation Supervisors.

Training and System Use

With appropriate technology installed and supported, users of this technology must be adequately trained to take advantage of the capabilities it offers. Throughout Tri-Board's organization, there are various levels of knowledge and experience. This is primarily true and relevant for the cadre of Transportation Planners. This not only applies to the installed technology, but to the knowledge and skills required to provide effective student transportation in general. Tri-Board has pursued a strategy in technology training that ensures a baseline level of competence in the use of the core MapNetWeb system for all users: Transportation Planners, Transportation Supervisors, and the CEO. Coupled with industry experience and the sharing of this experience across the organization, Tri-Board ensures that each individual user capitalizes on the capabilities of the system that are most relevant to their daily tasking. Enhanced training is provided to a core group of Transportation Planners that are assigned responsibility for the critical tasks of database management, data extraction, and reporting.

This strategy is an implicit recognition that not all users will have the skills or desire to achieve a high level of competence with the planning software. Given the distribution of route planning responsibilities across the organization, this approach can lead to inconsistent results if an aggressive oversight and cross-training protocol is absent. This is true, however, relative to overall industry experience and is not specific to expertise with the routing software, and the tiered approach to training and staff software expertise is judged to be effective. All staff are competent users of the system. Key staff receive additional training, and "power user" skills are concentrated among staff with responsibility for system administration who then serve as a resource for all other users. Technical support on MapNetWeb is also optimized by establishing a single point of contact through the staff system administrator. However, a regular program of training for all staff that goes beyond the initial training received with the conversion to MapNetWeb is not currently in place, and will be required to ensure ongoing improvement throughout the organization.

System Coding Structures

The effectiveness of the system coding structure will, in large measure, define the effectiveness of the overall software system. Effective coding is vital to the efficient identification and management of specific data records within the system. Efficient operations, for example, demand an ability to easily filter student data to identify a constantly changing subset of student records that a Transportation Planner must manipulate during their day-to-day activities. One example may be all students with recent address changes in that Transportation Planner's geographic area of responsibility. It is system coding that facilitates this capability. Effective coding is equally vital to the ongoing analysis of system performance. Filtering for a particular group of routes such as those serving a particular cluster of schools, or measuring capacity utilization consistently across the entire system demands a comprehensive, hierarchical, and well conceived coding structure. This structure should have a basis in utility; that is, it should be reflective of what information is required by management and Transportation Planners on a regular basis. It should not be overly complex, but rather should balance the relative need for detailed data with the difficulty and error potential inherent in an overly complex structure. This is explored further in the paragraphs that follow.

Within Tri-Board's system, student records are coded to identify their specific Board, school, and program affiliation. Each student record also receives a series of hierarchical and descriptive eligibility codes. Chief among these is a one letter code defining the student as eligible for transportation, ineligible, or a walker. Two additional exception codes identify the primary exception for eligibility, if applicable (such as out of attendance area) and reason for exception-based eligibility (such as hazard or courtesy).

An analysis of the data reveals both the utility and difficulty inherent in maintaining a comprehensive coding structure such as this. Chart nos. 1-3 show, respectively, total transportation eligibility, all

eligible students by the first level exception code, and all exception students by the second level exception code. Thus, roughly 35,000 students are eligible for transportation within the system. 83 percent of these are eligible without exception, and 17 percent are provided with transportation on an exception basis. 7 percent of all transported students, for example, are provided with transportation even though they reside inside the walk zone for their program of attendance. Of all students provided with exception-based transportation, 58 percent are provided on a courtesy basis. Thus, for example, a student may be eligible for transportation on an exception basis because he lives within the walk zone for his school but a decision was made to provide transportation anyway on a courtesy basis. Alternatively, we can glean that 58 percent of all exceptions are courtesy-based. Since 17 percent of total riders are exception-based, simple math (0.58*0.17*35,000) yields the count of approximately 3,500 total riders that are provided with transportation on a courtesy basis. The other exceptions are provided due to Board approved program (14%) and because of hazards (28%).

Chart 1

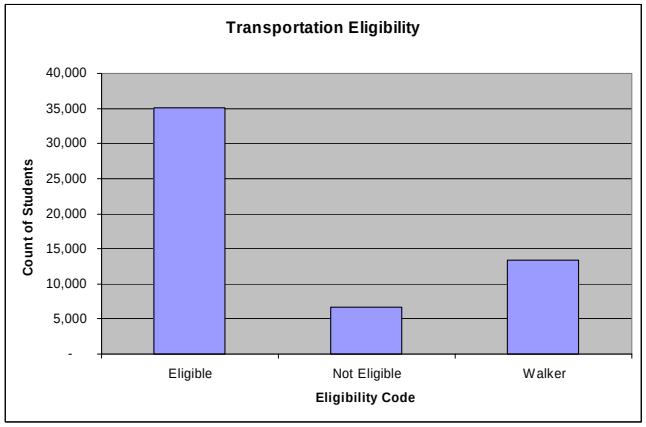


Chart 2

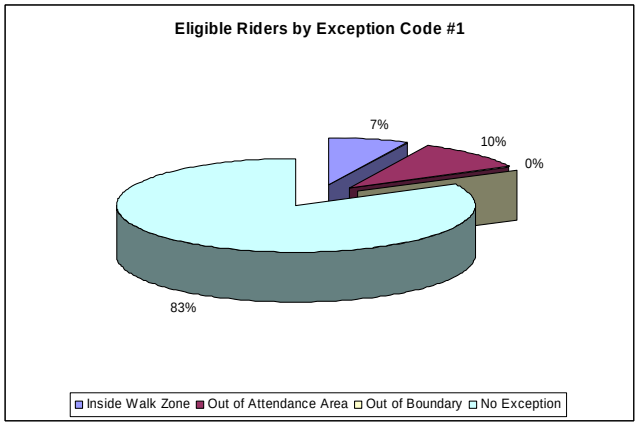
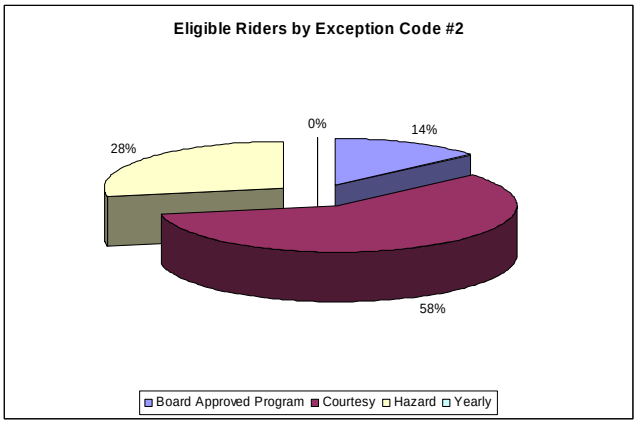


Chart 3



The analytical and management value of maintaining such a coding system becomes very clear. Further analysis of the data, however, also reveals the difficulty inherent in maintaining its integrity. Each change in the student record must result in a manual validation of the complete coding hierarchy for that student. If, for example, a change is made whereby a student that was previously receiving courtesy-based transportation changes residence such that they are now eligible without exception, the Transportation Planner responsible for that student must be diligent in recoding the record to remove the exception codes. Recognizing that the top-level eligibility code does not change from “E” in this example, it is easy to see how the second and third level codes might also unwittingly remain unchanged. This has the effect of corrupting the data. Our analysis revealed evidence of this in that there were more than 800 student records that indicate no first level exception, but do contain a second level exception, which should not happen.

Following transportation eligibility, the primary identifiers for the type of service to be provided comes next in the student coding hierarchy. This is managed through the use of two “program codes”. Program Code #1 defines the base transportation program, such as “RG” for regular or "SE" for special needs. This is supplemented by Program Code #2, which identifies the type of transportation

vehicle required, such as “RG” for regular bus, or “WC” for Wheelchair. Additional text fields on the student record are utilized to identify specific requirements (such as special needs exceptionality information), and tertiary codes are used to identify specific transportation requirements, such as harness or oxygen. Most other significant coding is dependent on the basic architecture of the MapNetWeb system, which utilizes "Activities" to identify each relevant student-program-school-route linkage.

A specific shortcoming in the current coding structure is that route and trip identifiers are not, by themselves, significant. That is to say that they do not, by themselves, provide an indication of the type of route or the program serviced. Rather, route and trip numbering are sequential in nature and only indicate the bus providing the service, not the school or program, and not the type of route or trip it may be. There is no unique identifier for any type of "specialty" route within the system, such as shuttles, transfers, or combination routes. There is no easy mechanism, for example, to identify from the route number itself a route that may be a dedicated “collector” route serving only a transfer point, and no particular school or program. This is self-limiting from both a tactical and strategic route management perspective. On a tactical level, this requires an intimate knowledge of the route structure and how routes that might suit a particular need interrelate with each other. Strategically, it becomes far more difficult to analyze aggregate relationships, such as how many students ride dedicated versus combination routes, and to glean overall trends in performance.

5.2.2 Best Practices

It is recognized that Tri-Board has demonstrated best practices in the following areas:

- Tri-Board’s aggressive use of technology to improve the quality and timeliness of information available to users and stakeholders in the system enhances the quality of service, and improves the effectiveness and efficiency of Tri-Board operations;
- Tri-Board’s centralized office staff location, its local hosting of all technology, its use of outside expertise for technical support, and its comprehensive data backup and disaster recovery protocols ensure continuity of operations and maximum staff effectiveness and synergy; and
- The detailed, hierarchical approach to student coding facilitates comprehensive data extraction and reporting of student-specific transportation information.

5.2.3 Recommendations

Training

Tri-Board’s strategy is to develop enhanced software expertise among a subset of key users. Within this framework it is important to the ongoing success and improvement of the organization and the route system itself that a regular program of in-service training be developed. Indeed, a tacit recognition that differing levels of software and industry experience and expertise will continue to exist among the corps of Tri-Board Transportation Planners makes a comprehensive training program necessary. While we do not dispute that a great deal of cross-training and knowledge sharing occurs as a result of the physical proximity and operational practices of the organization, we nevertheless recommend the development of a formalized approach to training. At a minimum, this should include a monthly in-service training program that targets the relative level of expertise of individual Transportation Planners. This training should not be limited to the routing software, but should include subjects touching on all aspects of student transportation route planning and operations. Most of these sessions can tap the expertise that currently exists throughout the organization, but some sessions should bring in outside sources such as representatives from the Operators association, business officials from the Partner Boards, ministry representatives, and other industry experts.

System Coding

Tri-Board’s ability to manage and analyze its route structure would be considerably enhanced through the implementation of a revised route numbering system. Trip numbering can continue to reflect the assigned bus number, but changing route numbers to reflect the school serviced and/or the type of route it is would greatly improve the utility of the data for analysis and reporting. For example, current routes are assigned a numeric identification based on the bus providing the service, whether it is a morning or afternoon route, and the sequence of the route in the morning or afternoon series. Thus the trip name “869 AM TRIP” and the route identification “869-1AM” in the current structure indicates the first route in the morning sequence and that it is performed by bus #869. A revised structure might continue to include the same trip name, to keep a link with the bus number and

morning sequence, but a revised route identification such as “420-01T”. This route identification incorporates a reference to the school serviced (Centennial SS), a sequence to indicate the number of the route servicing this school (01), and a suffix indicating that this route also passes through a transfer point. Similarly “465-1PM” might become “150-03C” indicating a combination run (“C”) serving multiple school locations, with school 150 (Madoc PS) being the last school served in the sequence. Many other variations of this approach can be developed. This approach allows for easy identification of the route’s purpose and type, both for day-to-day operations and for analysis and reporting purposes.

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

A complete and accurate digital map is a fundamental prerequisite to effective use of computerized routing software. The map currently in use was converted from the BUSTOPS system. One addition to the map was received through a Ministry source, and converted by Trapeze. This piece of the map covers the far northwest portion of the Consortium's jurisdiction. Best practices in the area of map maintenance include partnering with outside sources and other local users of electronic map data, to the extent that they exist, to coordinate and improve the quality of the map. This may include accessing electronic map data developed by other entities, and/or establishing a network of users that improve overall map accuracy for all users through the ongoing communication and sharing of information. There is currently no regular program of receiving or incorporating map updates from any outside source. All map updating and maintenance is locally handled by Tri-Board staff.

Significant effort has been expended since the conversion to MapNetWeb to clean-up and improve the functional accuracy of the map. Currently, the Consortium reports that the entire map, with the exception of the recently added portion, contains valid addressing. This includes student and school locations. The new portion of the map represents a highly rural area without 911 addressing. The Consortium is working on establishing address ranges for this area.

One Transportation Planner position within the organization is not assigned any geographic responsibilities but instead focuses on maintenance of the map and student database. This position receives all input (internal and external) and sets map attributes accordingly. Best practices in this area include a proactive protocol of reviewing and validating map attributes on an ongoing basis. Efforts to date have been primarily reactive to problems discovered during route development and auditing processes. The preponderance of effort is beginning to shift, however, toward proactive map auditing and maintenance using error and exception reporting to identify problems. This is becoming possible now that the base map has been improved and operations stabilized after the BUSTOPS conversion.

Right side pickup and drop-off requirements are set as global system defaults, or overwritten at the student record level as required. Currently, only special needs students are defaulted to have right-side drop requirements. No students or school locations are hard coded on the map; procedures require valid address matching and geocoding for processing of student records. The Tri-Board service area is very large, and there has been no coordinated effort to-date to calibrate all road segments. Rather, this is handled on an exception basis using feedback from bus Operators and other sources as it becomes available. All hazards are established on the map exclusively by the Data Management Planner. Decisions regarding the establishment of hazards are made at the Supervisor level.

Student Data Management

Best practice in the management of student data calls for a "rollover" of student data in the transportation database as the first step in the annual route planning cycle. Planning can then be conducted in a simulation area using these data. Once most of the student data in the Boards’ information systems have been updated for the next school year (grade advancement, new JK/SK students, other new registrations, etc.), a first comprehensive download can be provided to update the planning data. A second comprehensive download should then be provided as the "final" download

before the start of school. Then, over the course of the school year, daily "add/change/delete" downloads should be provided to keep the transportation student database current and accurate.

All students are included in Tri-Board MapNetWeb database, whether eligible for transportation or not. Student data is provided via data extracts from the Partner Board student information systems. Two Boards provide daily "add, change, delete" extracts. The third Partner Board provides a weekly full download, although this is slated to move to a daily "add, change, delete" extract shortly. The two French language boards that purchase service also provide data via weekly downloads; discussions are continuing with these boards to also move toward a daily download. The data files are provided either as email attachments or via posting to a Board website. They are provided as either delimited text files or *Microsoft Excel* files. In all cases the data is validated and manipulated by Consortium staff before being uploaded to MapNetWeb to ensure accuracy. French language boards provide student data already translated; Consortium staff runs an *Excel* macro to remove/convert French language punctuation to English equivalent before importing data to MapNetWeb.

The Consortium has not yet established a regular annual process or protocol for the rollover of student data from year-to-year for planning purposes. With the conversion to MapNetWeb, all efforts have been focused on achieving steady-state operations. However, current plans call for implementation of this routine beginning in calendar year 2008. This would include conducting a rollover within MapNetWeb in a simulation area to begin planning in spring, 2008. This would be followed by receipt of a comprehensive student data download from each Board in June/July which would include known changes for the 08-09 school year. A second comprehensive download would be received at the start of school in September.

Student data accuracy is the responsibility of local school administrators. Internal Consortium protocols call for errors to be sent back to the schools for correction, although this is not formally documented. These records will not be overwritten in Trapeze until the data is correct. However, it is also standard practice for Transportation Planners to establish a temporary record manually within Trapeze to provide student routing pending receipt of the correct data. These temporary records are either overwritten with the correct data received via subsequent downloads, or manually deleted once the correct data is received. This practice establishes an appropriate burden on Board staff to maintain student record accuracy. The desire to provide a high level of customer service results, however, in duplication of effort in the creation and management of temporary student records within the MapNetWeb database. A high potential exists for corrupting the overall student database if this process is not managed carefully.

5.3.2 Best Practices

It is recognized that Tri-Board has demonstrated best practices in the following areas:

- The use of a single, comprehensive digital map covering all areas within its jurisdiction, and the centralization of map maintenance responsibilities with a single staff member ensure consistency and appropriate levels of attention to these key elements;
- The centralized decision-making and establishment of hazards within the system is an excellent practice; and
- The management of routine (daily and weekly) student data downloads and the overall management of the student database within MapNetWeb are well founded, but should continue to evolve as the organization becomes increasingly sophisticated and expert in its use of MapNetWeb.

5.3.3 Recommendations

Digital Map Maintenance

The Consortium should continue to design and implement a regular, proactive map auditing protocol to establish and sustain a high level of map attribute accuracy. Along with this, Tri-Board should explore alternatives to the current dependence on internal map maintenance procedures. The Consortium should investigate whether there are other digital map users throughout the region, to the extent feasible, and explore the creation of a cooperative approach to information collection and reporting that would enhance accuracy and reduce the overall level of effort required by all users.

Student Database Management

Once all Boards (partner and purchasing) are providing daily "add/change/delete" student downloads, and the accuracy of the data being provided is judged to be at a high level, then consider moving toward automated assignment of new and changed records to stops and routes. Manage true exceptions only that either need intervention by Transportation Planners for proper routing, or that cause overloads/underloads or other exceptions to be created on routes. Manual manipulation of the daily downloads should be kept to a minimum. Ideally, once verified and validated, these changes should flow through the routing system such that manual action on the part of Transportation Planners is minimized. The Consortium should address changes that, for example, cause a reassignment of a student from one stop or route to another, but that do not cause an overload or under load situation on either route should be automated, facilitating the comprehensive management of exceptions only.

5.4 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.

5.4.1 Observations

Reporting and Data Analysis

There is no program of regular output reporting. The "reports" that have been developed are in the form of SQL queries stored as text files. These queries are run in a character (prompt) based query tool provided by Trapeze for the purpose of generating error management and other reports used by the system administrator (Transportation Planner) for database management. No other custom reports are utilized. True output report usage is very limited. In general, route detail reports are extracted as needed and turned into .PDF files for emailing to Operators, schools, etc. However, the primary source for information outside of the organization is MapNetWeb Web. Internally, the primary source of information for operations and analysis are predefined and customized "lists" created within MapNetWeb. These lists of information (student data, route data, etc.) are used to identify records, manage exceptions and errors, and numerous other regular tasks. Data is frequently extracted from the system for analytical purposes. These extracts are conducted on an as needed basis, and for various system administration and analytical purposes. Two Transportation Planners demonstrate a high degree of competence accessing and utilizing data from the system.

Distributing Data and Performance Measurement

The primary source for information outside of the organization is MapNetWeb. This is a highly useful web-based tool that permits authorized users to access a pre-defined range of transportation data organized by operator, bus, trip, and route. The data can be displayed on screen, or placed into PDF reports for printing. Since this tool accesses the MapNetWeb database directly, real-time information is available to all users of this tool. The primary drawback to this approach is that users are not generally aware of when changes have been made to the database. A secondary process that provides Operators with email notification of changes to their routes is initiated by Transportation Planners after these changes are made. While functional, this can cause notification to be time-late relative to the change.

There is no regular performance measurement program currently in place. Thus, while tactical information on routes and students is readily available, Tri-Board does not attempt to measure its performance either for internal use or to inform its Partner Boards and other stakeholders of transportation system performance. Performance measurement and monitoring for analytical and reporting purposes is encouraged for the continuous improvement of consortium operations.

5.4.2 Best Practices

It is recognized that Tri-Board has demonstrated a best practice in the following area:

- The aggressive use of technology to “push” data out to users and stakeholders adds significant value and minimizes the need for reactive follow-up on the part of Consortium staff. The use of Tri-Board website, MapNetWeb Web, and pending implementation of IVR is recognized.

5.4.3 Recommendations

Reporting and Performance Measurement

Tri-Board is sufficiently advanced in its routing processes and use of technology to garner significant benefits from the implementation of a structured performance measurement program. Specifically, we recommend that Tri-Board consider designing and implementing a program to calculate, report, and track over time several key indicators of performance. These include:

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

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

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

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

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

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

5.5 Regular and Special Needs Transportation Planning and Routing

Transportation route planning is the key activity undertaken by Tri-Board. Special education in particular presents unique challenges that often require operational strategies well outside the normal practices of any organization. This portion of the review was designed to evaluate the strategies, tactics, and processes used to provide transportation to regular and special education students and the approaches used to minimize the cost and operational disruption associated with both types of transportation.

5.5.1 Observations

Strategic Analysis

To date, Tri-Board has used the MapNetWeb software primarily for tactical route development. However, they do use the data from the system to conduct route efficiency analysis and, most frequently, to analyze the impact of policy changes. The primary use thus far has been in extracting data for use in evaluating the impact of bell time changes on which much of the system's efficiency is based. These analyses are initiated either by the Consortium, if an opportunity is identified, or by the Partner Boards for policy reasons. This type of strategic system use was a primary motivation in switching from BUSTOPS, which did not support this type of customized data analysis.

In addition to the policy evaluation use, plans exist to begin comprehensive route analysis and optimization as part of an annual planning cycle beginning with calendar year 2008 for the 2008-2009

school year. There has been no comprehensive route redesign since prior to the BUSTOPS conversion, and as a result there is no current systematic approach to route efficiency analysis. This is handled as a more tactical process by individual Transportation Planners and Supervisors who identify and act on opportunities that become apparent in course of regular operations.

Management of Regular Bus Routes

Each of the individual Transportation Planners have responsibility for managing the routes associated with a group of schools. Maintenance and modification of routes within their area is their responsibility, subject to oversight by the Transportation Supervisors. Changes are made on an as needed basis, in reaction to changes in student locations, etc. Changes are also initiated to improve overall system efficiency by Transportation Planners as opportunities are identified or become apparent. Changes including adding/deleting students are more or less constant. Changes requiring the addition/deletion of stops, movement of stops among routes, re-sequencing of stops, etc. are less frequent but still occurring daily across the system.

Route changes can be initiated from many sources, such as the Transportation Planners themselves, Operators, or school administrators. A clear service orientation exists within the organization such that all requests are given appropriate consideration, and no internal barriers exist to accommodating change requests so long as system integrity is maintained. Driver (operator) feedback is continually solicited. Driver route verification reports (including directions, timing, and student counts) are required to be submitted via standard forms in October of each year. These submittals are used to validate routes, tune the map attributes, and correct driver directions. One concern with the current process is that the Transportation Planners do not routinely validate driver directions (called “vias” within MapNetWeb and Tri-Board organization) before submitting the routes to Operators. We believe that this can lead to a disconnect between the detailed route directions contained within the system and the actual street path followed by Operators unless the Operators are extremely diligent in submitting feedback, and the Transportation Planners equally so in updating the system with each route change they process.

A specific exception code is established in the student record to indicate a courtesy rider. The decision to permit courtesy riders is policy-based, with individual decisions made by the Supervisors. Once established as "eligible", the student is managed as any other. One Transportation Planner is assigned summer school planning responsibilities. Routes are developed for eligible students based on the address of Summer School attendees. All stops are created as group stops, mostly on main road and other school locations. Summer School route designs are then forwarded to the principal of Summer School for review, and changes are discussed with route planning staff.

Special Education Route Planning

Two Transportation Planners have responsibility for special needs transportation. Both of these also have regular transportation assignments as well. There are formal guidelines outlining the requirements for special needs transportation from an operational perspective. Planning processes for special needs students are not documented, but follow well-established practices and informal protocols that have been developed into routines over past years. The coding and treatment of special needs student data was discussed in a prior section. Special needs students are integrated onto general needs vehicles where possible, as long as the special needs coordinators in the Partner Boards indicate that the student can ride on a regular route. Regular students are also placed on special needs vehicles where efficient and space permits. The default, however, is to place special needs students on a special needs bus and vice versa. There must be a specific indication on a student record or in the information that passes to the special needs Transportation Planner from the schools in order to do otherwise.

The special needs Transportation Planners will work with individual Operators as required to optimize special needs routes. This contact primarily occurs when a conflict requires creative solutions and/or changes to multiple routes are required in order to accommodate specific requirements. An extremely high level of cooperation exists between Tri-Board staff and school/Board administrators to consider bell time, and arrival/departure time changes to improve efficiency. Special needs transportation services are seamless among all the Partner and Service Purchasing Boards. There is no distinction made, and all routes are fully integrated to the extent it makes sense to do so.

Analysis of System Effectiveness

Tri-Board manages a transportation system that provides services over a wide geographic area ranging from urban to rural, and to a wide range of students and programs. It accomplishes its mission using a broad range of approximately 876 vehicles, from taxis to large school buses. These vehicles serve regular and special needs programs with start times generally ranging from 8:00 AM to 9:15 AM. Approximately 36,500 students are provided transportation on a daily basis. This translates into approximately 74,500 daily student-trips, which accounts for morning and afternoon routes plus a certain number of transfer routes where students ride more than one vehicle to complete their morning or afternoon trip.

This range of program bell times facilitates the typical vehicle servicing between two and four daily routes (1-2 morning plus 1-2 afternoon). The vast majority of vehicles in the fleet are buses with capacities of between 20 and 72 passengers. 73,500 of the 74,500 daily student-trips are serviced by these vehicles. Focusing on these 645 buses, the average daily routes per bus is 3.5, or 1.75 for each of the morning and afternoon series. Looked at another way, 59% of all buses are accomplishing 2 or more routes each morning and each afternoon. This is an impressive result given the large size and the predominantly rural nature of the service area.

The average simple capacity utilization across the fleet of 645 buses is 53%. This is measured by taking an average of utilization on all routes, with each route calculated by dividing the rated capacity of the bus, as recorded in MapNetWeb, and dividing this by the maximum student load on the route. We expect capacity utilization on the basis of rated capacity of the bus (no factor for student weighting) to be lower than for planned capacity. Typically, secondary school students will receive weights that lower the effective capacity of a bus by allowing fewer than the rated capacity of three students per seat. This has an inverse impact on utilization by lowering the numerator of the equation. Thus, an overall result of 53% is appropriate. This is particularly true considering that the average includes special needs routes which typically achieve a much lower capacity utilization rating. This is apparent when we examine capacity utilization by bus type. The average utilization for 20 passenger buses (generally used for special needs transportation) is 46%, while that for 72 passenger buses is 60%.

The average *maximum* student ride time is 46 minutes across all routes in the system. This is measured by taking the sum of route length in minutes for all routes, from first stop to last stop, and dividing by the number of routes. This excludes deadhead time where a bus is running empty. This is an appropriate result, again given the largely rural nature of service delivery provided by Tri-Board.

The combination of the routes per bus, capacity utilization, and ride time results illustrates a system that is providing an appropriate balance between service delivery and routing efficiency. The enabling factors behind these results are, we believe, attributable to an aggressive use of routing best practices that can be summarized as: flexibility in adjusting school bell times; and the use of routing techniques such as shuttle/transfer routes and combination routes, where appropriate. The effectiveness of these techniques becomes apparent in a closer examination of the key performance metrics.

Table 3 breaks down average capacity utilization and maximum ride times by the number of schools/programs served by the route. Thus, the average capacity utilization for all 721 routes that serve only one school or program is 45%. What this table clearly displays is that capacity utilization improves steadily with the number of programs served. These “combination routes” that place students from more than one school or program on the same bus allows Tri-Board planning staff to fill the bus closer to its design capacity. However, it is equally clear that a service trade-off exists in that the maximum student ride time also increases with the number of schools/programs served. The variability apparent as the number of schools/programs served increases beyond five is, we believe, due to the small population of routes in these categories.

Table 3: Capacity Utilization by Programs Served

Capacity Utilization by Programs Served			
No. of Progams Served	Capacity Utilization	No. of Routes	Max Ride Time
0			
1	45%	721	36
2	47%	515	45
3	54%	434	51
4	60%	266	53
5	68%	93	60
6	57%	73	78
7	84%	35	60
8	117%	14	75
9	154%	1	91

Table 4 breaks down the same data, but this time by the number of transfer points included in the route. The implication here is that the inclusion of a transfer point as a stop on a route is indicative of a route that incorporates the transfer of at least one student from this route to another, or from another route to this route. This is not strictly true, since planning staff builds transfer points onto some routes as placeholders for possible future use, but is close enough for accurate analysis. The trend here is equally clear as capacity utilization increases steadily, as do ride times, as the number of transfer points served increases. Again, the variability apparent after 2 transfer points is likely attributable to the low number of routes in the population.

Table 4: Capacity Utilization by Transfer Points Served

Capacity Utilization by Transfer Points Served			
No. of Transfer Points Served	Capacity Utilization	No. of Routes	Max Ride Time
0	51%	1,714	44
1	56%	424	49
2	64%	79	55
3	57%	35	58
4	56%	8	80
5	47%	6	83
6	67%	2	129

What emerges from this analysis is an illustration of the positive impact that these routing techniques can have on the effectiveness and efficiency of the overall system. While only about 1,300 of the 36,500 (3.7%) transported students are involved in transfers, excluding this as a technique would have a disproportionate impact on the system by causing the need for a much higher number of dedicated routes operating at very low levels of capacity utilization. A much more substantive impact is seen in the widespread use of combination routes where over 70% of all student-trips are on routes that serve more than one program. While some of these are programs at the same school, this nevertheless is indicative of the impact this technique is having on system-wide efficiency.

The only two overall cautions or concerns we have with the effectiveness and efficiency of the system are in the use of taxi vehicles, and the prevalence of courtesy riders. At least 88 vehicles are in service with a rated capacity of 8 or less. This represents 11.3% of the total fleet. These units serve just 292 of the 74,500 daily student-trips, or just 0.4% of the total. This type of service is very expensive on a per-student basis, and its use should be closely monitored and controlled. It should continue to be an option of last resort, and every opportunity to avoid its use should be explored by the planning staff. Riders coded with a “Courtesy” exception represent 10% of the total students transported. Policies require specific approval to be granted, which is only provided on a space-available basis. We question the impact this is having on the system overall. In particular, we suspect that the removal of all or a substantial portion of courtesy riders, if practical, would present an opportunity to garner significant further system-wide efficiencies. However, it must be noted that this analysis is based strictly on the data as it exists today. If, as has been posited, these students do not indeed represent actually courtesy riders but rather should be coded in a different manner, then this finding would be inaccurate.

5.5.2 Best Practices

It is recognized that Tri-Board has demonstrated best practices in the following areas:

- The organization of planning staff facilitates an excellent service-based focused for the users of the system, redundancy in staff capabilities, and excellent responsiveness in all tactical route planning activities;
- Tri-Board and its Partner Boards greatly enhance the overall effectiveness and efficiency of the system in their flexible and cooperative approach to the establishment of school bell times. The ability to achieve multiple routes in a single day is a key component to an efficient system; and
- The use of routing techniques such as combination and transfer routes within the base context of the bell time schedule combines to greatly improve the effectiveness and efficiency of the overall system. Tri-Board's aggressive approach to seeking routing solutions such as this is a key component to the success of the system.

5.5.3 Recommendations

Courtesy Riders

The Consortium should undertake a comprehensive analysis to gauge the impact of courtesy riders and/or the current approach to coding of these riders on the overall system. This should be combined with the overall strategic route analysis and optimization planned for 2008. The premise for this analysis should be measuring the impact that these riders have on the overall number and type of vehicles required to operate the system.

Use of Taxis

The Consortium should undertake an analysis of the use of taxi as part of the overall strategic route analysis and optimization planned for 2008. The goal should be to measure the financial and service impact of this system component, and to seek alternatives where possible. Coupled with this should be the development of a formal documented guideline that establishes the specific circumstances under which taxi service will be authorized for specific students.

5.6 Results of E&E Review

Routing and Technology use has been rated as **Moderate-High**. Tri-Board has done an excellent job of acquiring and implementing an appropriate variety of technology tools and applications that greatly enhance the management of the route system and the information available to the users of this system. The organization and policy structure of the Consortium is well suited to take advantage of the technology available to ensure an effective and efficient transportation system. Ultimately, the best evidence of this is the overall performance of the route system itself which, based on a series of relevant performance metrics, is high.

Opportunities exist for Tri-Board to first consolidate the gains made over the recent past, and to leverage the excellent foundation it has established in order to instil a culture of continuous improvement that will be sustainable over the long term. Many of these improvements represent marginal changes to operational approach and system setup. Other improvements, such as an annual route optimization process, are already planned. Still others are more strategic in nature, such as the implementation of performance measurement and trend analysis. These steps will ensure that the success enjoyed by Tri-Board to date will be sustainable and not dependent on current staff or the perpetuation of the intense ongoing focus required to achieve the establishment of the Consortium over the past several years.

6. Contracts

6.1 Introduction

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

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

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

Contracts – E&E Rating:	**Moderate**

6.2 Contract Structure

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

6.2.1 Observations

Contract Clauses

A complete contract, which fully addresses the needs of the Consortium, is one which stipulates the required performance in terms of both service requirements and legal/safety requirements. Contract clauses are explicitly stated in order to set expectations between the Consortium and the Operator. Tri-Board has a standard contract in place which is used for all Operators in the area. The standard contract contains clauses related to the terms of the agreement; operator requirements; safety training requirements; service requirements; termination; and payment terms. This provides a basis for the Consortium to track Operator performance, specifically as it relates to the safety and legal requirements such as the need to prove CVOR ratings and insurance requirements.

The compensation amounts for providing student transportation are not explicitly stated in the Operator contract. However, the E&E Review Team identified a document issued to Operators regarding the formula for basis of payment, a compensation formula that consists of a fixed allowance including bus driver wages and variable costs including fuel prices and maintenance costs. Additional adjustments are made for monitor wages, additional runs, extra load allowance and specially equipped buses to carry wheelchairs.

The compensation structure is such that Tri-Board can enforce financial penalties if the Operator claims kilometres in excess of the stated distance of the route. In the event of a school closure for reasons beyond the control of the Operators, the components of ongoing payment depends how long the period of non-service lasts and whether the Operators continue to pay their drivers:

Period	Driver Payments	Consortium's Obligation
During first five (5) days	Operator continues to pay drivers	Tri-Board pays 100% of contracted terms (fixed and variable components) to Operators as if normal operations were occurring.
After five (5) days	Operator continues to pay drivers	Tri-Board pays contracted terms (fixed and variable components) to Operators less variable fuel component & associated profit. The fixed costs and variable components, such as maintenance and parts, continue to be paid.
After five (5) days	Operator do not continue to pay drivers	Tri-Board pays contracted terms (fixed and variable components) to Operators less variable driver and fuel component & associated profit. The fixed costs and variable components, such as maintenance and parts, continue to be paid.

The contract clauses also fully articulate the financial ramifications in place when bus service does not occur due to (i) inclement weather either by decision of the Consortium or by the Operator; (ii) labour dispute resulting in work stoppage; or (iii) mechanical problems.

The Formula for Basis of Payment document also stipulates the policy on the maximum fleet age for Operators. The policy on age of vehicles is 11 years, however it is expected that 50% of an Operators' fleet will be 6 years of age or newer, and the remaining portion of the fleet can be in the 7 to 11 year range. Compliance with this term is actively monitored through a process whereby the Operator must submit an updated list of vehicles each year, listing the ages of all vehicles in the fleet.

Parent Paid Drivers

The Consortium has contracts in place with parents who provide transportation services for their own children due to their location and the cost inefficiency of integrating them into the existing bus routes. The Parent Agreement for Transportation details the insurance and safety requirements that the parents need to comply with. Parents are required to maintain automobile liability insurance coverage in the amount of not less than $1,000,000 for one to twelve (1-12) passenger vehicles and file a copy of the notice of renewal with the Board each year. Parent drivers are obligated by the Agreement to obey all Board policies and regulations in the same manner as a bus Operator. Payments to parents are based on the actual distance traveled to and from school, remunerated at a per kilometre rate.

6.2.2 Best Practices

It is recognized that Tri-Board has demonstrated best practices in the following areas:

- The Consortium has contracts in place for both Operators and paid parent drivers which detail appropriate legal, safety and other non-monetary terms. This ensures the contractual relationship between transportation service providers and the Consortium is defined and enforceable;
- Contracts are signed with parent drivers to comply with Board policies and regulations. The formalization of this type of arrangement through contracts and stipulated compliance requirements helps to limit the liability to the Consortium; and
- The Consortium's policy on the maximum permissible age of the vehicles and specification of the relative range of vehicle ages in the fleet in combination with the Consortium's monitoring efforts is one reasonable method of ensuring that the vehicles are properly equipped with recent safety equipment and, combined with a proper maintenance schedule, are in good working order.

6.2.3 Recommendations

Contract Completeness

The formula and agreed upon inputs for operator compensation is not included in the current contract with the school bus operators. The compensation is detailed in a separate document called the *Formula for Basis of Payment to School Bus Operators* but there is no output from the formula or summary of agreed upon formulae inputs (such as rate of compensation per student kilometre) in the

contract. By not having compensation terms in the signed contract, it could leave the payment amount open to dispute by transportation providers. It was also noted that the current contract does not include specification of the fleet ages, although this is specified in the formula for basis of payment document. It is recommended that the Consortium include the compensation component and maximum fleet age requirements as integrated clauses in all standard contracts.

Fee Structure

The Operator rate structure is such that Tri-Board is paying both the Driver wages and the variable kilometre cost for the time and distance travelled by the Operators between the last drop off and first pick up for both the morning and evening routes. For some of the longer routes in the region, this may not be appropriate. If a Driver does not return to the point of the first pick up, and instead remains in the population centre near the school between the morning and afternoon routes, then payment of the deadhead kilometres may not be necessary, as the deadhead kilometres may not be driven. While it may be good practice to pay the Driver wage component for the deadhead time, it would be recommended that the practice of paying the variable per kilometre rate be examined to ensure that it is not paid when deadhead kilometres are not actually being driven.

6.3 Contract Negotiations

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

6.3.1 Observations

Negotiation Process

A contract negotiation process is deemed effective when it is completed in a manner that provides the required services to the Consortium and is completed in a timely manner. The negotiation process is seen as efficient when it can be determined that the Consortium was able to achieve a market rate for services and when the process is completed in a relatively short time frame.

The contracting process at Tri-Board is such that within the catchment area, the 75 local bus Operators formed an association with representatives who are elected to negotiate the contractual agreement and remuneration terms with Tri-Board. Contracts are negotiated regularly between Tri-Board and the Operator Association's Negotiation Committee. Once rates are approved by the school boards, contracts are provided to the Bus Operators Association for review and eventual signature from the individual bus operators.

In August 2007, the Consortium amended the existing 2006-2007 and 2007-2008 contracts. While the rates were not affected, new clauses have been added to the contract. Additional clauses include, but are not limited to, updated insurance requirements, annual waivers for drivers, and criminal records checks for drivers. Further pending negotiations and clarifications between Tri-Board and the Bus Operators Association have caused a delay in the completion of the negotiation process. As of October 24, 2007, 52 out of 75 Operators have signed and returned their 2007-2008 amended contracts. The fact that 23 operators (mostly the larger ones) are operating without a contract raises serious issues and concerns.

6.3.2 Recommendations

Competitive Procurement Process

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

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

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

Regardless of the process, the Consortium should require that all contracts with Operators be signed and returned prior to the beginning of the school year. This will ensure that the Consortium is appropriately protected from a liability perspective in that all contractual terms are agreed upon in advance.

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 value for money in the services they render. Monitoring should be performed proactively and on a regular basis in order to be effective.

6.4.1 Observations

Monitoring

Effective contract management occurs when the Consortium is able to measure Operators against a specific set of criteria for the purpose of ensuring they are receiving the services in line with the contract specifications. The manner is which this management and oversight occurs can be efficient if it maintains a balance between sufficient coverage of Operator performance and minimal Consortium resources. This balance is in part dependent on the size of the operations and also the number of Operators to be monitored.

Tri-Board has employed a Safety Officer to enable verification of compliance with safety, legal, and service requirements. Compliance verification is also accomplished indirectly through notification of timing or route deviation from parents, school staff, and the safety officer.

Operators are required to provide copies of valid insurance, Commercial Vehicle Operator's Registration (“CVOR”), and Canadian Police Information Centre (“CPIC”) check prior to the school year. Other requirements such as licensing of Drivers are monitored appropriately by the Safety Officer. The Safety Officer audits each piece of information provided by the Operators. He verifies the buses that are used on the routes and matches them to the information provided from the Operator. He compares the Operator’s student count to the Consortium’s own database, and mileage claimed against computer distances. Between the CEO and the Safety Officer they jointly ride approximately 10% of the routes each year. Though monitoring does occur, there is no formal documentation specifically of the route auditing being performed. The effectiveness of the monitoring program could be enhanced if the Consortium documented its procedures and practices around monitoring and kept regular updates of Operator performance. The Consortium has indicated that they are moving towards a system of monitoring that includes “ranking” the Operators in terms of performance level. This is a practice that would greatly enhance the current monitoring process in that it would provide tangible evidence to either reward exceptional Operator performance or penalize poor performance.

When Operators purchase new vehicles, the Consortium requests a copy of the ownership, insurance certificate and mechanical fitness assessment prior to any payments being made. A route update is requested by the Consortium in October each year and this information is matched to the database. New route information is then returned to the Operator through MapNetWeb.

Safety Training

The Safety Officer, in addition to Operator performance management responsibilities, oversees specific safety programs. The Safety Officer regularly organizes training sessions for Operators and monitors on topics such as first aid and dealing with special needs students.

Fleet Management

The Consortium has a written policy on the maximum age of buses which can operate in the Tri-Board catchment area. The formula for basis of payment to school bus operators indicates that at least 50% of a given operator's fleet must be six years or newer while the remaining portion of the fleet can be in the 7 to 11 year range. In order to comply with this fleet age policy, the Consortium annually requests updated vehicle lists and copies of any new vehicle ownership. Documentation related to new vehicle purchases must also indicate whether an older vehicle is being replaced to facilitate related policy compliance verification. As part of the monthly payment process from the Consortium to the Operator; the Operator must sign in verification of the amount of payment and as an indication that all information submitted to the Consortium by the Operator for that period is accurate.

Board Owned Vehicles

Limestone currently owns and operates six (6) school buses including one spare bus and Algonquin owns and operates one (1) school bus. There are 5 regular Limestone routes and 1 regular Algonquin route on which the board owned buses are respectfully operated. The remaining Limestone bus is used as a spare bus and is jointly expensed between the two boards. These seven board-owned buses are operated by the same safety and policy terms that external operators are subject to. Limestone and Algonquin directly employ drivers for the routes serviced by the board owned vehicles. Each board also carries its own bus insurance to mitigate the related liability. The board buses are serviced by one of the large Operators and the buses are on the same maintenance schedule.

The boards currently use the costs associated with the vehicles that they own as a cost benchmarking tool for comparison to contracted Operator rates.

6.4.2 Best Practices

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

- Tri-Board has a policy on the age of vehicles; this is communicated to Operators via policy. This policy can be enhanced through the inclusion of the policy's details in the contract; and
- The Consortium conducts voluntary training sessions for drivers and stipulates minimum training requirements in the Operator contract. A Safety Officer is also hired to monitor compliance to ensure that the level of service and standards that are expected are being received. This includes monitoring CVOR and CPIC for each Operator. The monitoring program promotes a culture of continuous improvement and emphasizes the importance of safety to the Consortium.

6.4.3 Recommendations

Monitoring

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

- Operators should be required to demonstrate that they have provided their Drivers appropriate safety and first aid training prior to start of the school year. Though the Consortium does provide some training and some tracking as which drivers have attended certain training sessions, a more formal training monitoring program should be implemented. Operators can provide copies of certifications or proof of training to the Consortium for each Driver with regular updates as additional training is completed. This will be proof that the Drivers are appropriately trained in the case of an emergency and also will allow the Consortium to monitor where additional training may be required; and
- The Consortium should seek to implement their future plan of an operator ranking system that is based on Operators' performance. Operators are assessed against the standards annually, and will be ranked accordingly. For those Operators with lower rankings, improvement plans must be submitted. Penalty clauses should be documented to supplement the ranking.

Board Owned Vehicles

It is recommended that the Boards place appropriate controls in place to continuously ensure that the board owned vehicles are meeting their needs from a cost benefit perspective. Logically a smaller fleet does not benefit from the economies of scale associated with maintaining a larger fleet and thus cost effectiveness is questionable. However, we understand that maintenance in this situation, is done by one of the larger Operators rather than through otherwise commercial terms. We suggest that key financial indicators be monitored related specifically to board owned vehicles and that each year the cost be compared to those of outside providers to ensure there is an acceptable business case in terms of cost / benefit to maintaining and owning this relatively small fleet of vehicles. The financial analysis and related business case conclusion should be subject to board approved policies in terms of frequency of review and documented as to whether the periodic decision to keep the fleet is at the discretion of the management of the Consortium (as they have been delegated responsibility for student transportation) or the Limestone Board.

6.5 Results of E&E Review

Contracting practices have been assessed as **Moderate**. Currently, contracts for transportation services are not awarded using a competitive procurement process. By not engaging in a competitive procurement process, the Consortium will not know whether it is are paying best rates for services provided. If a competitive process is used to procure services, the Consortium can clearly state all service requirements in its procurement document. In addition, the Consortium can be sure that it will obtain the best value for its money as Operators will compete to provide the required service levels at prices that ensure an appropriate return on investment. A competitive procurement process should be used with certain safeguards in place to protect the standards of service and be sensitive to local market conditions. In areas where this process may not be appropriate due to limited service availability, the Consortium can ensure that transparent and accountable processes are supported, by using the competitively procured contracts as a “proxy” for negotiating service levels and costs.

The standard contracts should also be revisited to ensure that compensation structure including key inputs and maximum acceptable vehicle ages are acknowledged. In addition, a portion of the Operators have not signed the new 2007/2008 contract and have been operating under the generally accepted terms of the previous contract. This is a major concern from a liability perspective in that the Operators essentially have not agreed to the current terms of the contract.

7. Funding Adjustment

The Ministry has asked the E&E Review Team to apply their Funding Adjustment Formula to each Board that was subject to an E&E Review in Phase 2. Note that where Boards are incurring transportation expenses in multiple 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:

Overall Rating	Effect on deficit boards[10]	Effect on surplus boards[9]
High	Reduce the gap by 100% (i.e. eliminate the gap)	No in-year funding impact; out-year changes are to be determined
Moderate-High	Reduce the gap by 90%	Same as above
Moderate	Reduce the gap by 60%	Same as above
Moderate-Low	Reduce the gap by 30%	Same as above
Low	Reduce the gap in the range of 0% to 30%	Same as above

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

Algonquin and Lakeshore Catholic District School Board

Item	
2006-07 Transportation Surplus (Deficit)	(52,968)
% of Deficit attributed to the Consortium (rounded)	100%
Revised Amount to be assessed under the Consortium	(52,968)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	90%
2007-08 Total Funding adjustment	$47,672

[10] Based on Ministry Data – see Appendix 2.

Hastings and Prince Edward District School Board

Item	
2006-07 Transportation Surplus (Deficit)	(263,163)
% of Deficit attributed to the Consortium (rounded)	100%
Revised Amount to be assessed under the Consortium	(263,163)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	90%
2007-08 Total Funding adjustment	$236,847

Limestone District School Board

Item	
2006-07 Transportation Surplus (Deficit)	(927,058)
% of Deficit attributed to the Consortium	100%
Revised Amount to be assessed under the Consortium	(927,058)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	90%
2007-08 Total Funding adjustment	$834,352

Conseil des écoles catholiques de langues françaises du Centre-Est

Item	
2006-07 Transportation Surplus (Deficit)	(1,009,915)
% of Deficit attributed to the Consortium	4.84%
Revised Amount to be assessed under the Consortium	(48,854)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	90%
2007-08 Total Funding adjustment	$43,968

Conseil des écoles publiques de l'Est de l'Ontario

Item	
2006-07 Transportation Surplus (Deficit)	(3,121,187)
% of Deficit attributed to the Consortium	7.24%
Revised Amount to be assessed under the Consortium	(225,957)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	90%
2007-08 Total Funding adjustment	$203,361

Appendix 1: Glossary of Terms

Accounting Clerk	As shown in Figure 7
Act	*Education Act*
ALCDSB	Algonquin and Lakeshore Catholic District School Board
Algonquin	Algonquin and Lakeshore Catholic District School Board
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
CECLFCE	Conseil scolaire de district catholique du Centre-Est de l'Ontario
CEPEO	Conseil des écoles publiques de l'Est de l'Ontario
Common Practice	Refers to a set of planning parameters that have been reported by Ontario school boards as the most commonly adopted planning policies and practices. These are used as references in the assessment of the relative level of service and efficiency.
Consortium or Tri-Board	Tri-Board Student Transportation Services
CPR	Cardiopulmonary Resuscitation
CVOR	Commercial Vehicle Operator's Registration
Deloitte	Deloitte & Touche LLP (Canada)
Driver	Refers to bus Drivers, see also Operators
E&E	Effectiveness and Efficiency
E&E Review Team	As defined in Section 1.1.5
E&E Reviews	As defined in Section 1.1.4
Effective	Having an intended or expected effect; the ability to deliver intended service
Efficient	Performing or functioning in the best possible manner with the least waste of time and effort; the ability to achieve cost savings without compromising safety
Evaluation Framework	The document, titled "Evaluation Framework For Tri-Board Student Transportation Services " which supports the E&E Review Team's Assessment; this document is not a public document
Funding Adjustment Formula	As described in Section 1.3.65
Hastings	Hastings and Prince Edward District School Board
HPEDSB	Hastings and Prince Edward District School Board
HR	Human Resources
IT	Information Technology
JK/SK	Junior Kindergarten/Senior Kindergarten
LDSB	Limestone District School Board
Limestone	Limestone District School Board
Management Consultants	As defined in Section 1.1.5
MapNetWeb	The routing application within the Trapeze software
Memo	Memorandum 2006: SB13, dated July 11 issued by the Ministry
Ministry	The Ministry of Education of Ontario
MPS	Management Partnership Services Inc., the routing consultant, as defined in Section 1.1.5

MTO	The Ministry of Transportation of Ontario
Local BusOperator Association Negotiation Committee	The body representing the local Operators who are involved in contract negotiations, as described in Section 6.2.1
Operators	Refers to companies that operate school buses and the individuals who run those companies. In some instances, an Operator may also be a Driver.
Overall Rating	As Defined in Section 1.3.24 of the Evaluation Framework
Partner Boards or Boards	The school boards that have participated as full partners in the Consortium
Rating	The E&E Assessment score on a scale of High to Low, see Section 1.3.4
Report	The report prepared by the E&E Review Team for each Consortium that has undergone an E&E Review (i.e. this document)
Route	The collection of one or multiple groups of students that are dropped at one or multiple points. It defines the mission of a bus for a specified time period.
Safety Officer	As shown in Figure 7
Separate Legal Entity	Incorporation
Service Purchasing Boards	Refers to School Boards who purchase student transportation services for their students through the Consortium. These Service Purchasing Boards are not full partners in the Consortium
SOAR	Safety, Order, and Rights
Transportation Planner	As shown in Figure 7
Transportation Supervisor or Supervisor of Transportation Services	As shown in Figure 7
Trapeze	The routing software utilized by Tri-Board

Appendix 2: Financial Review – by School Board

Algonquin and Lakeshore Catholic District School board

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[11]	7,933,234	8,252,333	8,387,843	8,533,998
Expenditure[12]	8,101,485	8,514,097	8,440,811	8,813,244
Transportation Surplus (Deficit)	(168,251)	(261,764)	(52,968)	(279,246)

Hastings and Prince Edward District School Board

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[11]	11,763,764	12,238,518	12,240,182	12,512,297
Expenditure[12]	11,642,848	12,462,813	12,503,345	13,123,884
Transportation Surplus (Deficit)	120,916	(224,295)	(263,163)	(611,587)

Limestone District School Board

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[11]	11,214,168	11,643,598	11,634,201	11,868,933
Expenditure[12]	12,133,777	13,264,796	12,561,259	12,901,861
Transportation Surplus (Deficit)	(919,609)	(1,621,198)	(927,058)	(1,032,928)

Conseil scolaire de district catholique du Centre-Est de l'Ontario

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[11]	9,215,617	9,641,948	11,391,265	11,585,303
Expenditure[12]	10,302,053	10,992,770	12,401,180	13,026,165
Transportation Surplus (Deficit)	(1,086,436)	(1,350,822)	(1,009,915)	(1,440,862)
Total Expenditures paid to Tri-Board	$410,526	$450,100	$599,898	$607,722
As % of total Expenditures of Board	3.98%	4.09%	4.84%	4.67%

Conseil des écoles publiques de l'Est de l'Ontario

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[11]	5,892,936	6,347,950	6,484,120	6,622,004
Expenditure[12]	9,209,055	10,353,031	9,605,307	9,750,000
Transportation Surplus (Deficit)	(3,316,119)	(4,005,081)	(3,121,187)	(3,127,996)
Total Expenditures paid to Tri-Board	$674,294	$573,724	$695,372	$762,462
As % of total Expenditures of Board	7.32%	5.54%	7.24%	7.82%

[11] Allocations based on Ministry data – includes all grant allocations for transportation (Section 9 00008C, Section 13 00006C, Section 13 00012C)

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

Appendix 3: Document List

1	Financial Management Memo
2	Tri-Board Year-end Schedule
3	Chart of Accounts
4	Budget Process
5	Sample billing for a Service Purchasing Board
6	Sample billing for Transportation Contract
7	Consortium Agreement
8	Signed Purchase of Service Agreement
9	Dispute Resolution Policies
10	Evidence of Legal Status
11	Consortium Governance Policies
12	Governance Organization Chart
13	Minutes of Governance Meeting
14	Organization Chart
15	Job Description
16	Agreement and Lease with Limestone
17	Contracts Relating to Support Services
18	Sample Performance Review
19	Staff Training Requirements
20	Operational Plan
21	Administrative and Departmental Procedures & Policies
22	Annual Financial Statement
23	Request for Bus Update Sheet
24	Sample Parent Agreement
25	Sample Bus Contract
26	Driver Wage Sheet
27	Fuel Survey
28	Monitor Wage Calculation Sheet
29	Board Owned Vehicles
30	Cost Summary Board Owned Buses
31	Maintenance Report
32	Board Budget and Expenditures 2001-2008
33	Evidence of Up to Date Signed Contracts
34	Contractor Compensation
35	Driver Training
36	Driver Company Performance
37	Route Audit Procedure
38	Safety Officer Inspection with Staff Instructions
39	Tri-Board Student Transportation Services – Goals and Objectives
40	Tri-Board Student Transportation Services – Partner Board Policies (PP1)

Appendix 4: Common Practices

		Elementary				Secondary
	JK/SK	Gr. 1-3	Gr. 4-6	Gr. 7	Gr. 8	Gr. 9-12
Home to School Distance						
Common Practice	0.8	1.2	1.6	1.6	1.6	3.2
Policy - ALCDSB	1.6	1.6	1.6	3.2	3.2	3.2
Policy - HPEDSB	1.6	1.6	1.6	3.2	3.2	3.2
Policy - LDSB	1.6	1.6	1.6	3.2	3.2	3.2
Practice	1.6	1.6	1.6	3.2	3.2	3.2
Home to Bus Stop Distance						
Common Practice	0.5	0.8	0.8	0.8	0.8	0.8
Policy - ALCDSB	0.8	0.8	0.8	0.8	0.8	1.6
Policy - HPEDSB	0.8	0.8	0.8	0.8	0.8	1.6
Policy - LDSB	0.8	0.8	0.8	0.8	0.8	1.6
Practice	0.8	0.8	0.8	0.8	0.8	1.6
Arrival Window						
Common Practice	18	18	18	18	18	25
Policy - ALCDSB	15	15	15	30	30	30
Policy - HPEDSB	15	15	15	30	30	30
Policy - LDSB	15	15	15	30	30	30
Practice	15	15	15	30	30	30
Departure Window						
Common Practice	16	16	16	16	16	18
Policy - ALCDSB	10	10	10	10	10	10
Policy - HPEDSB	10	10	10	10	10	10
Policy - LDSB	10	10	10	10	10	10
Practice	10	10	10	10	10	10
Earliest Pick Up Time						
Common Practice	6:30	6:30	6:30	6:30	6:30	6:00
Policy - ALCDSB	-	-	-	-	-	-
Policy - HPEDSB	-	-	-	-	-	-
Policy - LDSB	-	-	-	-	-	-
Practice	7:10	7:10	7:10	6:30	6:30	6:30
Latest Drop Off Time						
Common Practice	5:30	5:30	5:30	5:30	5:30	6:00
Policy - ALCDSB	-	-	-	-	-	-
Policy - HPEDSB	-	-	-	-	-	-
Policy - LDSB	-	-	-	-	-	-
Practice	5:00	5:00	5:00	4:20	4:20	4:20
Maximum Ride Time						
Common Practice	75	75	75	75	75	90
Policy - ALCDSB	60	60	60	60	60	60
Policy - HPEDSB	60	60	60	60	60	60
Policy - LDSB	60	60	60	60	60	60
Practice	60	60	60	60	60	**Note 1**
Seated Students Per Vehicle						
Common Practice	69	69	69	69	52	52
Policy - ALCDSB	72	72	72	72	72	72
Policy - HPEDSB	72	72	72	72	72	72
Policy - LDSB	72	72	72	72	72	72
Practice	72	72	72	72	72	72

Note 1: In practice, rides times may be as long as 90 minutes for students that live outside of their attendance area or for remote locations.

Note 2: Policies are fully harmonized.

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