

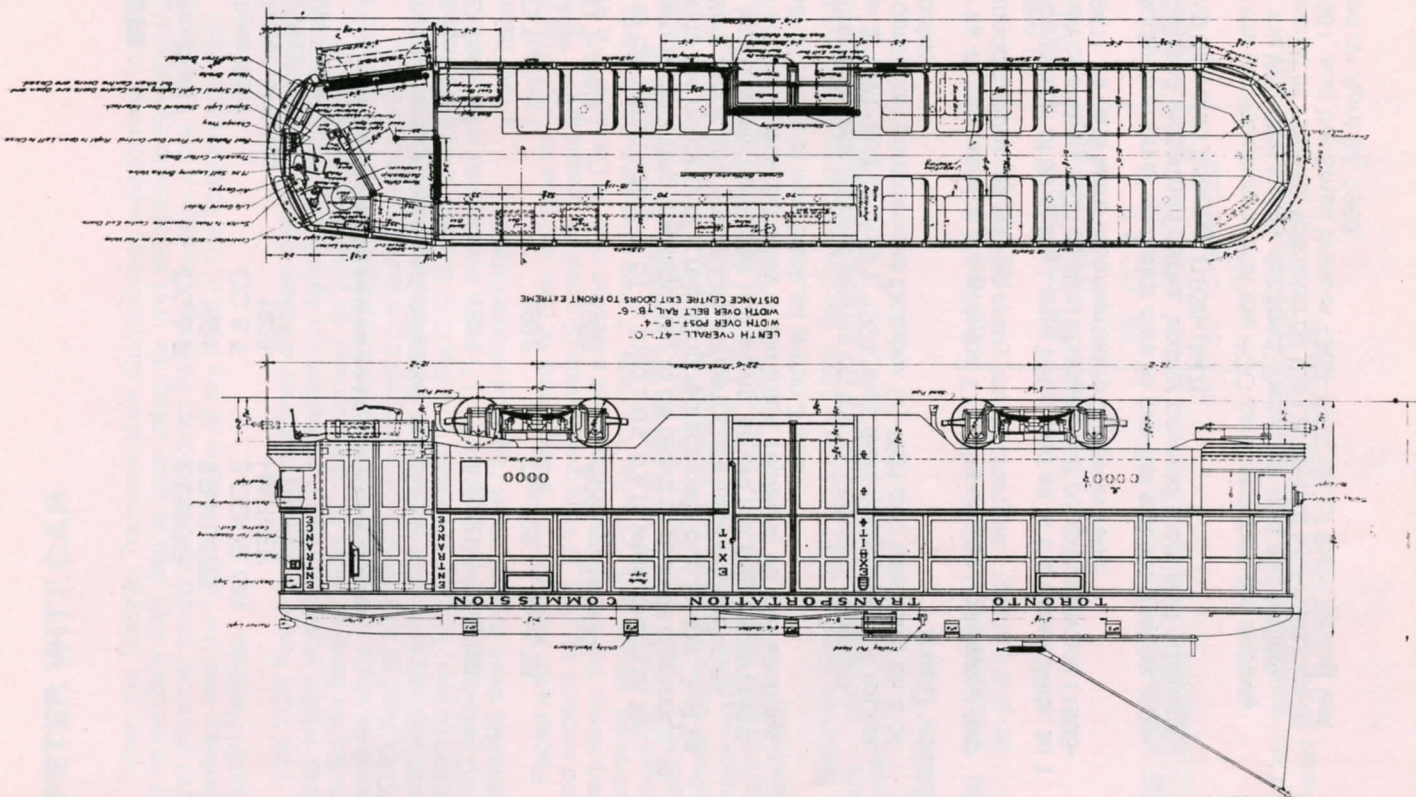




## Principal Specifications:

	1 man	Large Witt	Small Witt	Three Door Trailer
Length over anti-climber		51' 10"	47' 0"	47' 2"
Width over belt rail		8' 6"	8' 6"	8' 6"
Height — to top of roof		11' 1 <sup>5</sup> / <sub>8</sub> "	10' 8 <sup>5</sup> / <sub>8</sub> "	10' 4 <sup>1</sup> / <sub>8</sub> "
— to top of base		12' 0"	11' 7"	---
Truck Centres		26' 0"	22' 6"	26' 0"
Truck wheelbase		5' 10"	5' 4"	4' 2"
Wheel diameter		31"	26"	22"
Track Gauge		4' 10 <sup>7</sup> / <sub>8</sub> "	4' 10 <sup>7</sup> / <sub>8</sub> "	4' 10 <sup>7</sup> / <sub>8</sub> "
Minimum horizontal curve radius		36'	32'	30'
Minimum vertical curve radii — convex		350'	350'	350'
— concave		700'	700'	700'
Seating		58	51	60
Weight — Tare (W1)		50,000 lbs	39,700 lbs	26,800 lbs
— Normal (W4) (Service)		67,400 lbs (115 passgrs.)	55,750 lbs (106 passgrs.)	43,300 lbs (109 passgrs.)
— Crush (W5)		71,900 lbs (145 passgrs.)	60,100 lbs (135 passgrs.)	47,200 lbs (135 passgrs.)
Control		Single end	Single end	---
Motor rating		4 West. 533 TA 50 HP ea (1 hr)	4 West. 510A 35 HP ea (1 hr)	---
Performance:		(No load weighing; based on tare weight as 550 volts, level track)		
Time to speed		20 MPH/15 secs	20 MPH/12 secs	---
		25 MPH/30 secs	25 MPH/20 secs	---
		30 MPH/70 secs	30 MPH/42 secs	---
Braking rate: Service:		3.6 MPHPS	3.7 MPHPS	---
Emergency:		3.8 MPHPS	3.9 MPHPS	---

SMALL WITT (AS OF 1937)





## PETER WITT CAR

When the Toronto Transportation Commission was formed in 1920, its immediate task was to both integrate and rehabilitate the services and physical assets of the Toronto Railway Company, the Toronto Civic Railway, and the "city" portions of the lines of the Toronto and York Radial Railway.

The TCR had a small and relatively modern fleet of 70 double-end cars, which would prove very effective on light traffic and "stub end" routes for several years to come, as well as providing transitional services while routes were relaid and expanded. On the other hand the TCR's fleet of almost 900 cars ranged from antique open cars to relatively large double-truck cars, only a few years old but of wooden construction. The Commission and the City elected to accept only 830 TRC vehicles, of which only half (417) were considered acceptable vehicles, even though most required modernization.

Faced with the need for a large fleet of new vehicles to both maintain and expand service, at improved levels of comfort, speed and frequency, the Commission selected a design new to Canada — a front entrance, centre exit, "Pay As You Pass" 2 man operated car of steel sheathed construction, large passenger capacity, and capable of hauling a trailer. The design had originated with Peter Witt, (the street railway Commissioner of Cleveland) in 1914, and had been built for major systems in the United States. For the TTC, the design was distinctively engineered and produced by Canadian Car and Foundry of Montreal.

Between April of 1921 and early 1923, the Commission ordered 575 cars — 350 motors and 225 trailers. However there were variations within the totals, as follows:

### Motor Cars

250	equipped with couplers (to pull trailers)	200	CC & F	1921/22/23	LARGE WITT
100	lightweight, no couplers	50	Cdn. Brill	(Preston) 1922	WITT
		50	CC & F	1922/23	SMALL WITT
		50	Ottawa Car	1923	

(Cdn. Westinghouse, Cdn. General Electric and English Electric shared in the motor and control contracts).

### Trailers

60	Two Door	CC & F	1921	TRAILERS
165	Three door	CC & F	1923	3 DOOR OR HARVEY TRAILERS
	(design change by Asst. GM D.W. Harvey)			

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The vehicles were ordered and delivered as follows:

190	Large Witt	1921	Aug/21 — May/22
60	2D Trailers		
100	Small Witt		
100	3D Trailers	1922	Dec/22 — Sept/23
60	Large Witt	1923	April — Sept/23
65	3D Trailers		

Due to the introduction of 51 ft. long cars, 8½ ft. wide, much of the TRC narrow devil strip trackage had to be relaid to provide clearance, in addition to the majority of it requiring replacement due to age. Just as the Rolling Stock and Shops Department commissioned vehicles almost immediately from their unloading, so did the Way Department rebuild and relay over 53 miles of old track, replaced 80 intersections and built 57 miles of new track all within 3 years.

The first Witt cars entered service on the "Broadview" route on October 2, 1921, and by July 1, 1923, they were operating on 7 routes. Trailer operation commenced October 17, 1921 and was used on 5 of the 7 routes.

Over its 40 year service life with the TTC, the design underwent two major modifications, as well as many minor changes:

- (a) Conversion of 90 of the Large Witts, and all of the Small Witts, to 1 man operation, with control changes and coupler removal (1933-1941). 15 cars were reconvered to 2 man in 1949.
- (b) Modernization of all motor cars to provide electric heating, non-enclosed motorman's area, leather covered foam seat cushions and non-skid flooring. (1936-1947).

With the introduction of first the PCC cars, and then the subway routes, the Witt fleet slowly declined. Two-man cars and trailers disappeared in 1953-55, followed by the Large Witt one-man cars in 1956-1961, and the Small Witts in 1962-1965, six of them having last operated on April 24, 1963.



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## Condensed Roster

CLASS  
FLEET NUMBERS 1921 1923 BUILDER & DATE REMARKS

### MOTOR CARS (EVEN NUMBERS)

2300 — 2498	A	K	CC & F	Aug. — Oct/21	Large Witt;
					2300-2478 to 1 man;
					2450-2478 back to
					2 man
2500 — 2578	B	L-1	CC & F	Oct/21 — Jan/22	Large Witt
2580 — 2678	C	M	Cdn. Brill	Jan. — May/22	Large Witt
					("Brill")
2700 — 2798	E	P-1	CC & F	Dec/22 — Jan/23	Small Witt;
					to 1 man
2800 — 2898	G	P-2	Ottawa	May — Sept/23	Small Witt;
					to 1 man
2900 — 3018	H	L-2	CC & F	June — Sept/23	Large Witt

### TRAILERS (ODD NUMBERS)

2301 — 2419	D	N	CC & F	Oct. — Nov/21	2 door
2701 — 2899	F	Q	CC & F	Feb. — Apr/23	
					3 door
2901 — 3029	F	Q	CC & F	Apr. — May/23	("Harvey")
Ordered:	1921	— A, B, C, D			
	1922	— E, F (1st 100), G			
	1923	— F (2nd 65), H			

The Commission retained only 2766, the last car to have operated, for limited charter service. But in 1973, the TTC inaugurated its "Belt Line Tour Tram" service, and car 2766 was joined by 2894 (leased from the Ontario Rail Association) and the next year by 2424 (leased from the Ontario Electric Railway Historical Association. Although this summer operation has been discontinued, the 3 cars are still used on charters and "Trolley Tours" as required.

A number of other Witts have been preserved, some operational; and some "bodies" have been reclaimed from the landscape to be restored as operating vehicles. The first car (2300) is preserved and displayed by the Canadian RR Historical Association. Others are: 2778 (N, Ohio Museum), 2786 and 2890 (OERHA), 2898 (BERA) and 2984 (OERHA).