

## S70 Ultra Short Light Rail Vehicle

Salt Lake City, Utah

According to US Industry data Salt Lake City is cited as one the top 10 cities ranked among the best in the country for public transportation. Salt Lake City opened its light rail system with a base fleet of 23 Siemens vehicles. The success of that initial order and the increase in overall ridership over the years has prompted Salt Lake City to expand their system to include 35.3 mile of track and operate in excess of 117 Siemens light rail vehicles (LRV). In 2010 Siemens introduced the latest edition of light rail vehicles for the growing Salt Lake City system; the 70% low-floor Siemens S70 Ultra Short light rail vehicle.

A steel carbody construction; fully bi-directional; double articulated; 70% low-floor vehicle, ideal for streetlevel operation and built in the USA. Each six-axle S70 Ultra Short light rail vehicle is equipped with two power trucks (one under each end) and a non-powered center truck.

The interior of this S70 Ultra Short LRV has been designed to maximize passenger space, incorporating a predominately knee-to-back seating arrangement. Each S70 Ultra Short LRV is equipped with eight wide opening sliding plug doors all located in the low-floor area, with four to each side of the vehicle. The door spacing has been optimized to allow for greater passenger flow entering and exiting the vehicle, which ultimately decreases the station dwell times.

In addition to the maximized passenger space and wide doorways the vehicle is

also equipped with two designated wheelchair spaces allowing for priority seating to disabled passengers and doorway ramps to assist in the boarding and exiting of disabled passengers. To maximize passenger comfort each vehicle is equipped with two roofmounted HVAC units per LRV.

The S70 utilizes a passenger information system consisting of operator and

Performance and Capacity		
Maximum operational speed	55 mph	88 km/h
Maximum allowable speed	59 mph	95 km/h
Service acceleration and deceleration	3.0 mphps	1.34 m/s²
Emergency braking rate	4.8 mphps	2.18 m/s <sup>2</sup>
Passenger capacity	60 seats Approx. 225 total passengers @ 6 p/m² 2 wheelchair spaces or bicycle areas	
Maximum operational gradient	7%	
Motor power rating	174 hp x 4	130 kW x 4
Catenary supply voltage	600 Vdc	



automated announcements, passengeroperator intercoms and interior and exterior electronic destination signs, as well as interior surveillance system for increased passenger safety.

The S70 Ultra Short LRV is electrically powered from an overhead wire system (catenary) and for Salt Lake City operates at speeds up to 55 mph, carrying close to 230 passengers in each vehicle with the ability to operate in multiple vehicle consists (up to four).



The S70 Ultra Short removes automobiles off the road in turn helping cities decrease their CO<sub>2</sub> emissions.





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## Vehicle Dimensions and Weight

Length over coupler	81.4 ft	24810 mm
Width	8.7 ft	2650 mm
Height with pantograph (locked down)	12.3 ft	43771 mm
Maximum pantograph height	up to 23 ft	7000 mm
Vehicle empty weight	96,500 lbs (AW0)	43771 kg
High-floor section above TOR	2.8 ft	855 mm
Low-floor section above TOR	1.2 ft (threshold)	356 mm (threshold)
Minimum turning radius	82 ft	25 m
Vertical curve, crest	820 ft	250 m
Vertical curve, sag	1150 ft	350 m
Track gauge	4.7 ft	1435 mm
Wheel base	6.2 ft (power trucks)	1900 mm (power trucks)
	5.9 ft (center truck)	1800 mm (center truck)