

Statement of Heritage Significance

Traffic (Victoria or 19th Street) Bridge Saskatoon



**Ross Herrington M.A., M. Sc., P. Eng.
Architectural Historian**

March 2, 2008

Cover Photo: The “Traffic Bridge” looking west (upstream) from the Nutana side of Saskatoon
(R. Herrington; September 19, 2007)

Statement of Heritage Significance

Traffic (Victoria or 19th Street) Bridge Saskatoon

STATEMENT OF SIGNIFICANCE

The Traffic Bridge, located in Saskatoon, connects Victoria Avenue on the east side of the South Saskatchewan River with 3rd Avenue South in the downtown core. The bridge, which was opened in October, 1907, consists of five steel through-truss spans on concrete piers and abutments.

HERITAGE VALUE

The heritage value of the bridge lies in its status as a prominent feature of Saskatoon's urban landscape and an important community landmark. This structure was the first vehicle bridge over the South Saskatchewan River within Saskatchewan and was the catalyst in the creation of the Saskatoon Board of Trade and Saskatoon itself. In 1905, the Town of Saskatoon proposed to the Villages of Nutana and Riversdale that the three communities amalgamate to become a city. Nutana ratepayers insisted that a traffic bridge across the river be built as soon as possible otherwise they saw no benefit to amalgamation. Funding of the bridge was approved at the first session of the provincial legislature in 1905 when Saskatchewan became a province. Without this bridge, the city of Saskatoon could not have developed as quickly as it did.

The heritage value of the structure also resides in its technology. The bridge was constructed in 1907 from plans provided by the Canadian Bridge Company. It is the oldest surviving steel Parker through-truss in the province and at the time of construction, it was the longest purely traffic bridge in existence in either Saskatchewan or Alberta. Steel through-trusses made their appearance in Saskatchewan in 1900 and represented a significant engineering advance over earlier timber bridge structures. The structure remains largely unchanged and except for short periods for rehabilitation, the bridge has been in continual use by vehicles and pedestrians since its completion in 1907.

The heritage value of the bridge is also connected to the establishment of a scientifically-based, cement-testing laboratory by the provincial government. Previously, contractors supplied their own cement and there were no quality control procedures in place. This testing facility ensured that only first-class cement would be used in future provincially-funded projects, including the replacement of piles under steel bridges with concrete piers, and the construction of many public buildings throughout the province.

CHARACTER-DEFINING ELEMENTS

The heritage value of the Traffic Bridge resides in the following character-defining elements:

- those elements which speak to its status as a landmark in the community, including its form and massing and its location on its original site;
- those elements that reflect the property's engineering technology, such as being the Steel truss architecture;
- those elements that reflect the development of Saskatchewan's early concrete quality-control testing methods as demonstrated by the original large concrete piers and abutments.

ADDITIONAL INFORMATION

A. Historical Significance

In the late 1870s, Prime Minister John A. Macdonald's government was enthusiastically promoting the settlement of western Canada by offering large blocks of land to colonization companies. In 1881 a group of Toronto Methodists formed the Temperance Colonization Society (TCS) and was granted a 65km long block of land along the South Saskatchewan River. The TCS chose a settlement site on the east bank near the mid-point of this tract where a ferry could cross the river, and named their community 'Saskatoon'. The first streets of Saskatoon were surveyed in 1883.

In 1890, the Qu'Appelle, Long Lake and Saskatchewan Railway line to Prince Albert bridged the river where the Idylwyld Freeway now stands. A new settlement soon developed on the west side of the river around the railway station. By 1901 this settlement incorporated as the Village of Saskatoon and the name of the original settlement on the east bank was changed to Nutana. A third settlement, Riversdale, developed west of the railway tracks on the west side of the river

Access between east and west sides of the river presented problems for the early settlers. A ferry began operating in 1884 between Victoria Park and the foot of Main Street. This was moved in 1890 to a site just below the railway bridge. The seasonal ferry service was often unreliable due to vagaries of the river and walking across the railway bridge could be dangerous. At a meeting held in Saskatoon on October 25, 1902 to discuss the ferry problem, local real estate developer, Allen Bowerman, recommended that a Board of Trade be formed to pressure the government for a traffic bridge.¹ Saskatoon's Board of Trade held its first meeting on January 21, 1903; two of its initial priorities were to improve the ferry service in the short term and lobby for a traffic bridge.²

Since the CPR was proposing to replace their old wooden Howe truss bridge at Saskatoon, in the fall of 1903 the Board of Trade lobbied both the Dominion and Territorial governments for a combined rail and traffic bridge. A lukewarm response and subsequent delays prompted the business community to open up direct discussions with the CPR. This was well-received since the CPR and the Qu'Appelle, Long Lake & Saskatchewan Railway were planning to jointly erect a permanent steel railway bridge at Saskatoon. Vehicular and pedestrian attachments could be added to their design and this would be supported financially by the Territorial government. Unfortunately for Saskatoon, after new concrete bridge piers were completed, the QLL & S line was up for sale. The CPR backed away and simply re-installed the old Howe truss on the new piers.³ Saskatoon remained without a traffic bridge at the time Saskatchewan became a province in 1905.

At a meeting of the Saskatoon Town Council in April, 1905, the suggestion was made that Saskatoon unite with the villages of Nutana and Riversdale to become a city.⁴ Public meetings were held in June and July. At a meeting in December, Nutana ratepayers insisted that a traffic bridge across the river be built as soon as possible otherwise they

saw no benefit to amalgamation. Without this bridge, the city of Saskatoon could not have developed as quickly as it did.⁵

Funding of the bridge was approved at the first session of the provincial legislature in 1905 when Saskatchewan became a province, along with two other large bridges, the Canadian Northern Railway Bridge at Prince Albert and the traffic bridge at Battleford. The latter bridge was similar to Saskatoon's steel through-truss Traffic Bridge and was completed in 1909.

The site selected for Saskatoon's Traffic Bridge "is without doubt the cheapest, most serviceable and most picturesque location for a considerable distance."⁶ Construction of the bridge began in August 1906 and the bridge was opened officially on October 10, 1907. At the time of construction, it was the longest purely traffic bridge in existence in either Saskatchewan or Alberta, and was of such significance that Lieutenant-Governor Forget officiated at its opening ceremony.

The Traffic Bridge was the first dedicated vehicle bridge over the South Saskatchewan River and remained Saskatoon's only vehicle and pedestrian bridge until the University Bridge was opened in 1916.

In June 1908, the steamship, *City of Medicine Hat*, struck one of the bridge piers and capsized. Fortunately, everyone was safely rescued. A second significant incident occurred on March 3, 1922 when Streetcar #4 jumped the track at the sharp turn onto the east approach to the bridge and landed on the bank below. Six passengers were seriously injured.

The bridge was closed to vehicular traffic between November, 2005 and September 2006 due to serious corrosion problems and other factors. The condition of the bridge has since been stabilized and it is estimated that its current useful life has been extended until at least 2025.

In funding the construction of the Traffic Bridge, the provincial government recognized that the new settlement of Saskatoon had become a significant urban centre. The bridge united three separate communities and would enhance Saskatoon's control of local trade and ensure its continued growth.

It is curious that Saskatoon's first traffic bridge was the last to be officially named. Known variously as the Traffic Bridge, Victoria Bridge, Black Bridge, Short Hill Bridge, or 19th Street Bridge, the city conferred the name "Traffic Bridge" on this century-old structure on April 22, 2007.

B. Engineering Significance

The first steel through-truss in Saskatchewan was constructed over the Assiniboine River near Pelly in 1900⁷ (since demolished). Although significant in its day, this bridge was a relatively modest structure with a clear span of 80 feet (25m). The provincial Department

of Public Works constructed four similar steel truss bridges in southeastern Saskatchewan during the next five years: over the Souris River in 1901 (50-foot span) and 1904 (125-foot), and two bridges over Pipestone Creek in 1905 (80-foot and two 50-foot spans). These structures either have been replaced by reinforced concrete structures or the truss has been modified significantly.

In its 1907 Annual Report (p.106) , the provincial Department of Public Works stated that “The future policy of the Department should be to construct heavy steel bridges rather than light steel or timber bridges on account of the more permanent nature of the structures.” In addition, to reduce the frequency of crews doing repairs and therefore reducing overall costs, “Whenever possible in future all steel bridges constructed should permit of a future concrete roadway, concrete piers and abutments...” Saskatoon’s Traffic Bridge was the first large steel bridge in Saskatchewan placed on concrete foundations at the time of construction. Regarding the philosophy of future concrete roadways, it is interesting to note that a year later, the Department had come to the realization that “this immense dead weight of concrete in the floors added too much to the already heavy bridges required to carry the great concentrated wheel loads of traction engines, and the idea of providing for concrete floors, generally was abandoned.”⁸ Before standardization of designs, bridge building in the early years was often an experimental process.

Saskatoon’s Traffic Bridge is the oldest surviving steel Parker through-truss in the province. It was designed by the provincial Department of Public Works⁹ and consists of two 175 feet (56m) spans with three central spans each 200 feet (64m) long on concrete piers and abutments. The substructure contract was awarded to prominent Winnipeg contractor, John D. Gunn and Sons Ltd., who, among other significant projects, was responsible for the 1910-1913 CPR High Level Bridge over the North Saskatchewan River at Edmonton. The steel superstructure was fabricated at the Canadian Bridge Company plant in Walkerville (now Windsor), Ontario and erected by the McDiarmid Company of Winnipeg.

While the concrete piers were completed in late 1906, a delay in getting the fabricated steel from the rolling mills, combined with having to wait until after the 1907 spring breakup to permit the erection of falsework, the work of erecting the steel superstructure was not started until June 1, 1907.¹⁰ The initial floor was laid by October 1.

Shortly after the bridge was opened, it became apparent that a sidewalk was urgently needed. A six-foot (2m) wide sidewalk was attached by steel brackets to the upstream side of the bridge in 1908.¹¹ A planned addition on the downstream side of the bridge for a street railway was not implemented.

A permanent floor was laid during the 1910 construction season. It consisted of “two plies of two inch creosoted plank on top of which was placed a sand and cement cushion; on this two and a quarter inch asphalt blocks were laid to form the road surface.”¹² It is not known how well this “light serviceable road” performed.

The design of bridges during this early settlement period required consideration of the passage of large boats. For example, in the case of Battleford's first traffic bridge, completed in 1909, a sufficiently deep channel was selected between an island and one shore to provide clearance for boats by raising 600 feet (191m) of the bridge to the high level. The Canadian Northern Railway Bridge at Prince Albert (1909) was designed with a central swing-span which could be opened to allow passage of vessels. Similarly, after some debate, the Grand Trunk Pacific Bridge over the South Saskatchewan River at St. Louis (1912) was constructed with provision for a central lift-span. It is not known if Saskatoon's Traffic Bridge was initially conceived with a moveable section but none was installed.

One of the far-reaching, province-wide outcomes of building the Saskatoon Traffic Bridge in 1907 (and the Battleford traffic bridge) was the recognition by the provincial Department of Public Works that the quality of cement used in constructing concrete piers needed to be controlled. Previous to this, contractors supplied their own cement, "some of which are new and unknown and many of foreign manufacture."¹³ A cement-testing laboratory was subsequently formed. This testing facility ensured that only first-class cement would be used in future DPW work, including the replacement of pile piers under steel bridges with concrete piers, and the construction of various public buildings throughout the province.

¹ Saskatoon *Phoenix*, October 31, 1902, p.1.

² Saskatoon *Phoenix*, January 23, 1903, p.6.

³ "Heritage Bridges of Saskatoon", draft manuscript prepared for the City of Saskatoon Planning Department by David Neufeld, December 1985, p.56.

⁴ Saskatoon: The First Half-Century, 1982, Don Kerr and Stan Hanson, NeWest, p.62.

⁵ Saskatoon became a city on July 1, 1906.

⁶ Department of Public Works, Annual Report for the Period Ending February 28, 1907, p.118.

⁷ Department of Public Works, Annual Report for the Period Ending February 28, 1907, p.106.

⁸ Department of Public Works, Annual Report for the Period Ending February 27, 1909, pp.70-71.

⁹ A.J. McPherson, B.A.Sc., was the Assistant Chief Engineer. Prior to joining the Department, he was involved with the 'good road' movement in Ontario. McPherson became Superintendent of Highways in 1908 and then Chairman of the Board of Highway Commissioners.

¹⁰ Department of Public Works, Annual Report for the Period Ending February 28, 1908, p.85.

¹¹ Department of Public Works, Annual Report for the Period Ending February 27, 1909, p.71.

¹² Department of Public Works, Annual Report for the Period Ending February 28, 1911, p.42.

¹³ Department of Public Works, Annual Report for the Period Ending February 28, 1907, p.108.