

# Transportation Safety Board of Canada

2010-2011

## Report on Plans and Priorities

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Queen's Privy Council for Canada



Canada



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## Chair's Message

Canadians expect – even demand – a safe and sound transportation system on our waterways, along our pipelines and railways and in our skies. When the system fails and there is an accident, there is a clear public expectation that independent and skilled investigators will shine a light on all of the facts, will determine what risks there are in the system and will call for safety deficiencies to be addressed. The one and only priority for the Transportation Safety Board of Canada (TSB) is to meet these public expectations.

I know we are largely successful. At industry and accident investigation conferences in Canada and around the world, I receive overwhelming positive feedback on the solid reputation and respect enjoyed by the TSB. Thanks to the expertise, professionalism and dedication of our investigators, we will continue to advance transportation safety, one investigation at a time.

This year marks the 20th anniversary of the TSB. We will take this opportunity to communicate more strategically to Canadians our mandate, investigative work and safety accomplishments over time. To this end, we will continue to track the responses to our recommendations and communicate how safety has improved as a result of our work.

The Board will focus on convincing industry and government that they should address the significant risks identified on the TSB's new Safety Watchlist in order to ensure the Canadian transportation system remains one of the safest in the world. We will also leverage technology to maximize the reach of all of our safety messages and seek to increase the uptake on the TSB recommendations.

As a learning organization and a leader in transportation safety, the TSB will continue to invest in the right people, projects and initiatives to strengthen its strategic footprint, increase its overall effectiveness and drive key safety improvements within the transportation sector.

Through continuous efforts to improve business and management practices, the TSB will remain effective and efficient in delivering its mandate—to advance transportation safety.



# Section 1: Overview

## 1.1 Summary Information

### Raison d'être and Responsibilities

The Transportation Safety Board of Canada (TSB) is an independent agency created in 1990 by an Act of Parliament (*Canadian Transportation Accident Investigation and Safety Board Act*). It operates at arm's length from other government departments and agencies to ensure that there are no real or perceived conflicts of interest. The TSB's sole objective is to advance transportation safety. This mandate is fulfilled by conducting independent investigations into selected transportation occurrences. The purpose of these investigations is to identify the causes and contributing factors and the safety deficiencies evidenced by an occurrence. The TSB then makes recommendations to improve safety and reduce or eliminate risks to people, property and the environment.

The jurisdiction of the TSB includes all aviation, marine, rail and pipeline transportation occurrences<sup>1</sup> in or over Canada that fall under federal jurisdiction. The TSB may also represent Canadian interests in foreign investigations of transportation accidents involving Canadian registered, licensed or manufactured aircraft, ships or railway rolling stock. In addition, the TSB carries out some of Canada's obligations related to transportation safety at the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO).

The TSB is primarily funded by Parliament through an operating expenditures vote and, as a departmental corporation, it has authority to spend revenues received during the year.

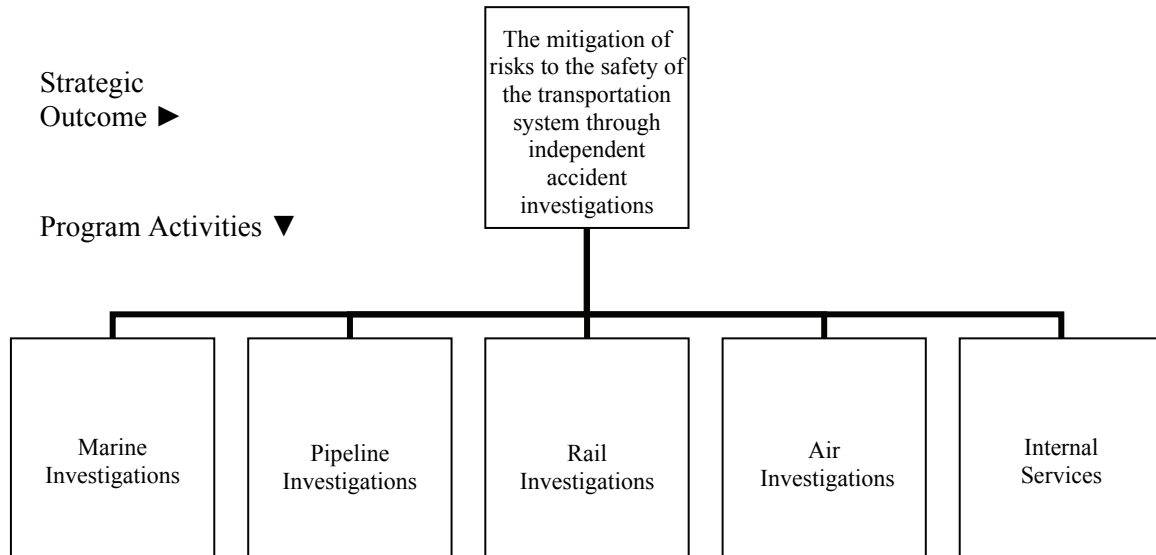
For more details on the TSB investigation process or the links between the TSB and other federal organizations visit the TSB website at <http://www.bst-tsb.gc.ca/eng/index.asp>.

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<sup>1</sup> A transportation occurrence is any accident or incident associated with the operation of an aircraft, ship, railway rolling stock or pipeline. It also includes any hazard that could, in the Board's judgement, induce an accident or incident if left unattended.

## Strategic Outcome and Program Activity Architecture

The chart below illustrates the program activities framework that contribute to progress toward the TSB strategic outcome.



## 1.2 Planning Summary

### Resources

The two tables below show information on planned utilization of TSB financial and human resources over the coming three-year period.

#### Financial Resources (\$ thousands)

2010-2011	2011-2012	2012-2013
29,786	29,678	29,538

#### Human Resources (FTEs\*)

2010-2011	2011-2012	2012-2013
235	235	235

\* full-time equivalents

The following table shows the contribution of the departmental strategic outcome to the whole-of-government results. It also lists the performance indicators for the TSB strategic outcome. Finally, it provides the results expected of the program activities as well as the



planned spending for each one over the next three years. The TSB's baseline funding, as shown in the Main Estimates, is approximately 30 million dollars. It is expected to remain stable over the next three fiscal years.

<b>Link to the Government of Canada Outcome:</b> Safe and secure communities ( <a href="http://www.tbs-sct.gc.ca/ppg-cpr/framework-cadre-eng.aspx?Rt=1037">http://www.tbs-sct.gc.ca/ppg-cpr/framework-cadre-eng.aspx?Rt=1037</a> )				
<b>TSB Strategic Outcome:</b> The mitigation of risks to the safety of the transportation system through independent accident investigations				
<b>Performance Indicators:</b>				
<ul style="list-style-type: none"> <li>• Number of transportation occurrences</li> <li>• Number of investigations started, in progress, completed</li> <li>• Specific transportation accident rates<sup>(1)</sup></li> </ul>				
<b>Expected results of each of the four key program activities:</b> Increased productivity while conducting investigations and increased effectiveness of safety communications				
<b>Program Activities</b> <sup>(2)</sup>	<b>Forecast Spending</b> <sup>(3)</sup> (\$ thousands)	<b>Planned Spending</b> <sup>(3)</sup> (\$ thousands)		
	2009-2010	<b>2010-2011</b>	2011-2012	2012-2013
Marine Investigations	5,673	<b>5,310</b>	5,290	5,264
Pipeline Investigations	400	<b>376</b>	374	372
Rail Investigations	4,977	<b>4,678</b>	4,659	4,636
Air Investigations	13,663	<b>12,780</b>	12,732	12,669
Internal Services	7,221	<b>6,642</b>	6,623	6,597
<b>Total Departmental Spending</b>	31,934	<b>29,786</b>	29,678	29,538

- (1) These rates provide data regarding the following occurrences: accidents involving Canadian-flag vessels with a gross tonnage of 15 or more per 1,000 movements, accidents occurring on a main track or spur per million main-track train-miles and Canadian-registered aircraft accidents per 100,000 hours.
- (2) For a description of the program activities, see section 2.
- (3) Refer to the paragraph after the Expenditure Profile in this document for an analysis of the spending trend.

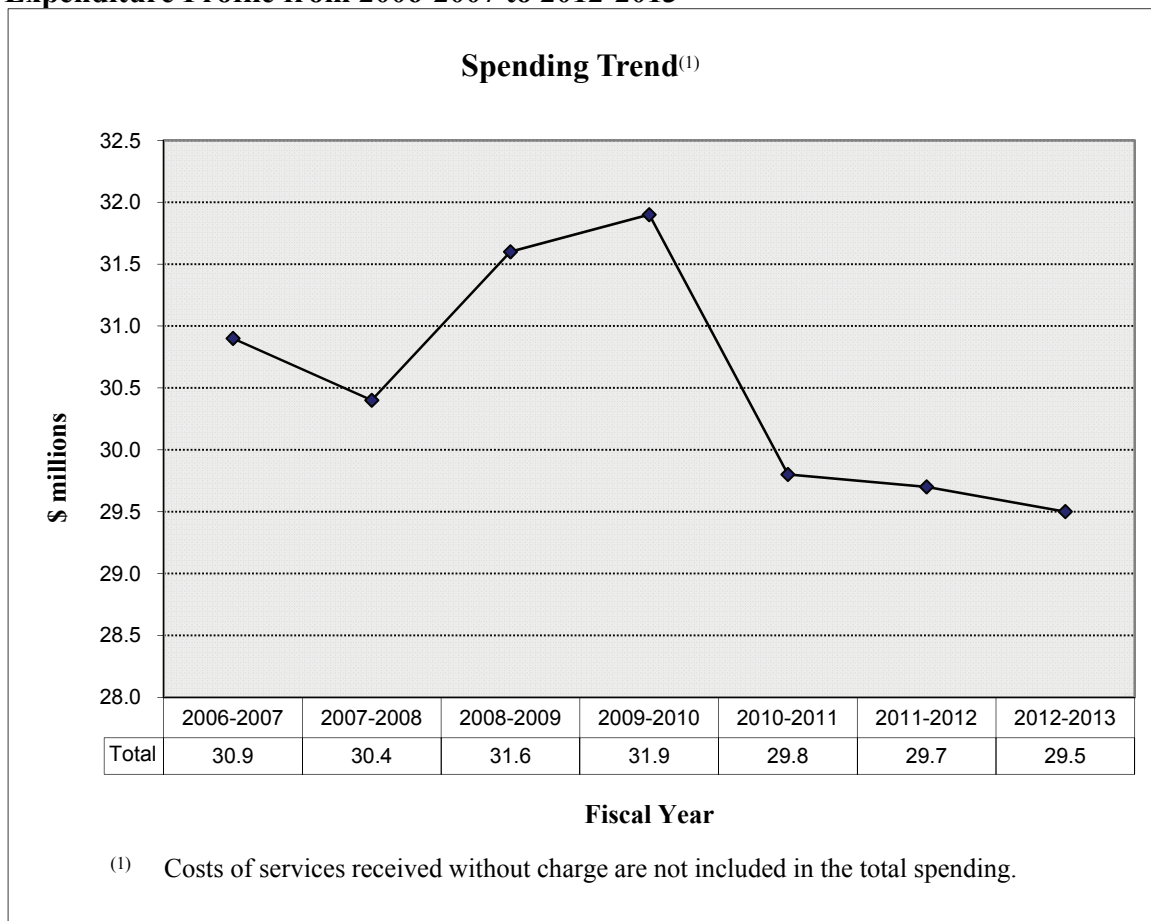
The following table explains the way Parliament voted resources to the TSB and in essence replicates the summary table in the Main Estimates.

### Voted and Statutory Items

(\$ thousands)			
Vote	Vote Wording	2010-2011 Main Estimates	2009-2010 Main Estimates
10	<b>Canadian Transportation Accident Investigation and Safety Board</b> Program Expenditures	<b>26,354</b>	25,635
(S)	Contributions to employee benefit plans	<b>3,432</b>	3,309
	<b>Total</b>	<b>29,786</b>	28,944

The figure below illustrates TSB's spending trend from 2006-2007 to 2012-2013.

### Expenditure Profile from 2006-2007 to 2012-2013



For the 2006-2007 to 2009-2010 fiscal years, the total spending includes all Parliamentary appropriations and revenue sources: Main Estimates, Supplementary Estimates, transfers from Treasury Board Votes 10, 15 and 23 and spendable revenues. It also includes carry forward adjustments of the previous year's lapsed funds.

For the 2010-2011 to 2012-2013 periods, the total spending corresponds only to the Main Estimates planned spending because Treasury Board adjustments and the lapse carry forward are unknown. In real terms, TSB funding has remained virtually the same since 2006-2007.

## **Risk Analysis**

The TSB operates within the context of Canada's very large, complex, dynamic and ever-changing transportation system. The following are the key external and internal factors that could have an impact on the organization's operations and management and the risks they represent.

### **From an External Point of View**

#### **Government in a Deficit Economy**

The Government of Canada has projected a deficit in excess of \$45 billion for 2010-2011 and continued deficits for the next four years. The Government is now considering implementing restraints in departmental program spending in order to reduce the deficit. The TSB may be affected by such restraints and will have to work with the Treasury Board to ensure it has the resources it needs to continue to deliver on its mandate.

### **From an Internal Point of View**

#### **Development and Maintenance of a Knowledgeable and Professional Workforce**

The success of the TSB and its credibility depend largely on the expertise, the professionalism and the competence of its employees. However, the TSB is faced with workforce challenges. Many of the positions are "one deep," that is, there is only one person responsible for a specific task or function. Over the last few years, the TSB has faced a high level of attrition which is expected to continue for the next couple of years. Although the TSB's hiring has increased, the organization has not been able to backfill all departures and ensure good transfer of knowledge.

#### **Product Improvements and Timeliness**

The fulfillment of our mandate primarily depends on our ability to deliver, in a timely manner, quality safety products and services that contribute to the achievement of our strategic outcome. The TSB must therefore continue to improve the speed at which it

publishes information while maintaining a high level of quality. It must also seek the opinion of stakeholders regarding the quality of its products and services to ensure their efficiency and relevance.

### **Improvement of Policies, Procedures and Processes**

Another challenge pertaining to the organization’s management consists in making sure the TSB’s information and knowledge are not only stored but also up to date and readily accessible to employees who need it. To this end, the TSB must manage effectively and efficiently its policies, directives and procedures in all activity sectors. This task is especially difficult because of the high employee turnover rate and the TSB’s constantly evolving working environment.

### **Contribution of the Priorities to the Strategic Outcome**

After examining the TSB’s environment and analyzing the risks and the challenges, senior management has identified four priorities for 2010-2011. The investments dedicated to the projects or initiatives identified for each of them will contribute to the achievement of the TSB strategic outcome over the next three years. These priorities and projects are summarized in the following table.

<b>Priorities</b>	<b>Type</b>	<b>Description</b>
<b>Strategic Communication of TSB’s mandate, investigative work and safety accomplishments over time</b>	New	<p>In 2010-2011, the TSB will undertake a number of activities to celebrate its 20th anniversary. These activities will involve tracking responses to TSB recommendations over time and communicating how safety has been improved as a result of the organization’s work.</p> <p>Significant transportation risks identified on the TSB’s new Safety Watchlist will also be communicated to Canadians throughout the year during targeted media and outreach events.</p> <p>At the onset of an occurrence or launch of an investigation, the TSB will also strive to communicate its actions to Canadians early in the process.</p> <p>The TSB will continue to leverage technology, improve its website and explore social media platforms to communicate more effectively, maximize the reach of all its safety messages and increase the uptake of its recommendations.</p>

Priorities	Type	Description
<b>Strategic Human Resources Management</b>	Previously committed	<p>The departmental initiatives that will be implemented to close horizontal gaps identified with regards to human resources management are:</p> <ul style="list-style-type: none"> <li>• integrated human resources planning;</li> <li>• the review and update of some organizational structures and job descriptions;</li> <li>• the creation of a recruitment page on the TSB website;</li> <li>• the establishment of a TSB alumni program;</li> <li>• the continuation of the implementation of the Training and Standards Division including the development of tools and an investigator training program.</li> </ul>
<b>Product Improvements</b>	Previously committed	<p>We are continuing our efforts aimed at improving our ability to offer, in a timely manner, products most likely to promote changes leading to the reduction of transportation safety risks. This year, we will undertake the following projects:</p> <ul style="list-style-type: none"> <li>• streamlining of the report production unit and its processes;</li> <li>• a review and modernization of the content of investigation databases to improve the TSB's ability to collect, analyze and share data on accidents and incidents;</li> <li>• stakeholder consultation regarding the efficiency and effectiveness of the TSB's products and services;</li> <li>• improvements to the TSB website and the addition of social media tools to its on-line environment.</li> </ul>
<b>Policy and Procedure Management Framework</b>	New	<p>We will dedicate resources to:</p> <ul style="list-style-type: none"> <li>• the creation of a policy, directive and procedure management framework;</li> <li>• the update of our policies, directives, procedures and manuals, including the implementation of improved financial management processes;</li> <li>• the completion of the work leading to the implementation of an electronic records management system.</li> </ul>

## **Section 2: Analysis of Program Activities**

### **2.1 Strategic Outcome**

The mitigation of risks to the safety of the transportation system through independent accident investigations.

### **2.2 Program Activities**

The TSB has four key program activities, which are the safety investigations in the following four transportation sectors:

- Marine
- Pipeline
- Rail
- Air

Within each program, personnel conduct independent safety investigations into selected transportation occurrences. They identify causes and contributing factors, assess risks to the system, formulate recommendations to improve safety, publish investigation reports, communicate safety information to stakeholders, undertake outreach activities with key change agents, as well as assess and follow up on responses to recommendations. These activities are carried out by highly qualified investigators who are experts in the transportation operational sectors. They also work closely with personnel who are responsible for executing specialized work in fields such as engineering, macro-analysis, human performance, and publications and linguistic services.

The Internal Services program activity supports the needs of the other programs and fulfils the various corporate obligations of the TSB. This program activity includes: management and oversight services; human resources management services; financial management services; information management services; information technology services; real property, material and acquisition services; corporate planning and internal audit services.

### **2.3 Benefits for Canadians**

Transportation safety is a shared responsibility and the TSB acts as a catalyst in persuading the industry and governments to find solutions to address the safety deficiencies we have found. Investigations led by TSB program personnel will contribute again this year to modifying operating practices, equipment or regulations governing the transportation industry. These changes will help to improve transportation safety on our waterways, along our pipelines and railways, and in our air space. As a result, a greater number of Canadians will reach their destinations safely, both nationally and abroad.

## 2.4 Planning Highlights

The following tables present the expected results, performance indicators and targets for each of the TSB's program activities. They are followed by a description of the key factors that could have an impact on the capacity of each program to meet the expected results and the key activities that will be undertaken to mitigate the risks that have been identified.

### Marine Investigations

<b>Program Activity: Marine Investigations</b>					
<b>Human Resources (FTEs) and Planned Spending (\$ thousands)</b>					
<b>2010-2011</b>		<b>2011-2012</b>		<b>2012-2013</b>	
<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>
41	5,310	41	5,290	41	5,264
<b>Program Activity Expected Results</b>		<b>Performance Indicators</b>		<b>Targets</b>	
Improved productivity while conducting investigations on the selected occurrences		Number of investigation reports published		Publication of 10 investigation reports	
		Mean time for completing investigation reports		Mean time for completing investigation reports is less than 426 days	
Increased effectiveness of safety communications		Number of safety communications issued		To be determined	
		Results of Board assessment of responses to recommendations over a 10-year period		To be determined	

### Planning Highlights

The thorough reform of Canada's shipping legislation could have an impact on the measures taken by the various stakeholders to correct the safety deficiencies identified by the TSB, especially since the new legislation is less prescriptive and more focused on performance. To increase the uptake of its recommendations and maintain the quality of its investigations and analyses under such circumstances, the TSB will continue to reinforce the implementation of the investigation methodology at all stages of the investigation process. A strategic project and workload management approach will be used to continue to improve marine investigation productivity in 2010-2011. Finally, we will also maintain exchanges and strategic communications with the change agents and explore with them the establishment of risk-reduction measures that go beyond regulatory requirements.

The TSB's performance could be compromised if it does not take additional measures to ensure that the roles, responsibilities and accountabilities are well understood overall and that the current organizational processes are optimally working. To this end, we will finish updating our Marine Manual of Investigation Operations. We will examine and streamline our processes and practices according to current needs and will align our Marine Investigations Branch organizational structure and staffing methods to our new way of doing business.

The reputation and public perception of the organization could be tarnished if it is not able to effectively respond to major marine occurrences. Although the organization has a plan for responding to such situations, this plan must be revised in light of lessons learned from the investigation into the sinking of the *Queen of the North* at Gil Island, in Wright Sound, British Columbia. This review has already begun and should be completed during the course of this fiscal year.

### Pipeline Investigations

<b>Program Activity: Pipeline Investigations</b>					
<b>Human Resources (FTEs) and Planned Spending (\$ thousands)</b>					
<b>2010-2011</b>		<b>2011-2012</b>		<b>2012-2013</b>	
<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>
3	376	3	374	3	372
<b>Program Activity Expected Results</b>		<b>Performance Indicators</b>		<b>Targets</b>	
Improved productivity while conducting investigations on the selected occurrences		Number of investigation reports published		Publication of 3 investigation reports	
		Mean time for completing investigation reports		Mean time for completing investigation reports is less 490 days	
Increased effectiveness of safety communications		Number of safety communications issued		To be determined	
		Results of Board assessment of responses to recommendations over a 10-year period		To be determined	

### Planning Highlights

Since their acquisition by TransCanada in April 2009, the pipelines of the Alberta network are regulated by the National Energy Board. This transfer from provincial to federal jurisdiction resulted in the addition of 23,500 kilometres of pipelines and related installations to the approximately 62,000 kilometres of pipelines already federally regulated in Canada. In this context and in light of the number of forecasted retirements,



the organization will have to take measures to maintain its pipeline investigations operational capacity. A gap analysis will be conducted to determine whether existing pipeline resources can adequately meet operational requirements. A number of strategies will be considered to mitigate the impact of any shortfall in capacity, including streamlining resources with the rail investigators and increasing the number of pipeline investigators.

### Rail Investigations

<b>Program Activity: Rail Investigations</b>					
<b>Human Resources (FTEs) and Planned Spending (\$ thousands)</b>					
<b>2010-2011</b>		<b>2011-2012</b>		<b>2012-2013</b>	
<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>
34	4,678	34	4,659	34	4,636
<b>Program Activity Expected Results</b>		<b>Performance Indicators</b>		<b>Targets</b>	
Improved productivity while conducting investigations on the selected occurrences		Number of investigation reports published		Publication of 13 investigation reports	
		Mean time for completing investigation reports		Mean time for completing investigation reports is 498 days	
Increased effectiveness of safety communications		Number of safety communications issued		To be determined	
		Results of Board assessment of responses to recommendations over a 10-year period		To be determined	

### Planning Highlights

Following the Wabamun and Cheakamus accidents in Western Canada and a number of recent grade crossing accidents, railways are paying much more attention to the issue of company liability related to property and environmental damage. This increased focus on litigation has resulted in additional complexities during the conduct of some investigations. The TSB is monitoring this situation closely and will meet with operators, as needed, to prevent this situation from affecting its performance.

Special attention will be placed on the allocation of resources within the Rail Investigations Branch in order to optimize the return on investment. We will also ensure that our response plan for major rail occurrences is updated.

Furthermore, the TSB anticipates that approximately 25 per cent of its railway investigators will retire within three to five years, which means it must also provide for the training needs of new investigators. To deal with these issues, we will maintain strict control over the training plans for new Rail Investigations Branch recruits and ensure appropriate learning opportunities.

### Air Investigations

<b>Program Activity: Air Investigations</b>					
<b>Human Resources (FTEs) and Planned Spending (\$ thousands)</b>					
<b>2010-2011</b>		<b>2011-2012</b>		<b>2012-2013</b>	
<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>
100	12,780	100	12,732	100	12,669
<b>Program Activity Expected Results</b>		<b>Performance Indicators</b>		<b>Targets</b>	
Improved productivity while conducting investigations on the selected occurrences		Number of investigation reports published		Publication of 50 investigation reports	
		Mean time for completing investigation reports		Mean time for completing investigation reports is 457 days	
Increased effectiveness of safety communications		Number of safety communications issued		To be determined	
		Results of Board assessment of responses to recommendations over a 10-year period		To be determined	

### Planning Highlights

Transport Canada regulations require companies operating in the aviation industry to put safety management systems (SMS) in place in order to detect safety risks before a failure occurs. In 2010-2011, the implementation of SMS will become an international requirement. While Transport Canada is responsible for determining whether the SMS put in place by operators are appropriate, the TSB must be able to take into account SMS when investigating occurrences. The Air Investigations Branch will therefore have to ensure all its employees sufficiently understand SMS and are able to align investigations with this new operational environment.

Also, despite upcoming retirements, the TSB will need to ensure it can maintain its capacity to conduct air investigations. It will do so by recruiting and training new staff members and ensuring that current TSB employees transfer their knowledge prior to retiring and the Air Manual of Investigation Operations is continuously updated.

## Internal Services

<b>Program Activity: Internal Services</b>					
<b>Human Resources (FTEs) and Planned Spending (\$ thousands)</b>					
<b>2010-2011</b>		<b>2011-2012</b>		<b>2012-2013</b>	
<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>	<b>FTEs</b>	<b>Planned Spending</b>
57	6,642	57	6,623	57	6,597
<b>Program Activity Expected Results</b>		<b>Performance Indicators</b>		<b>Targets</b>	
Strengthening Management Practices		Continuous improvement in ratings for the individual areas of management of the Treasury Board Secretariat's Management Accountability Framework (MAF) assessment		Address any issues from MAF round VII	

### Planning Highlights

A particular challenge faced by the Internal Services program activity is maintaining a knowledgeable and qualified workforce. Most positions are “one deep”, that is, there is only one person responsible for a specific task or function within the organization. As a result, vacancies have a significant impact on the TSB's Internal Services. An additional challenge includes staying current with new requirements in Treasury Board policies and directives.

Over the course of the year, the TSB will have to work to maintain adequate human and financial resources in its Corporate Services Branch, particularly to meet current government-wide requirements and to ensure the continued delivery of quality services to its clients. Thus, the Branch will continue its efforts to stabilize and strengthen its capacity to deliver internal services, and to enhance staff knowledge. Efforts will be made to develop and update policies, review and streamline internal procedures, document internal service standards and complete the work leading to the implementation of an electronic records management system to reduce the administrative burden and improve efficiency.

The TSB was assessed as part of the Treasury Board Secretariat's Round VII of the Management Accountability Framework assessments. Efforts will therefore be made in 2010-2011 to address any issues stemming from the assessment results.

## **Section 3: Supplementary Information**

### **3.1 Contacting the TSB**

Additional information about the Transportation Safety Board of Canada and its activities is available on the TSB website at <http://www.bst-tsb.gc.ca> or by contacting us at:

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