



SEATTLE, WASHINGTON

S700 Low-Floor Light Rail Vehicle

Seattle's Sound Transit tapped Siemens Mobility to build 122 S700 light rail vehicles (LRV) to help meet growing ridership needs and the next expansion of what will be a 116-mile rail line. Another 30 vehicles were added to the order in 2017, bringing the total number of vehicles ordered to 152.

A steel carbody construction, fully bi-directional, double articulated, low-floor vehicle, ideal for street-level operation, and built in the U.S. Each six-axle light rail vehicle is equipped with two power trucks (one under each end) and a non-powered center truck.

The interior of the S700 maintains an open low-floor configuration, making it one of the most accessible vehicles of its kind in today's market. The end-to-end low-floor allows access for all passengers including those in the ADA community; better sightlines for

security ensures improved passenger flow, comfort, safety and efficiency.

Each S700 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 vehicle is also equipped with four designated wheelchair spaces allowing for priority seating to disabled passengers and

Performance and Capacity

Maximum operational speed	55 mph	88 km/h
Maximum allowable speed	65 mph	105 km/h
Service acceleration and deceleration	3.0 mph/s	1.34 m/s ²
Emergency braking rate	5.0 mph/s	2.24 m/s ²
Passenger capacity	70 seats 175 Passengers @ AW2 275 Passengers @ AW4 4 wheelchair spaces 2 bicycle racks	
Maximum operational gradient	7%	
Motor power rating	174 hp x 4	130 kW x 4
Catenary supply voltage	1500 Vdc	

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doorway ramps to assist in the boarding and exiting of disabled passengers.

To accommodate Seattle’s bicycle population, this S700 incorporates two dedicated bicycle racks. The door spacing has been optimized to allow for greater passenger flow entering and exiting the vehicle, which ultimately decreases the station dwell times.

To maximize passenger comfort, each vehicle is equipped with two roof-mounted HVAC units per LRV.

The S700 utilizes a passenger information system consisting of operator and automated announcements, passenger-operator intercoms, interior and exterior electronic destination signs, as well as interior and exterior surveillance system for increased passenger safety.

Each LRV is electrically powered from an overhead catenary system (OCS) and for Seattle operates at



speeds up to 55 mph, carrying close to 220 passengers in each vehicle with the ability to operate in multiple vehicle consists (up to four). These light rail vehicles remove automobiles off the road, in turn helping cities decrease their CO2 emissions.



Vehicle Dimensions and Weight

Length over coupler	95 ft	28942 mm
Width	8.7 ft	2650 mm
Height with pantograph (locked down)	12.7 ft	3870 mm
Maximum pantograph height	22.3 ft	6800 mm
Vehicle empty weight	103,000 lbs	46720 kg
High-floor section above TOR	2.2 ft (two indented steps up)	670 mm
Low-floor section above TOR	1.2 ft (threshold) 1.3 ft (center)	366 mm (threshold) 381 mm (center)
Minimum turning radius	82 ft	25 m
Vertical curve, crest	820 ft	250 m
Vertical curve, sag	1,150 ft	350 m
Track gauge	4.7 ft	1435 mm
Wheel base (power trucks)	6.2 ft	1900 mm
(center truck)	5.9 ft	1800 mm



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