

**New Transport System (NTS) & Guideway Bus (GB)**

**Introducing Higher Quality Public Transport with no Delay**



For operating public transport on scheduled, the grade-separated system needs to be introduced to strongly support people's social and economic activities.

The New Transport System, or NTR, is the standardized automated guideway transit (AGT) system of Japan as a part of the urban public transport.

⇒ See the introducing movie: [Yokohama Seaside Line](#)

What's **NEW TRANSPORT SYSTEM (NTS)**  
**Japan's standardized automated guideway transit (AGT) system!**

**NTS & GB currently operated in Japan**



■ Port Liner, KOBE



■ Nanko Port Town Line, OSAKA



■ Rokko Liner, KOBE



■ Astram Line, HIROSHIMA



■ Seaside Line, YOKOHAMA



■ Yurikamome, TOKYO



■ Nippori Toneri Liner, TOKYO

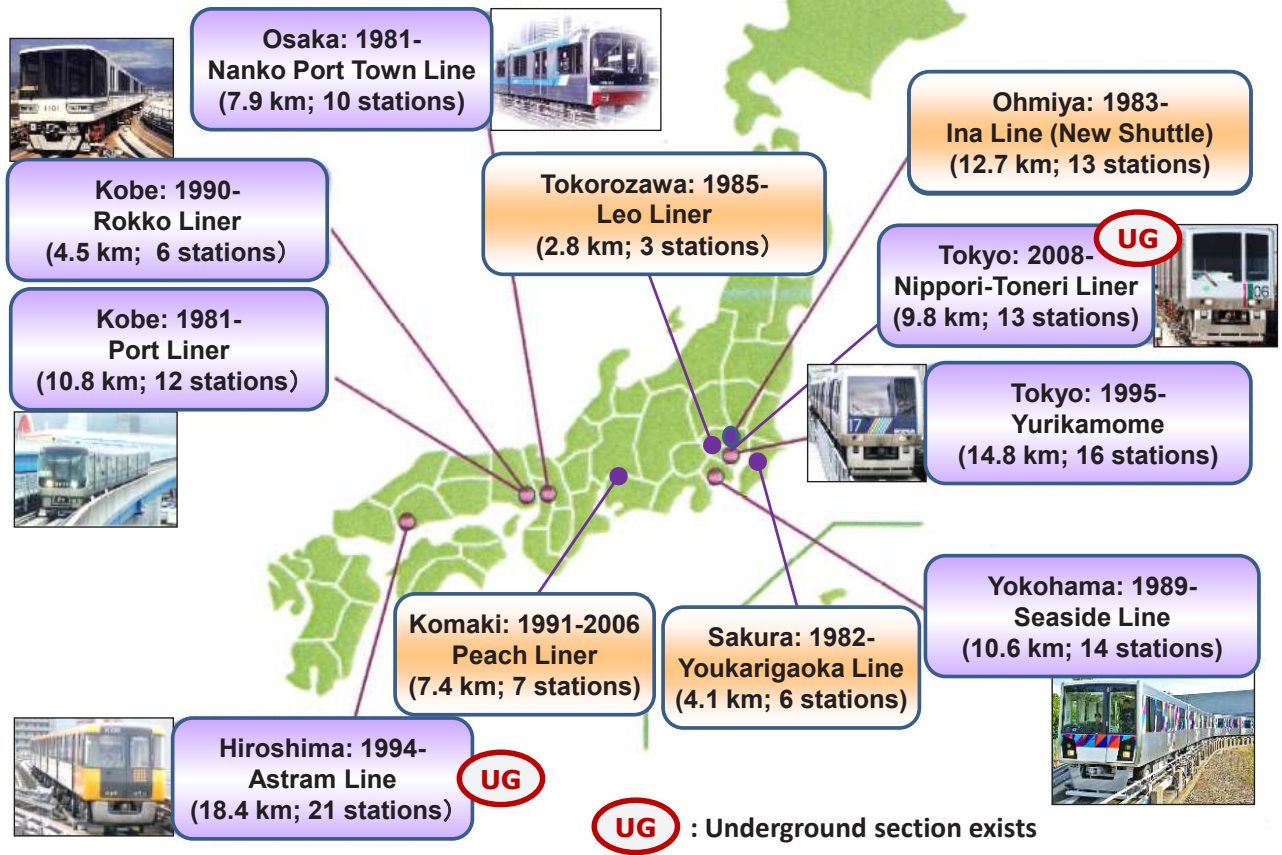


■ GB:Yutorito Line, NAGOYA\*

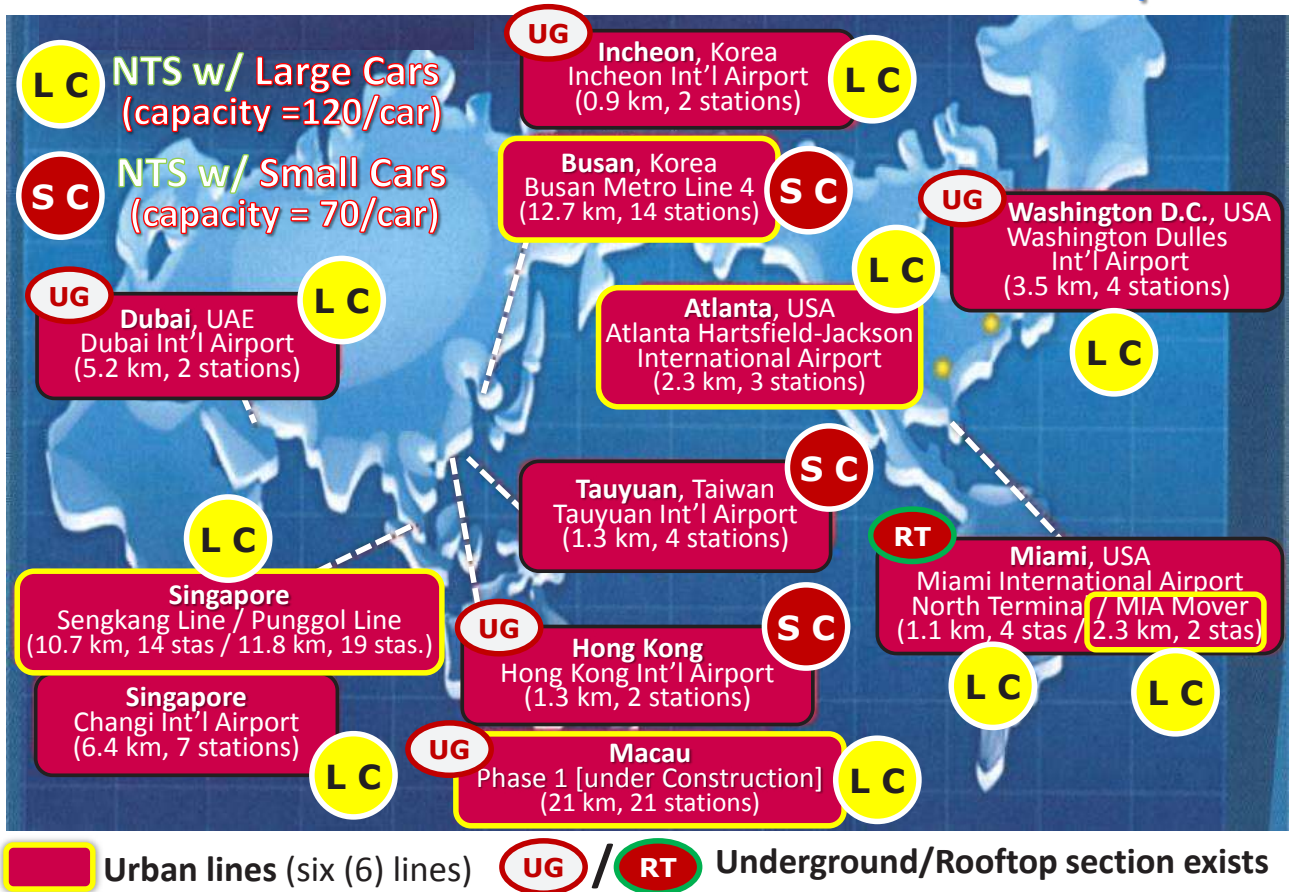
**UG** : Underground section exists

\*The Guideway Bus, or GB, is the standardized guideway bus system of Japan, which can run both on ordinal streets, and on elevated exclusive guideways in areas with frequent traffic congestions.

In Japan, **Seven (7)** of 11 AGTs are the **standardized AGTs = NTS**

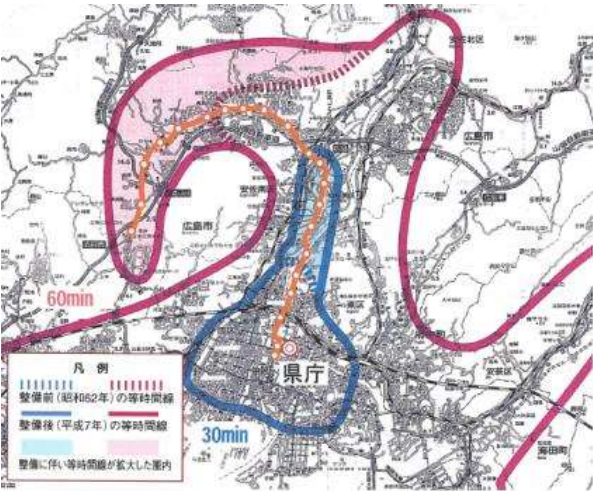


**13 NTS lines** have been introduced **outside Japan**.

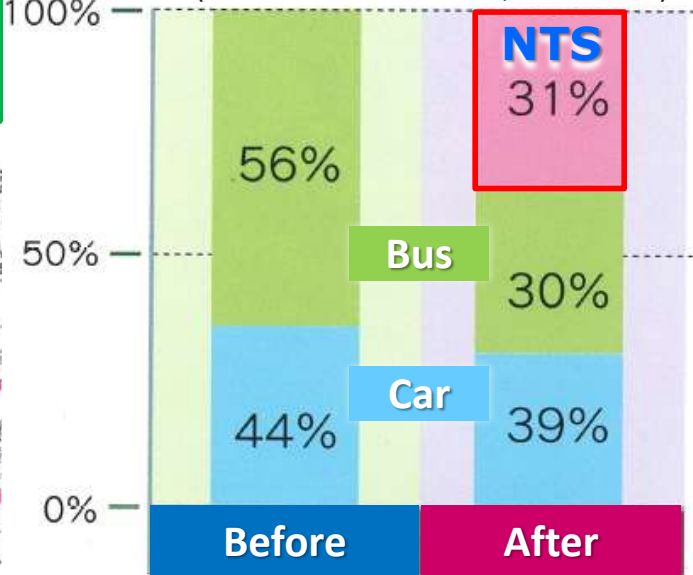


# Results of NTS 【No. 1】

**Modal change to NTS from Bus/Car**



Change in Modal share  
(A Case of Astram line, Hiroshima)

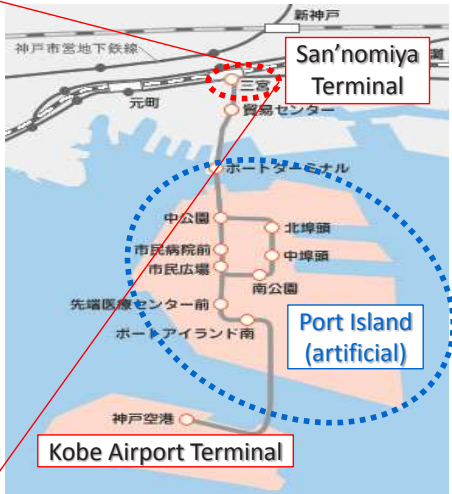
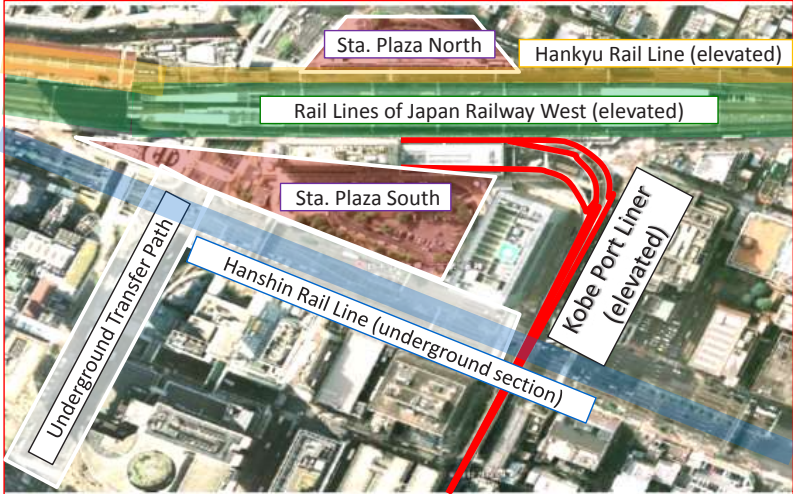


Source: MLIT "Urban monorail & New Transport System"

# Results of NTS 【No. 2】

**Quick and Smooth Transfer w/ other transport modes**

This would be realized with close coordination in planning and designing stages.



# Ten (10) Merits of NTS

## 【No. 1】

### Sufficient Transport Capacity

- 10-20 thousand passengers per hour  
( $\doteq$  Four (4) times of the Streetcar)
- or more that depends on customer's requirement

13,000  
vehicles



=



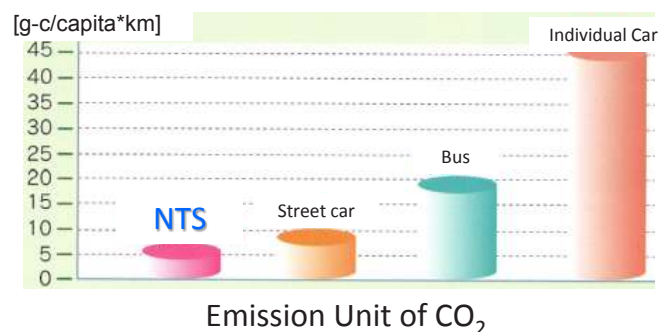
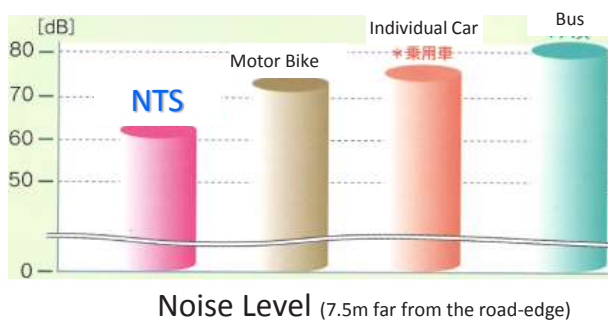
1 train  
(20 thousand  
passengers / hour)

# Ten (10) Merits of NTS

## 【No. 2】

### Environmentally Friendly & Stable System

- lower noise and vibration!
- no exhaust gas!!
- Stable structure with less swinging!!!



# Ten (10) Merits of NTS

## 【No. 3】

### Easy to Turn around

- Turning radius: 20 meters minimum  
(Usually, more than 160 m (ordinary train) & 100 m (monorail))
- Gradient: ten (10) % maximum  
(Usually, 1 % for the cargo train; 3 % for the ordinary train)



# Ten (10) Merits of NTS

## 【No. 4】

### Simplified Structure

AGT: **Simple construction** for running plinth  
(**no catenary** system is needed.)

MRT: **Catenary** system is required.

Monorail: Higher accuracy is required for the  
**girder beam**, and Special work shops  
are necessary.

# Ten (10) Merits of NTS 【No. 5】

**Lower Costs for Construction & others**  
= lighter and small-sized infrastructure =



Examples of  
**Construction** Costs  
(in case: NTS = 1)

NTS	1
Subway	3
Monorail	1.2
Guideway Bus	0.5
Streetcar	0.7

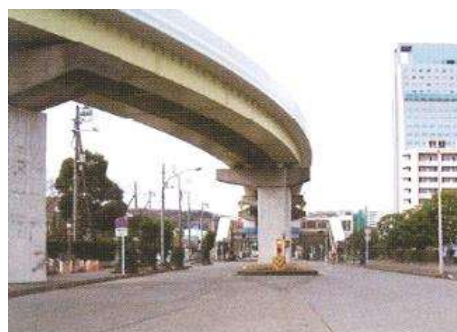
\* Costs for land acquisition are excluded.

Source: Eiji WATANABE "Project findings of Monorail overseas & Project Management", 2010

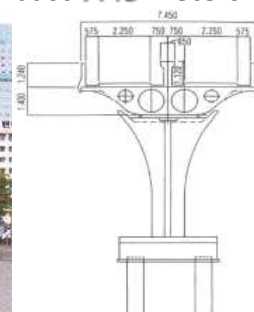
# Ten (10) Merits of NTS 【No. 6】

**No Delay for Construction**  
= No need for R.O.W. land acquisition =  
**vs.** ordinary train system

Infrastructure of  
**NTS**  
is to be  
constructed  
within the current  
road space.







Just **7.45** meters wide




# Ten (10) Merits of NTS

## 【No. 7】

### Easy to Change the Vehicle Configuration Even within the Daily Operation

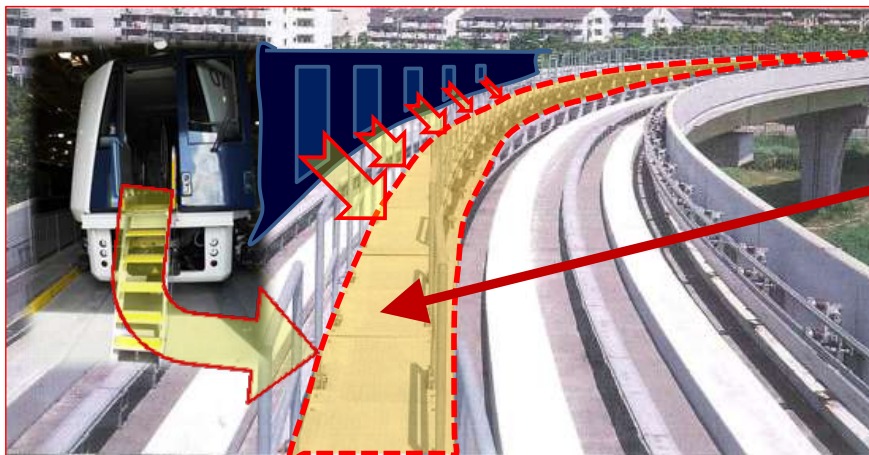
Short range Long range	Operating Train Configuration	
	Daily Off-Peak period	Daily Peak period
<b>Initial Phase</b>		
<b>Ultimate Phase</b> to increase the capacity		



# Ten (10) Merits of NTS

## 【No. 8】

### Safer System in an Emergency



**Path** for the **daily maintenance**; it will be utilized in case of **evacuation!**

Moreover, the **daily maintenance** is easy to safely carry out.

# Ten (10) Merits of **NTS** 【No. 9】

**Strong & Safer System w/ simple structure  
against natural disasters such as  
Typhoon, Earthquake, or Road flooding**



**Direct access** to the **upper floor** of the building!

# Ten (10) Merits of **NTS** 【No. 10】

**No Driver needs for Operating Trains**









# Summary of the Comparison among **Urban Transport Systems**

CONTENTS		Mass Transit		Medium Capacity Transit			Small-Medium Cap. Transit
		Ordinal Train	Subway	Monorail (Large)	<b>NTS (Standard, Large)</b>	LRT (grade-separated)	LRT (at grade)
0	effective alleviation of traffic congestion	◎	◎	○	○	○/◎	△
1	transport capacity	◎	◎	○	○	○	△
2a	environment-friendly (power consumption)	△	△	○	◎	◎	◎
2b	noise, vibration, swing (left & right)	△	△	○	◎	△	△/◎
3a	ease to turn around	△	△	△	◎	△	○
3b		gradient (up-down)	△	△	◎	◎	△
4	structure simpleness (girder, OH-catenary)	△	△	△	◎	△	○
5	life-cycle costs (land/depot, civil, E&M, O&M)	△	△	○	◎	○	◎
6	necessity of land acquisition (line)	△	△	○	◎	○	○
7	easy changing the vehicle configuration	△	△	△	◎	△	△
8	emergency evacuation	○	○	×/△	◎	○	◎
9	automated operation (no driver system)	○	○	△	◎	△	×
10	safer in the road flooding	○	○	○	○	○	×

[Legend] ◎:excellent/standardized; ○:good/actual case(s); △:acceptable/possible; ×:difficult/impossible  
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## Comparison of the Cars in NTS and Monorail

Contents	Large NTS	Standard (Small) NTS	M R T (Railway/ Subway)	Large Monorail
Example	 <b>MIA Mover</b> Miami, USA	 <b>Seaside Line</b> Yokohama, Japan		
Maximum load of each car	28 ton	18 ton	72 ton	44 ton
Car Dimension	Length	12.0 m	8.00 m	16-20 m
	Width	2.8 m	2.47 m	3.0 m
	Height	3.8 m	3.34 m	4.1 m
Car Capacity (approx.)	120	70	150-160	150