

AGT

Japanese Standard Automated Guideway Transit



Best Solution for Urban Transit

- Safe, reliable and punctual
- Wide range of Capacity
- Exceptional Route Flexibility
- Minimum Land Acquisition
- Compact Track Structure
- Advanced and Proven Technology
- Sustainable Urban Transport
- Key System for MaaS

JTPA

Supervised by



Ministry of Land, Infrastructure, Transport and Tourism

01 System Outline



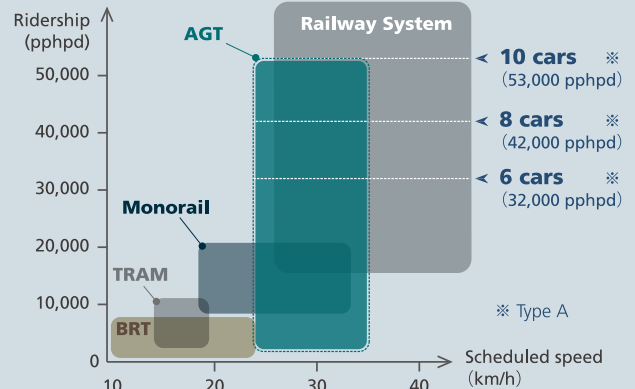
4 Wheels / Vehicle
(2 Axles / Vehicle & 2 Wheels / Axel)

Run-flat rubber tire with inner wheel:
Low noise & Lower OPEX



02 Range of Application

AGT Urban Transportation Coverage



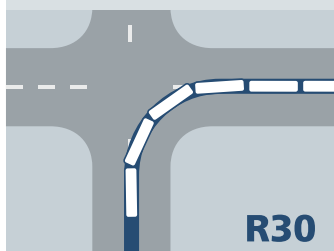
Suitable Experience of AGT system

Route Length	5-30 km
Stations	each 500-2,000 m
Ridership	50,000-350,000 person/ day (6 cars)

03 Exceptional Route Flexibility

Smaller minimum radius (30m), higher gradeability (10%) and narrow track width (minimum 7.2m) enhances flexible alignment and planning with less land acquisition.

● Minimum radius : 30m



● Higher gradeability, narrow track & slim pier



04 Vehicle Type

Type A

Vehicle

Maximum allowable weight	24t
Car body width	2.8m
Car body length	11.2m

Vehicle gauge

▶ Width	2,825mm
▶ Height	3,800mm
▶ Power collector envelope	2,880mm

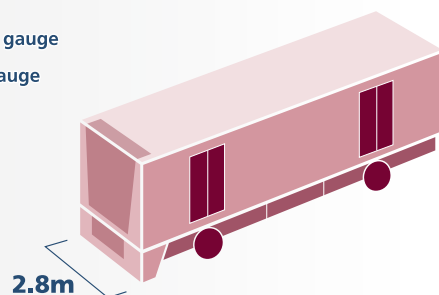
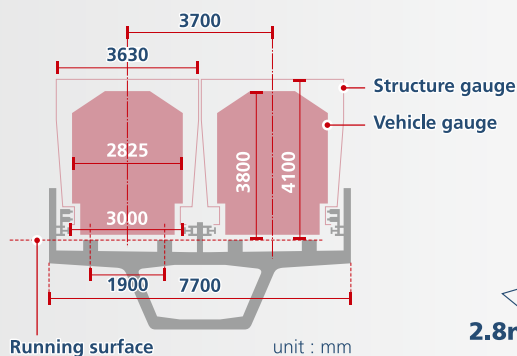
Design load

※ 1t=10kN



Train capacity

32,000pphpd at 90 seconds headway of 6 car train.
car capacity:133 persons <6 persons/m²>



Type B

Vehicle

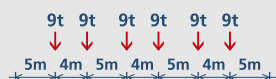
Maximum allowable weight	18t
Car body width	2.5m
Car body length	8.5m

Vehicle gauge

▶ Width	2,580mm
▶ Height	3,350mm
▶ Power collector envelope	2,160mm

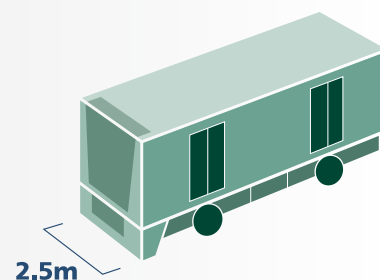
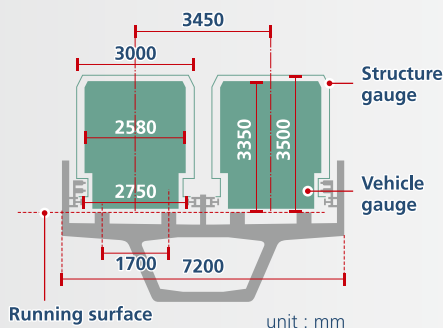
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※ 1t=10kN



Train capacity

19,000pphpd at 90 seconds headway of 6 car train.
car capacity:80 persons <6 persons/m²>



Type C

Vehicle

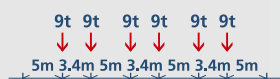
Maximum allowable weight	18t
Car body width	2.35m
Car body length	8m

Vehicle gauge

▶ Width	2,400mm
▶ Height	3,300mm
▶ Power collector envelope	2,160mm

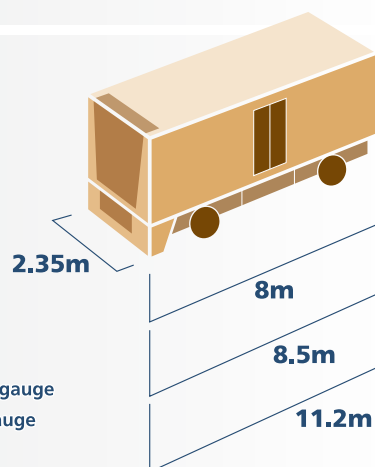
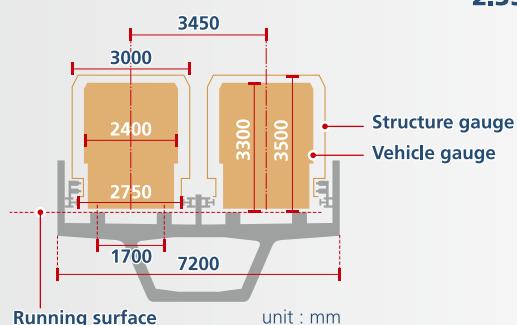
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※ 1t=10kN



Train capacity

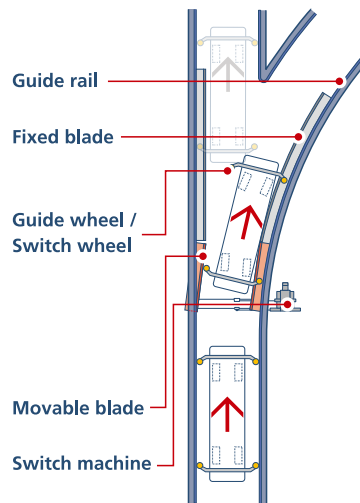
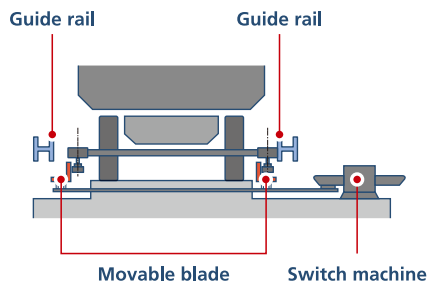
18,000pphpd at 90 seconds headway of 6 car train.
car capacity:75 persons <6 persons/m²>



05 Guideway Equipment

■ Structure of a turnout

High reliable simple mechanism by using conventinal switch machine for railway.



■ Emergency walkway

Passengers evacuate from emergency door at the lead car, go down emergency stair and walk through track to the nearest station.

■ Platform

Platform height from running surface is 1,140 mm (1,070 mm for type B and C)

■ Power supply

Traction Power is 750Vdc.

■ Guide system

Side guide system.

06 Initial Cost competitiveness of AGT

Compared AGT with Railways, the cost for infrastructure is lower and viaduct width is reduced.

Construction cost ratio		Railway		AGT Type B&C
Underground	Cost 100%		Cost 80%	
	Tunnel width 12m			
Elevated	Cost 60%		Cost 40%	
	Viaduct width 9.7m			

■ Options for Maintenance / Emergency walkway

Option-1 : Maintenance walkway	Option-2 : Emergency walkway	Option-3 : Emergency walkway

07 Possibility and Capacity of AGT

6 car subway train and 8 car Type A AGT train accommodate the same number of passengers.

AGT (Type A) — 8 car train

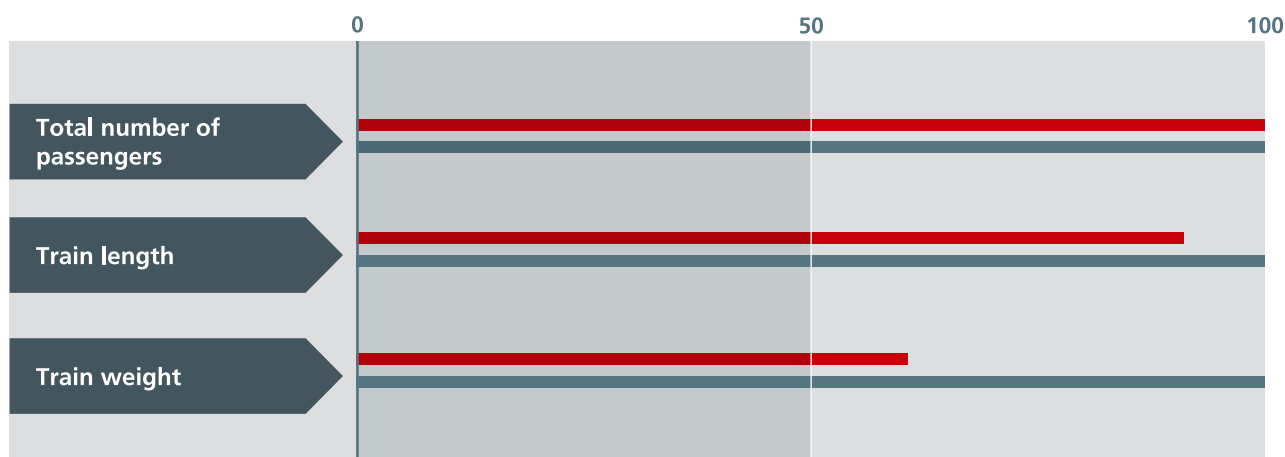


The 8 car AGT train of type A, which has the same width as the subway shown on the left, has almost the same passenger capacity as the 6 car subway train.

Subway — 6 car train

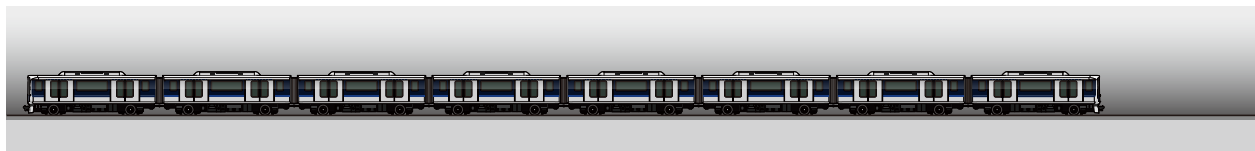


A subway in Tokyo with 30 km track length and 30 stations carries 1.1 million people a day using 6 car trains whose car width is 2.8 m.

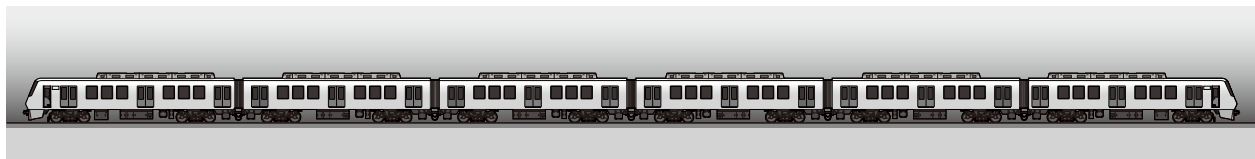


Comparison between Subway and AGT (former is taken as 100)

AGT (Type A) — 8 car train



Subway — 6 car train



Study Group on AGT Systems : Japan Transportation Planning Association(JTPA)

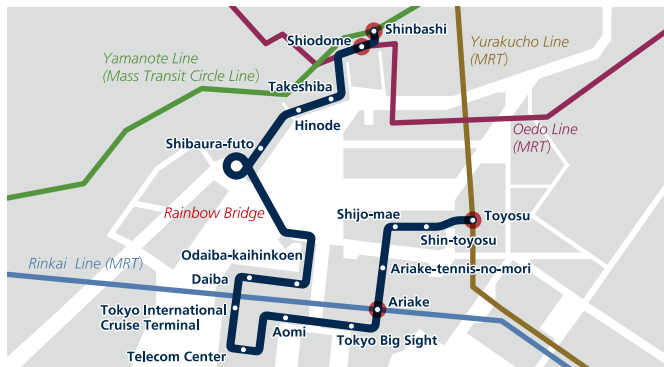
Chuo Fukken Consultants Co., Ltd. / Kobe Steel, Ltd. / Marubeni Corporation / Mitsubishi Heavy Industries Engineering, Ltd. / Mitsui & Co., Ltd. / Niigata Transys Co., Ltd. / Nippon Koei Co., Ltd. / Nippon Tetsudo Denki Sekkei Co., Ltd. / NiX Co., Ltd. / Pacific Consultants Co., Ltd. / Yachiyo Engineering Co.,Ltd.

08 Project Records

Tokyo Yurikamome Line



■ Ridership :	120,000 Passenger / day
■ Midnight Population :	8,000 People
■ Working Population :	42,000 People
■ Total track Length :	14.7 km
■ Stations :	16 stations
■ Average Station Spacing :	0.98 km
■ Maximum Gradient :	50 % (60% in Depot)
■ Scheduled speed :	28.5 km/h
■ Operation :	driverless



- 100% Elevated Guideway
- Old Town + New Town



Singapore Sengkang / Punggol Line



■ Number of Cars :	57 cars
■ Length :	21 km
■ Stations :	21 Stations
■ Revenue :	2003(Sengkang), 2005(Punggol)
■ Operation :	driverless



- 100% Elevated Guideway
- New Town

