CHAPTER 1

The Road to Best-in-Class

1830: Pioneering Days

Railroads in Canada began in the 1830s with one small rail line in Quebec, then expanded in a growing spiderweb from coast to coast. Like the transcontinental railroad that tied the United States together with its first coast-to-coast transportation link in 1869, the numerous Canadian rail lines networked together to achieve the same for Canada. (See Table 1.1.)

Railroads were the tech bubble of their day. The industry was chaotic, with startups and failures, mergers, and lack of standards. There were problems with interconnecting the rail lines of different companies—some used different spacing between their rails, so trains could not move continuously from rail line to rail line, and cargo had to be transferred from one company's train to another's.

By World War I (1914–1918), many Canadian railroads were failing. This posed a serious threat to Canada's economy and the nation itself, because in those days no national highway system offered backup transportation if the railroads failed. National survival demanded action.

1919: Nationalization

Starting in 1919, the Canadian government formed a holding company for this mass of floundering rail lines. Assembling the vast network of individual railroads into a coherent system took several

COPYRIGHTED MATERIAL

Table 1.1 Canadian National Railway—Milestones on Our Trip Plan

Timeline	Major Changes to the Trip Plan
1832	**Pioneering Days:** Railroads grow with Canada.
1919	**Nationalization:** Canadian National Railway is formed, consolidating many railways into a regulated government agency with 100,000 employees.
1980s	**Deregulation:** Railway deregulation in Canada and the United States encourages mergers, acquisitions, and a new competitiveness.
1992	**Organizational Redesign:** Paul Tellier takes the reins at CN and restructures the organization and leadership to better focus on operating results.
1995	**Privatization:** CN goes public with Canada's largest IPO.
1998	**Precision Railroading:** COO Hunter Harrison brings precision railroading and the Five Guiding Principles to managing the business.
2003	**Culture Change on the Fast Track:** Hunter Harrison becomes CEO and decides to embed performance improvement across the company through a massive culture change effort.

Source: Developed with data from the Canadian National Railway Company website.

years. The result was CN, a rail system that spanned Canada from the Atlantic to the Pacific. It served communities large and small, and became the national pride of Canada.

CN also became a major national employer, with over 100,000 on the payroll at its peak. This included not only the rail system, but subsidiary telephone companies (to support rail communications), hotels (to support tourism), the beginning of an airline (Air Canada), and even the Canadian Broadcasting Corporation (started by CN to provide radio entertainment on long rail journeys). As the decades passed, CN became Canada's economic backbone, with the best rail infrastructure in North America. As a business, it carried a good balance of commodities: coal, fertilizer, grain, forest products, automobiles and parts, and intermodal containerized cargo.

In 1975, CN built the world's tallest freestanding structure at the time, the famous CN Tower in Toronto. A platform for railway communications and radio and TV broadcasting, the magnificent tower also proclaimed Canada's success in world business and industry.

The 1980s: Deregulation

Over time, the railroad had become a lot of things besides a national cargo hauler: hotelier, ferry service provider, truck line. One thing it wasn't was profitable.

In 1980, U.S. railroads were deregulated under the Staggers Act, freeing their operations to become more competitive. In Canada, the National Transportation Act (1987) and the Canada Transportation Act (1996) gave similar freedom to Canada's commercial railways. But CN was locked into antiquated rules and the politics of Canadian government ownership, making improvement extremely difficult.

Also during the 1980s, double-digit interest rates revolutionized how business looked at inventory. No longer could companies afford large stock reserves, so they maintained the smallest possible inventories. Just-in-time shipping stood the freight world on its head. Traditional railways weren't built for this, so the trucking industry boomed, cutting deeply into the freight business, especially CN's.

In 1986, CN's long-term debt exceeded $3.4 billion, and interest charges alone surpassed $1 million a day. The railroad was burdened with hundreds of miles of business track that went to specific customers and carried extremely low volume, but the government would not abandon it. One-third of the track carried less than 1 percent of the business. CN was profitable in some years, but those profits occurred mostly when the railroad could jettison little-used track or large numbers of employees.

All this forced CN to further commoditize the business, and lower prices followed. Year after year, this downward slide of price cuts became a necessary way to keep and attract customers. As the railway struggled to lower costs, it quickly became a burden on the taxpayers. But in the commodity business, cutting prices was the main way to beat the competition.

Canada's national dream had become a national nightmare. Taxpayers were bailing out CN decade after decade, to the tune of tens of billions of dollars. But CN's trains ran late and deliveries were undependable. Running 500-plus trains daily was inefficient, customers were fed up, and bankruptcy rumbled at the doorstep. CN's bloated facilities and payroll led the media to bestow an unflattering nickname, "The Pig."

The government and CN's management struggled to improve matters, with occasional success. Some operations were sold off and some track mileage reduced. The payroll shrank from 51,000 to 38,000. Yet in 1992, the company lost over $1 billion in eastern Canada alone.

1992: Organizational Redesign

Clearly, it was time for a big change. That change was Paul Tellier. In 1992, he took the reins as CEO of the floundering company. Tellier had been the head of the Canadian government bureaucracy under two prime ministers of different political parties. His role in running the administration of the government can best be described as a "CEO of civil servants."

He was indeed a consummate bureaucrat—but he had no railroad experience. Labor, railroaders, and the investment community rolled their eyes. Few could picture him revolutionizing CN into a viable business, much less making CN into North America's number one railroad.

On one count, they had a point: Tellier didn't know the old-fashioned way of running a railroad. But his years in politics made him a master at overcoming bureaucracy, and he could assimilate huge volumes of data and make quick, incisive decisions. Critics completely underestimated Tellier's intense, hard-driving leadership and two of his greatest skills: building a team and executing a plan.

On his very first workday as CEO, Tellier met with union leaders. "I wanted to tell them that I was taking them seriously, but that they should take me seriously, too, because I was determined to turn this place around."[1]

To do this, Tellier gathered around him an exceptional group of executives. They included Michael Sabia, a genius in finance; Jim Foote, an expert in investor relations who knew how to talk to the Street; Claude Mongeau, another finance expert of great intellectual horsepower and strategic insight; and others. Together, they markedly improved relations with shareholders, government, and the unions.

When Tellier took over in 1992, CN's operating ratio was a horrendous 97.1. This meant that CN was spending 97.1 cents for every dollar earned. This was no way to run a company. For CN, each 1 percent of operating ratio equated to approximately $40 million.

If there were ever to be a meaningful bottom line, things would have to change drastically.

People cautioned Tellier to make changes slowly; "over five years" would be a good time frame, they said. But this was the exact opposite of what Tellier had planned. He saw in CN a too-comfortable corporation. He wanted to instill a visceral sense of urgency.

From then on there would be disciplined focus and follow-up. Projects would not sit in limbo amid endless analysis. Decisions would be made, and the right people put in place to make them. So it began.

A Quick Change

Tellier and his team quickly focused on the core business and sold off nearly 9,000 miles of track—an astonishing one-third of the rail network. They also disposed of CN's nonrailroad assets, including a hotel in Paris and the CN Tower. And they eliminated redundant processes that wasted time and money.

In less than four months, five senior executives were gone and not replaced. The entire CN payroll was cut by about one-third, including about 11,000 jobs over three years. Tellier reorganized his executive team and reduced management layers from as many as a dozen to only five between himself and the front line. He made it clear: Bureaucracy in CN was history, everyone must pull his own weight, and no one had guaranteed employment.

The sense of urgency and focus on the bottom line translated into immediate results. Within three years, the operating ratio dropped from the high 90s to the high 80s. CN's net income grew 3.5 times, from a loss in 1992 of $68 million to $204 million.

The results were impressive, but Tellier knew that long-term, bottom-line growth required more than just cost-cutting. He quickly turned his focus to the customer and new markets. He published a Customer Bill of Rights and a vision for the future.

The visionary Tellier correctly predicted the highly integrated role that railroads and trucking would share in freight handling that we see today. He foresaw the potential impact that the North American Free Trade Agreement (NAFTA) would have on an integrated North American economy. This NAFTA orientation was one that would shape the flow of sales, strategic acquisitions, and the destiny of Canadian National Railway for decades to come.

Table 1.2 CN's Financial Performance Impacted by Organizational Redesign (Canadian Dollars in Millions)

Year and Event	Operating Ratio (Adjusted)	Free Cash Flow	Revenue	Net Income (Adjusted)	Employees (End of Period)
1992 (Tellier arrives)	97.1%	$78	$3,897	$(68)	35,281
1995	89.0%	$118	$3,862	$204	23,999

Source: Adapted from financial data as disclosed in Canadian National Railway Company annual reports or publicly available data.

Tellier also prepared the company for the future by driving CN's technological advancement, including new infrastructure, remote-controlled locomotives, and computerized operations.

Viewing CN's business results, you can easily see the impact Tellier had on the company. (See Table 1.2.)

With the significant beginnings of a healthy bottom line, a new focus on the customer, and a company stoked for performance, it was time for the next phase.

1995: Privatization

Tellier's greatest accomplishment was the initial public offering in 1995 that privatized CN. At the time, it was the largest IPO in Canadian history. Some 83,800,000 shares went for over $2 billion on the stock exchanges in New York (CNI) and Toronto (CNR).

Overnight, the railroad went from government-owned to a publicly traded, investor-owned company. All of the employees were now working for the investors instead of the government.

Many thought the IPO would fail. But those who understood the strengths of CN, the rail industry and Tellier, knew it would succeed. However, it took great effort. To prime the investment community for the IPO, Tellier and others staged a memorable multimedia road show, hitting 26 cities in nine countries in only three weeks.[2]

In a stunning vote of confidence, over 11,000 CN employees, both unionized and nonunion, bought shares. This was the greatest employee shareholder percentage (over 40 percent) of any North American railroad.

Tellier's decade as CEO (1992–2002) transformed the railway from a money-loser to a much leaner, profitable, investor-owned corporation. The IPO was about much more than cash, however, as noted in a book that tells the IPO story, *The Pig That Flew*:

> Throughout CN, a competitive spirit took hold. Workers seemed proud to serve not a government bureaucracy, but a customer-driven, investor-driven railway. The privatization, Tellier says, had been "a tremendously powerful instrument in our transformation. Our people have become more bottom line–oriented. They want to see a higher share price and our performance improved." In short, the revolution in CN's corporate culture was well underway. Its rewards would soon prove dramatic.[3]

The Right Leaders for the Job

People talk about "the right man for the job," and Tellier was the right leader for his era of CN's history. He had skillfully led CN through two critical phases. The first was creating a sense of urgency and focus, revamping the bottom line, and reshaping customer relationships. The second phase, taking the railway public in a record-setting privatization, was followed by continued leaps in bottom-line performance. Those wise enough to see what was happening would be well rewarded for the CN shares they bought.

These two phases were transformational for CN, but Tellier was not done. He was building for the future with a strong executive team to lead the organization. In Tellier's own words:

> When I came to CN, I knew very little about railroads, but a lot about people. Over the years, I'd developed the skill of quickly figuring out who could make things happen. This was a critical skill for my early days at CN. If we were going to make the changes that were required, I knew that many managers had to be changed and new leaders brought in or moved up. . . .
>
> I was always looking for that future talent. I found a pool of it in a regional U.S. railroad known as Illinois Central. Its network was a perfect fit for our railroad and gave us the NAFTA penetration that I knew was critical for CN's future.

> It also gave me access to some great railroaders, including Hunter Harrison [Illinois Central's president]. So when we put the deal together, I made sure that Hunter and his leadership team agreed to join the CN team. Retaining Hunter Harrison was probably one of the best decisions I took as CEO of CN.[4]

1998: Precision Railroading

In 1998, CN acquired the Illinois Central Railroad, with approval in 1999. Overnight, Canadian National Railway was converted from a mostly Canadian operation to "North America's Railroad." (See Figure 1.1.)

CN now spanned the continent from sea to sea, plus the Gulf Coast, with connections into Mexico via alliance partners. The result made CN a true NAFTA railway.

Along with the Illinois Central (IC), CN acquired something else that would revolutionize its future: IC's President Hunter Harrison, who became CN's new Chief Operating Officer (COO).

Harrison was the real thing, a true railroader. While still in high school, he had labored for a railroad in Memphis. Over the years, his leadership talent had emerged as he worked his way up in different railroads. At the Illinois Central, he had become renowned for his strong, action-oriented style. He was the right man to continue what Tellier had started.

When Harrison came on board as COO in 1998, he taught CN a new way of working—a better way of railroading. His vision was to make CN the best-performing, most profitable railroad on the planet.

Harrison made his vision clear through his *Five Guiding Principles,* principles that quickly became CN's core pillars against which every idea, plan, and action could be tested. At every opportunity, he talked with his leadership team, managers, and employees about the Five Guiding Principles: Service, Cost Control, Asset Utilization, Safety, and People.

Harrison built on the pillars of the Five Guiding Principles and broke with the prevailing way of running a railroad by next introducing *Precision Railroading*. Traditionally, rail carriers would hold a train until it was completely full before departing. This maximized efficiency for the railroad, but could delay an individual customer's shipments, sometimes by days. This would be

Figure 1.1 CN Rail System Map: "North America's Railroad"
Source: Canadian National Railway Company.

equivalent to holding a flight until every seat is taken, making the plane late and delaying every passenger—efficient for the airline to fully utilize its asset, but problematic in disrupting the plans of unhappy passengers.

Traditional railroading gets full trains from A to B. Precision Railroading, by contrast, focuses on how to get *an individual customer's shipment* from A to B as quickly as possible, not the whole train. Accomplishing this makes it necessary to disassemble and reassemble trains as needed, transferring customers' railcars from train to train to keep them moving.

It is certainly a simple concept. But executing it takes dedication, planning, and vigorous leadership. Precision Railroading requires that every aspect of train operations—scheduling, locomotive availability, crew management, rail car repairs, track maintenance, and so on—be synchronized to keep individual customer railcars moving. No one wins when shipments are standing still.

Keeping shipments moving meant that managers constantly reviewed, revised, and adjusted each and every process related to customer delivery. It didn't take long for the discipline of Precision Railroading to permeate the entire organization, creating new value for CN's customers, value that competing rail carriers could not deliver.

The proof of Precision Railroading's value is compelling: In 1999, CN quoted a transit time of 7 to 9 days from Chicago to Edmonton (about 1,600 rail miles). Customers would ask, "Is it always between 7 and 9 days?" CN would say, "Well, sometimes 6 days, occasionally 10 or 11." This was a pretty typical railway offering—definitely not inspiring to shippers!

But Precision Railroading changed this. CN began quoting the trip in hours (which was 24 times more precise than quoting in days). Then leaders set a target: Accelerate the trip from 7 to 9 days (170 to 200 hours) to only 4.6 days (111 hours). At first, the results were shaky and inconsistent, as you would expect—the first few weeks, the 111-hour target was met only 48 percent of the time. But within four months, that rose to above 90 percent. Today, CN runs a train from Prince George in British Columbia to Chicago in less than 100 hours—which is an additional 500 miles, in less time, with greater reliability.

To make Precision Railroading work, every employee had to think differently. Instead of waiting for orders or for someone to solve a problem, it becomes each employee's responsibility to take initiative, demonstrate leadership, spot problems, and fix them. Leaders needed each employee to continually share knowledge and information, and to be aware that every action has a far-reaching impact on the operation. Local operations now had to think in terms of the entire network, not just their own piece of it.

Precision Railroading became a switchpoint for the organization. CN spiked the switch against traditional railroading—waiting for trains to be full. Henceforth, trains would arrive and depart on time and on schedule—full or not.

2003: Passing the Reins

The company's performance confirmed that it was heading down the right track. By January 2003, when Paul Tellier moved on and Hunter Harrison was elevated to CEO, the results of their teamwork were obvious to all. (See Table 1.3.)

Many years of hard work had paid off. By the end of 2002, CN not only had become North America's railroad, but North America's *top* railroad. Clearly, the leadership had made CN the strongest performer among the Big Six railways. Operating ratio dropped, freeing up profits to reinvest in the company. Revenue was almost double, and achieved by fewer employees.

CN's strong operating results drove equally strong stock performance on both U.S. and Canadian markets, as shown in Figure 1.2. Note the two highest curves in the figure.

Six years after the IPO, CN's stock under Tellier and Harrison generated the highest total shareholder return of any Class I railroad. (Currently, a Class I railroad is defined by the Association of American Railroads—AAR—as one with annual revenue exceeding $319.3 million.) To make this personally relevant: If you had

Table 1.3 CN's Financial Performance Impacted by Precision Railroading (Canadian Dollars in Millions)

Year and Event	Operating Ratio (Adjusted)	Free Cash Flow	Revenue	Net Income (Adjusted)	Employees (End of Period)
1995 (Privatization)	89.0%	$(118)	$3,862	$204	23,999
1998 (Harrison arrives: Precision Railroading begins)	75.3%	$228	$4,078	$569	19,198
End of 2002	70.5%	$513	$6,339	$1,052	22,114

Source: All financial data as disclosed in Canadian National Railway Company annual reports and/or Investor Factbooks. Adjusted to exclude items affecting comparability of results.

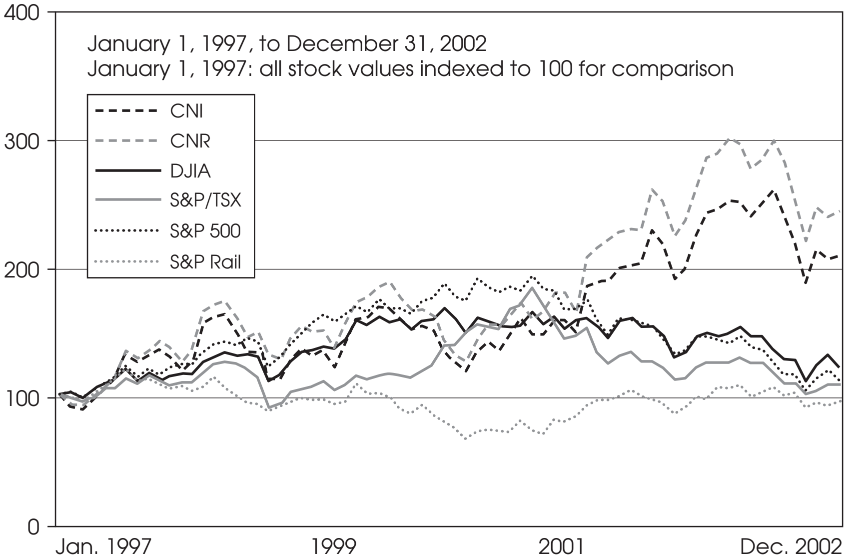

Figure 1.2 CN's Stock Performance, 1997–2002

Source: Adapted from financial data as disclosed in Canadian National Railway Company annual reports or publicly available data.

invested $70,000 in CN stock at the time of the IPO and reinvested the dividends, a decade later you would have earned close to $1 million. A number of CN employees did just that.

By the time Harrison took over as CEO in January 2003, he and Tellier had already taken CN to best-in-class. And the story wasn't over . . .