

JITI Public Transportation Seminar

~ Improving the Convenience of Public Transportation in a Cashless Society ~



Tokyo Metro Co., Ltd.

Naoto KIMURA, Tokyo Metro. Co., Ltd., Tokyo, Japan

Keeping Tokyo on the Move

At Tokyo Metro Group, with the railway business at the core of our business development, we support the capital city Tokyo's urban functions and make Tokyo even more attractive and vibrant. Through outstanding technology and creativity we provide safe and comfortable transportation daily, contributing to the active lives of all people who gather in Tokyo.

1. Outline of subway system in Tokyo	p.04
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3. Overview of Tokyo Metro's IC Business	p.16

Subways in Japan



	City	Population / mil.	No. of lines	Km
1	Sapporo	2.0	3	48.0
2	Sendai	1.1	2	28.7
3	Tokyo	9.2*	13	301.8
4	Yokohama	3.7	2	53.4
5	Nagoya	2.3	6	93.3
6	Kyoto	1.5	2	31.2
7	Osaka	2.7	8	129.9
8	Kobe	1.5	3	30.6
9	Fukuoka	1.5	3	29.8
	Total		42	746.7

* Tokyo 23 wards

As of FY2016

Company Outline

Number of employees

Unconsolidated 9,475 employees
 Consolidated 11,177 employees

Stockholders

Japanese Government (53.4%), Tokyo Metropolitan Government (46.6%)

Net sales

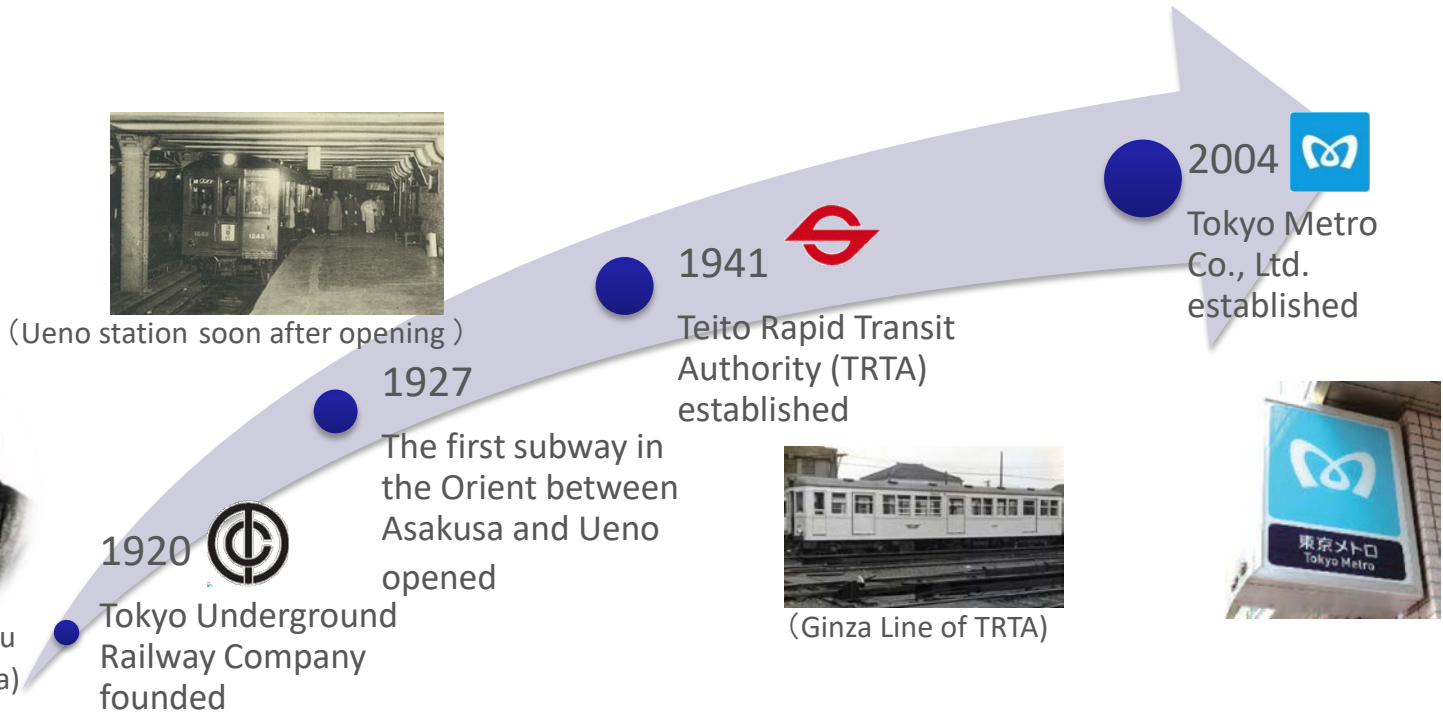
Unconsolidated 393.3 billion yen (≒ 3.6 billion dollars*)
 Consolidated 423.8 billion yen (≒ 3.9 billion dollars*)

*1 USD=110 JPY (As of Mar. 31, 2017)

History



(Noritsugu Hayakawa)



Railway Business Outline

Operating lines

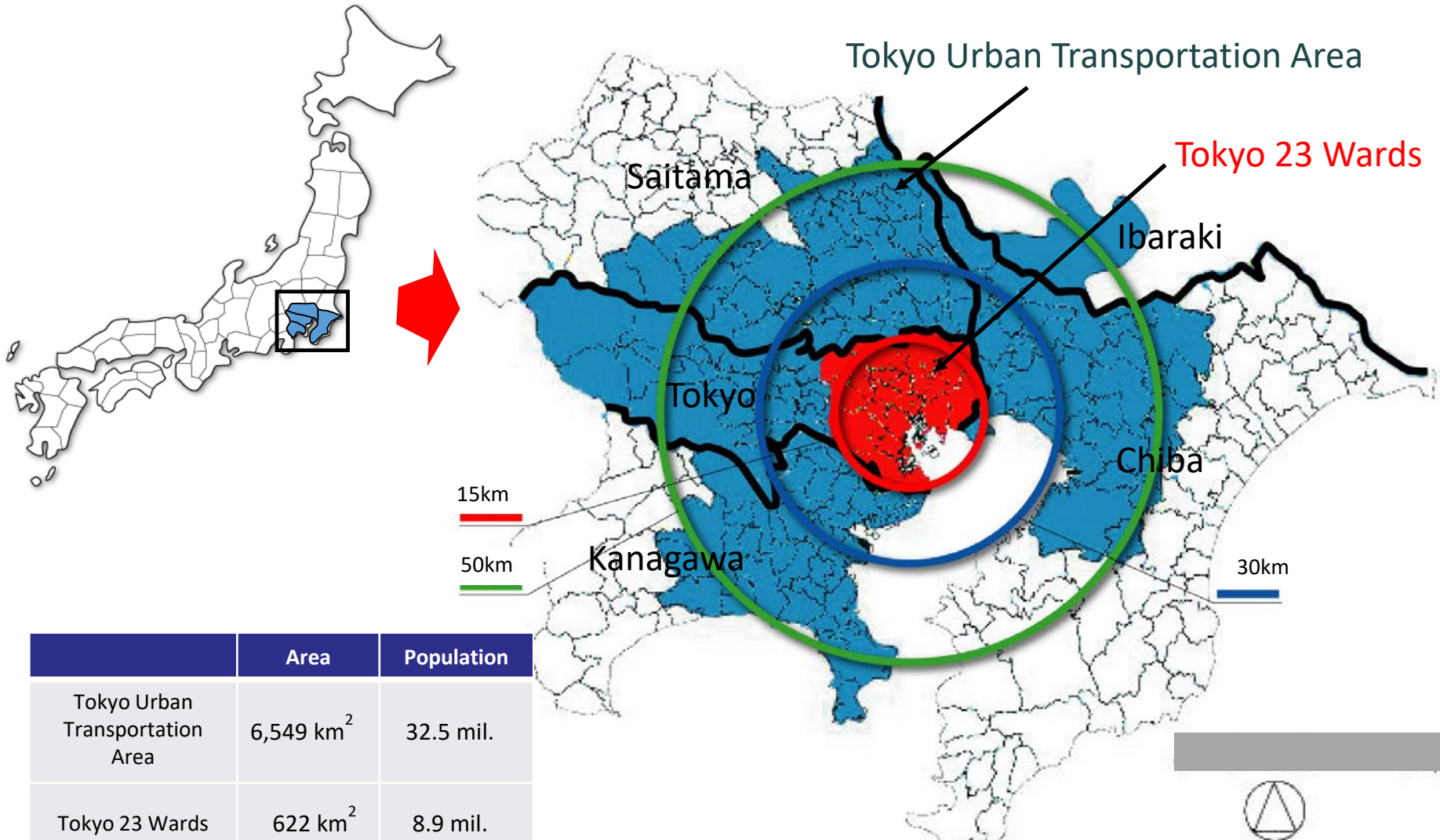
9 Lines
Ginza 14.3 km
Marunouchi 27.4 km
Hibiya 20.3 km
Tozai 30.8 km
Chiyoda 24.0 km
Yurakucho 28.3 km
Hanzomon 16.8 km
Namboku 21.3 km
Fukutoshin 11.9 km

Route length	Total 195.1 km
No. of stations	179 stations
No. of cars	2,766 cars
No. of passengers	Average number per day 7.24million (FY2016)
Minimum headway	1 min 50 sec (Marunouchi Line)



(As of Mar. 31, 2017)

Tokyo Urban Transportation Area and Tokyo 23 Wards



	Area	Population
Tokyo Urban Transportation Area	6,549 km ²	32.5 mil.
Tokyo 23 Wards	622 km ²	8.9 mil.

As of 2010

Source : "Urban Public Transport Annual Report," Japan Transport Research Institute

Railway Route Length in Tokyo Urban Transportation Area

358
km



887
km



1,214
km



17
km

SUBWAYS

- Tokyo Metro - 195.1km
- Bureau of Transportation, Tokyo Metropolitan Government (Toei Subway) - 109.0km
- Transportation Bureau, City of Yokohama - 53.4km

EAST JAPAN RAILWAY COMPANY

- Formerly national rail, now privatized.



PRIVATE RAILS

- 28 private railway operators
- A variety of non-rail business developed along their railway lines.

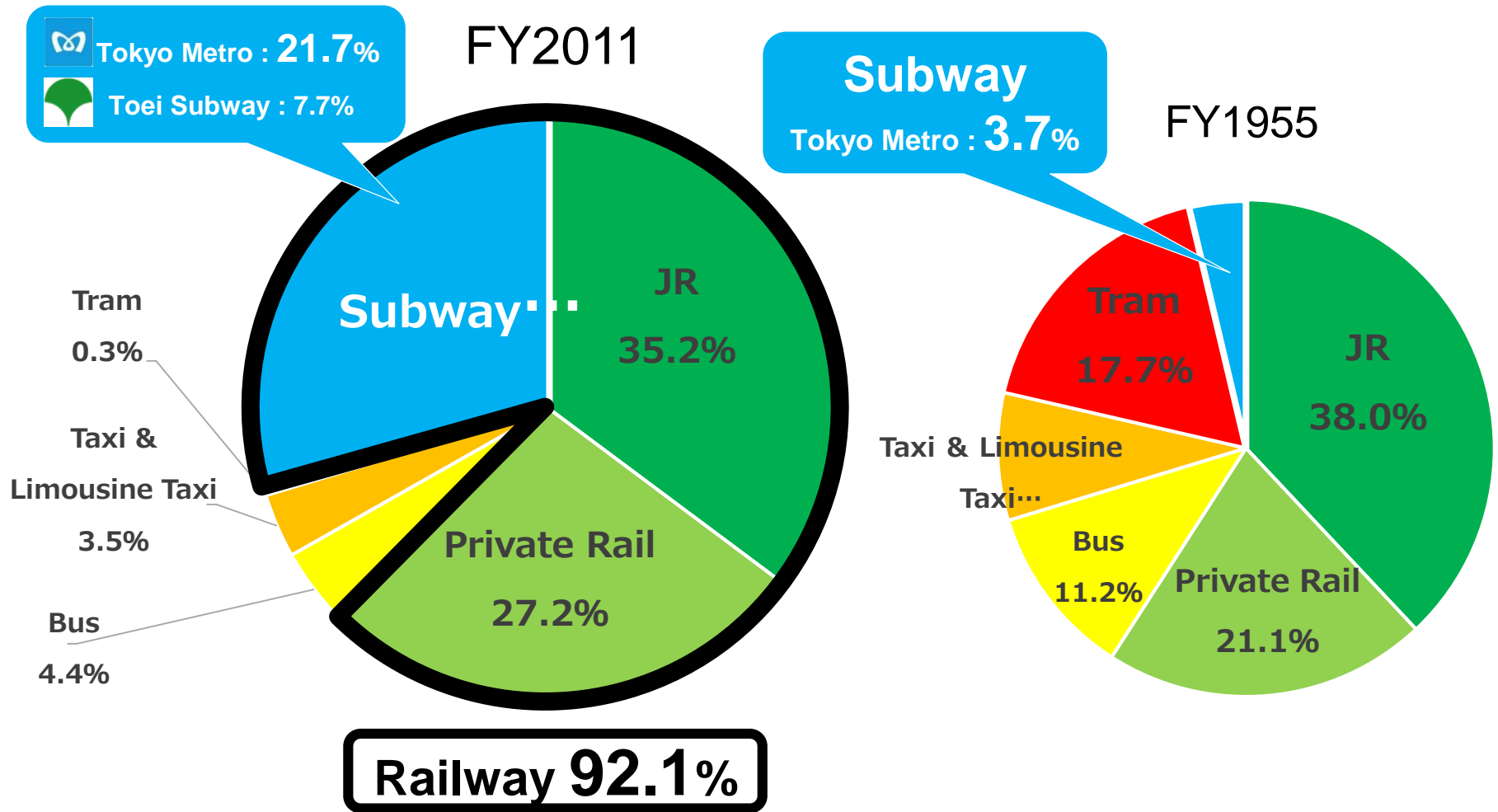
TRAMS

- Main mode in the city core until 1960s. Currently only one tram line remains.

Total
2,476
km

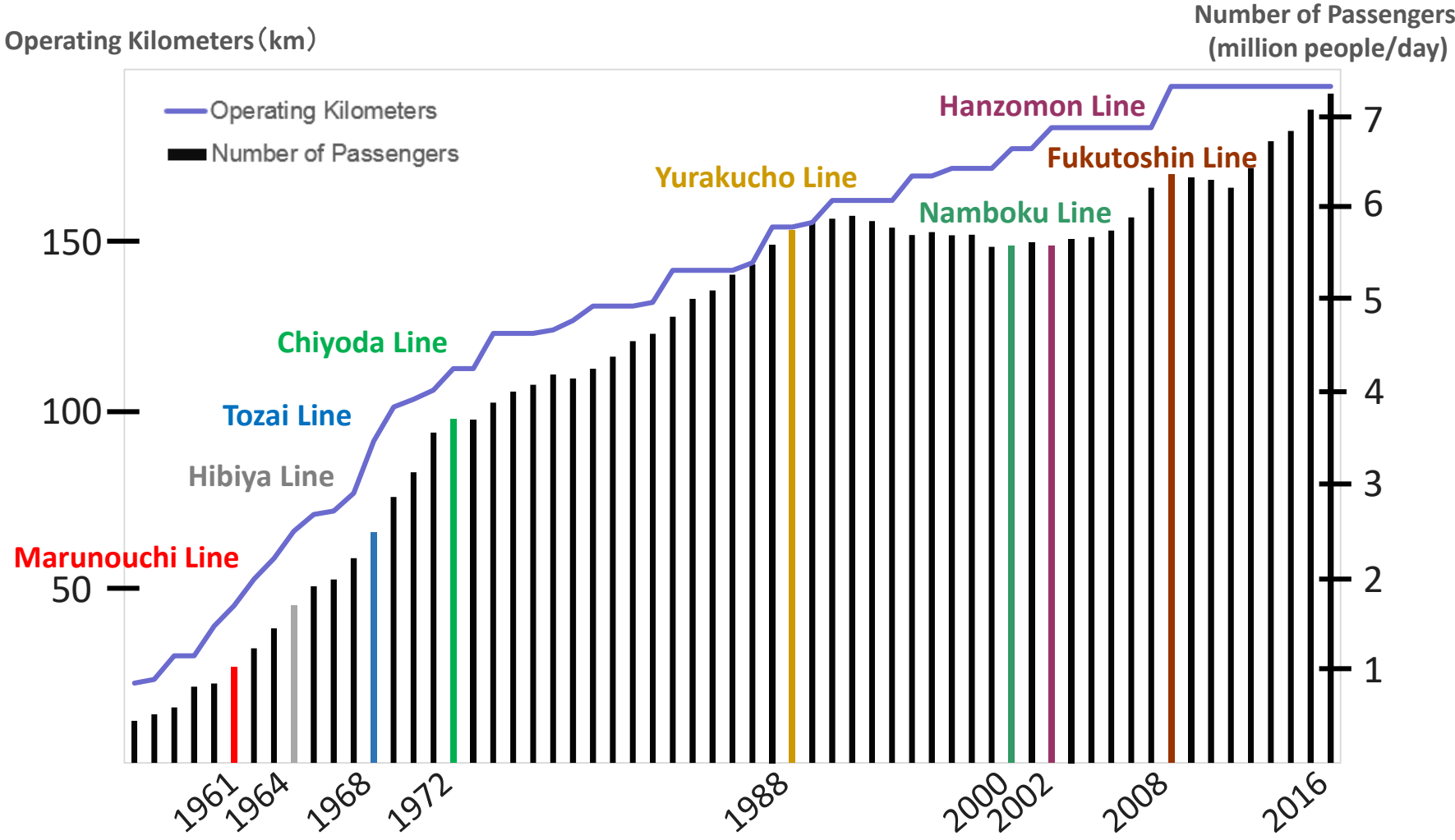
Source : "Urban Public Transport Annual Report," Japan Transport Research Institute

Changes in Ridership by Public Transportation Modes in Tokyo 23 Wards

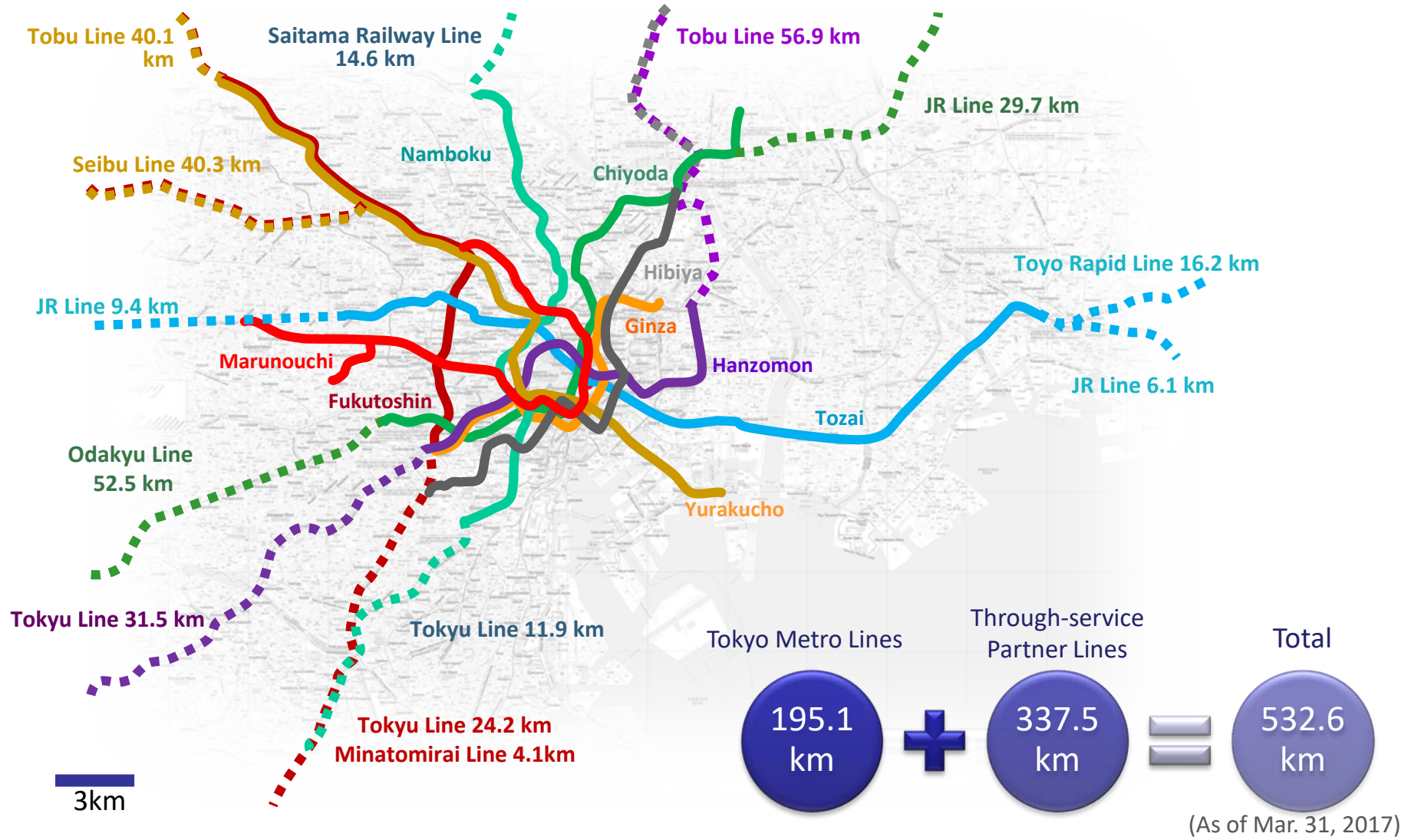


Source : "Urban Public Transport Annual Report," Japan Transport Research Institute

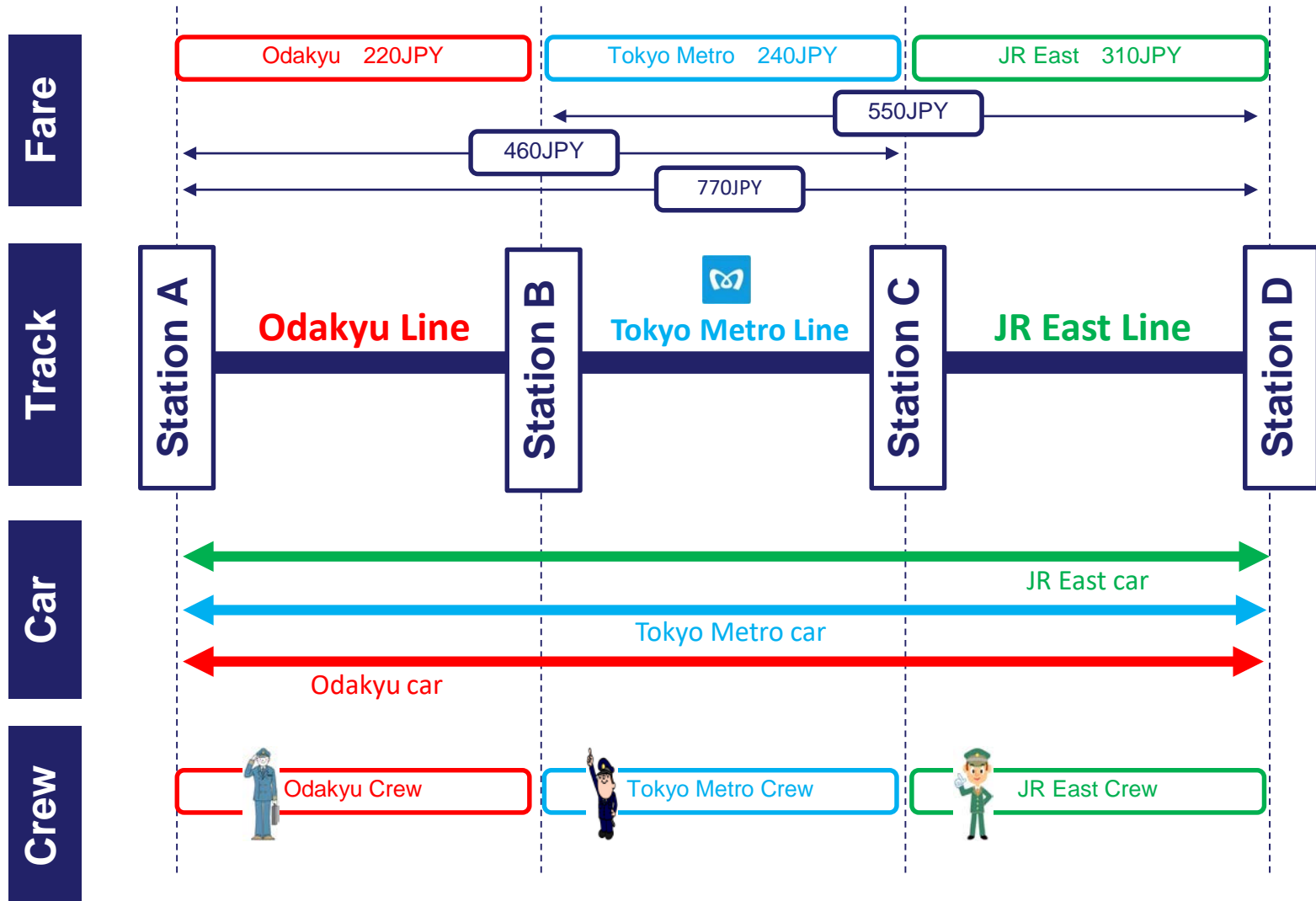
New Line Construction and Traffic Performance



Tokyo Metro Nine Lines and Through-service



Through-service System



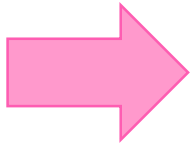
Tokyo Metro Line Profile

	Ginza	Marunouchi	Hibiya	Tozai	Chiyoda	Yurakucho	Hanzomon	Namboku	Fukutoshin
Route length (km)	14.3	27.4	20.3	30.8	24.0	28.3	16.8	21.3	11.9
No. of stations	19	28	21	23	20	24	14	19	11
Completed	1939	1962	1964	1969	1979	1988	2003	2000	2008
Minimum headway (Peak)	2'00"	1'50"/ 4'40"*	2'15"	2'15"	2'05"/ 7'30"*	2'30"	2'15"	3'35"	3'20"
Average speed (Km/H)	34.2	37.2/ 34.9*	34.3	43.7 49.4 (RAPID)	42.2/ 31.5*	41.3	39.0	40.6	40.2 49.0 (EXPRESS)
Maximum speed (Km/H)	65.0	75.0/ 65.0*	80.0	100.0	80.0/ 60.0*	80.0	80.0	80.0	80.0
Gauge (mm)	1435	1435	1067	1067	1067	1067	1067	1067	1067
Power collection system	3rd rail system DC 600V		Rigid Catenary system and Catenary system DC 1500V						
Length of car (m)	16	18	18 or 20	20	20	20	20	20	20
Train make-up (number of cars)	6	6 / 3*	8 or 7	10	10 / 3*	8 or 10	10	6	8 or 10
Number of substations	6	12	5	8	7	9	6	6	3
Signaling system	CS-ATC	CS-ATC ATO Single-person Operation	CS-ATC	CS-ATC	CS-ATC / CS-ATC ATO Single-person Operation*	CS-ATC ATO	CS-ATC	CS-ATC ATO Single-person Operation	CS-ATC ATO Single-person Operation
Radio system	Inductive Radio							Space Radio	Inductive Radio

* Branch Line

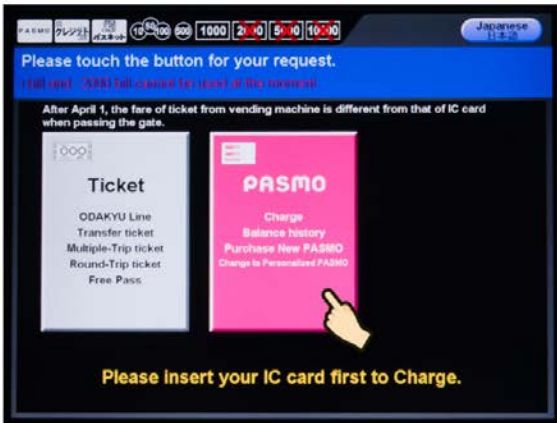
(As of Mar. 31, 2017)

About PASMO



How do I get a PASMO?

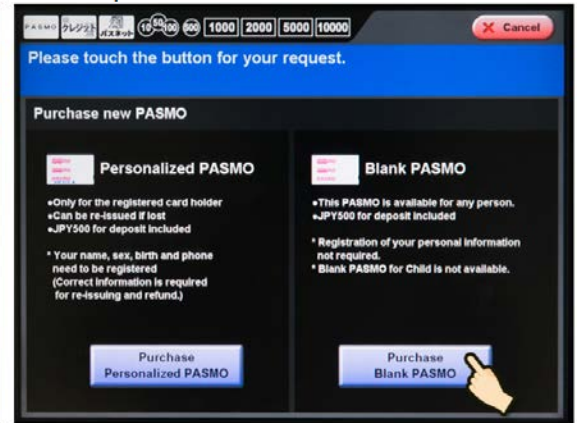
1 Press the PASMO button



2 Press *Purchase new PASMO*



3 Select the type of PASMO you wish to purchase



4 Select the initial amount to top up your PASMO with



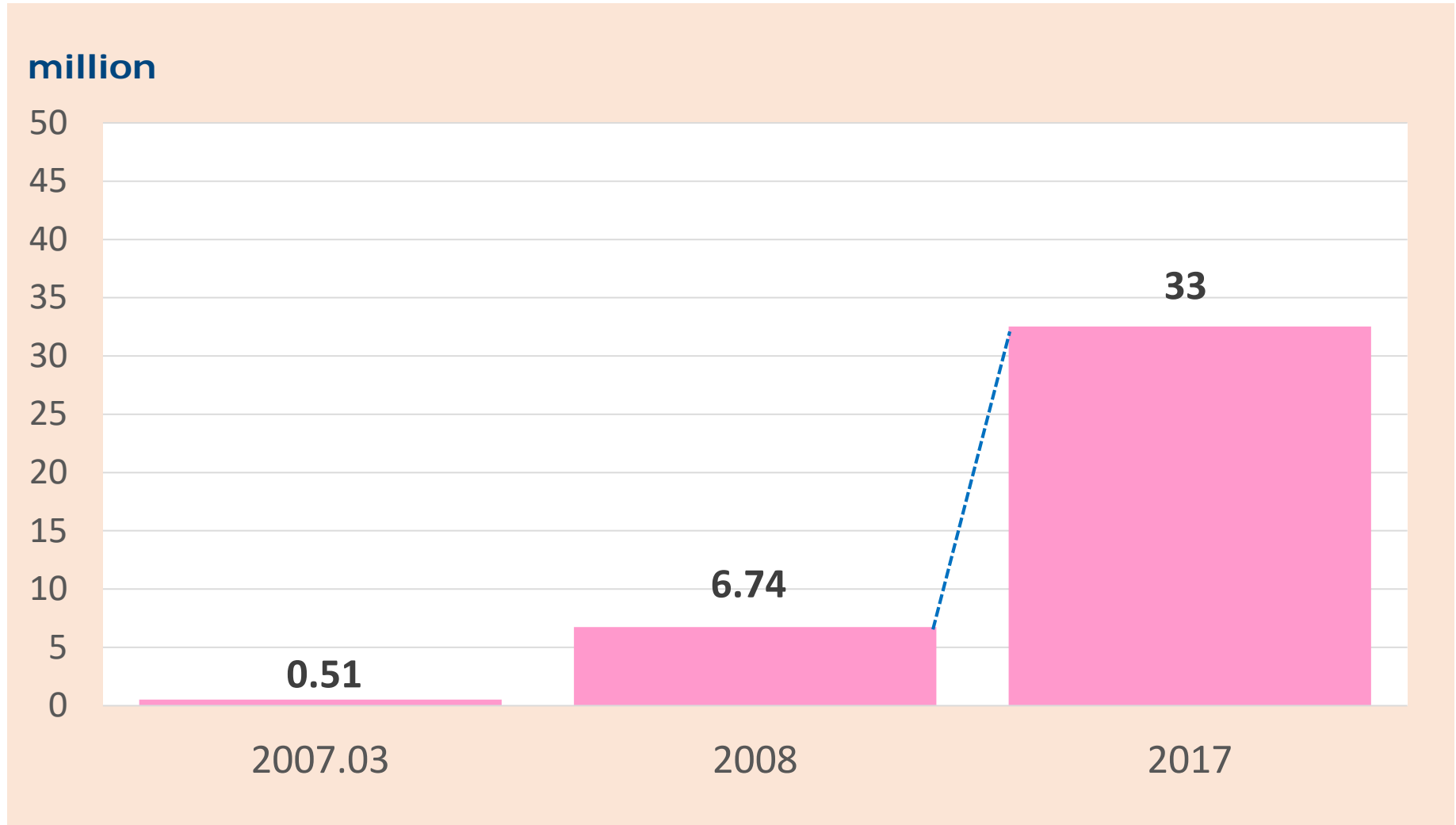
5 Insert the selected amount into the machine



6 Take your new PASMO and receipt



Changes in the number of PASMO issued



Inter-operability of transportation IC card among multiple Japanese transit companies. Expansion of utilization in many parts of Japan.

Notes: name
date of issue
company

※ interoperability within same color

CHUGOKU district 3types

- IC定期券 (1998/8) 【スカイレールサービス】
- PASPY (2008/1) 【広島県バス協会】
- Hareca (2006/10) 【岡山県バス協会】

KYUSHU district 8types

- ひまわりバスカード (2001/9) 【北九州市交通局】
- 宮交バスカ (2002/10) 【宮崎交通】
- RapiCa (2005/4) 【鹿児島市交通局】
- いわさきICカード (2005/4) 【いわさきコーポレーション】
- 長崎スマートカード (2008/3) 【長崎電気軌道】
- nimoca (2008/5) 【西日本鉄道】
- SUGOCA (2009/3) 【JR九州】
- はやかけん (2009/3) 【福岡市交通局】

CHUBE district 12types

- バスICカード (2000/2) 【山梨交通】
- Nice Pass (2004/8) 【遠州鉄道】
- ICa (2004/12) 【北陸鉄道】
- passca (2006/4) 【富山ライトレール】
- LuLuCa (2006/10) 【静岡鉄道】
- TOICA (2006/11) 【JR東海】
- ayuca (2006/12) 【岐阜乗合自動車】
- Ecomyca (2010/3) 【富山地方鉄道】
- manaca (2011/2) 【名古屋市交通局、名古屋鉄道等】
- ICOUSA (2011/3) 【まちづくり福井】
- リョーと (2011/4) 【新潟交通】
- KURURU (2012/10) 【アルピコ交通・長電バス】

SHIKOKU district 3types

- IruCa (2005/2) 【ことடன்グループ】
- ICい〜カード (2005/8) 【伊予鉄道】
- ですか (2009/1) 【土佐電気鉄道】

HOKKAIDO district 6types

- Doカード (1999/11) 【道北バス】
- バスカード (2003/3) 【北海道北見バス】
- Kitaca (2008/10) 【JR北海道】
- SAPICA (2009/1) 【札幌市交通局】
- Asaca (2012/11) 【旭川電気軌道】

TO-HOKU district 1 type

- NORUCA (2010/10) 【福島交通】

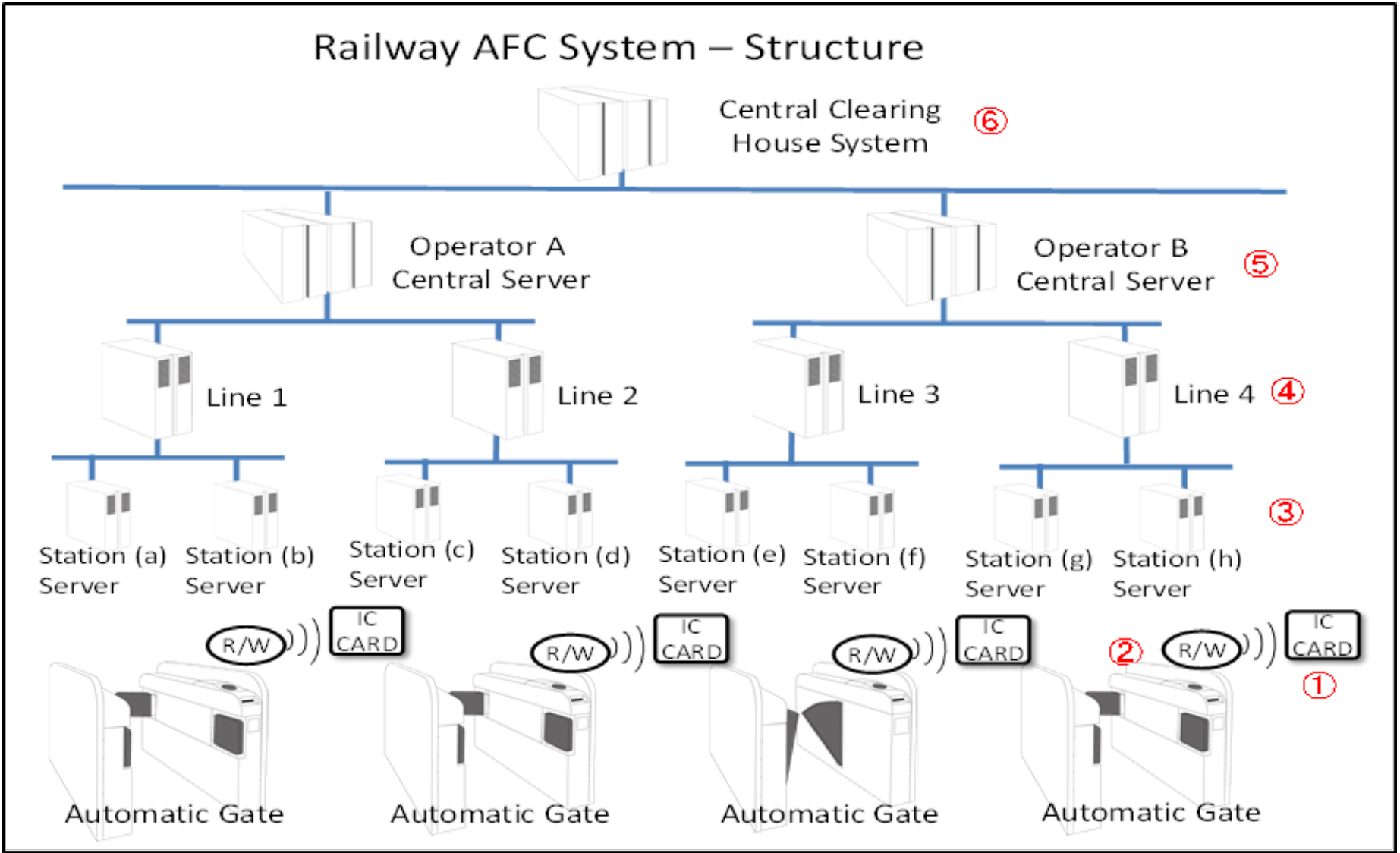
KANTOH district 3types

- Suica (2001/11) 【JR東日本】
- PASMO (2007/3) 【PASMO協議会】
- でんてつハイカード (2007/10) 【日立電鉄交通サービス】

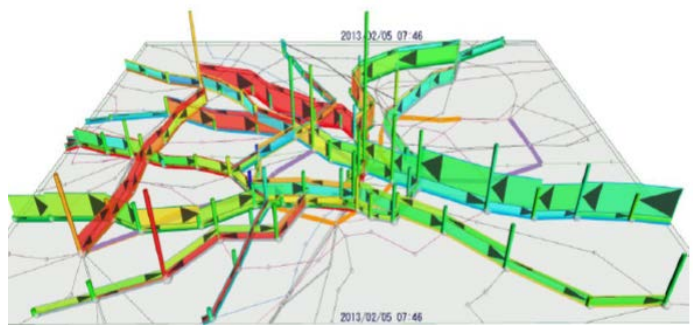
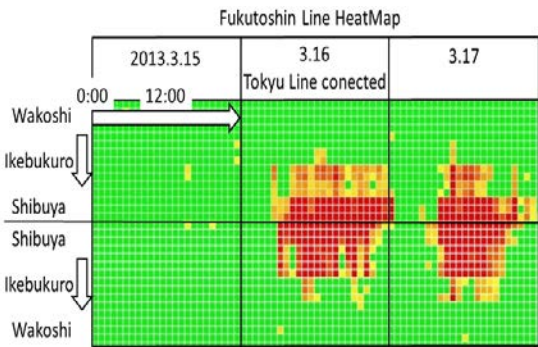
KINKI district 8types

- 近江バスICカード (2003/3) 【近江鉄道バス、湖国バス】
- ICOCA (2003/11) 【JR西日本】
- PITaPa (2004/8) 【スルッとKANSAI】
- CI-CA (2004/12) 【奈良交通】
- NicoPa (2006/1) 【神姫バス、神姫グリーンバス】
- itappy (2006/4) 【伊丹市交通局】
- らんでんカード (2011/4) 【京福電気鉄道】
- hanica (2012/4) 【阪神バス、阪急バス】

AFC system structure



BIG Data



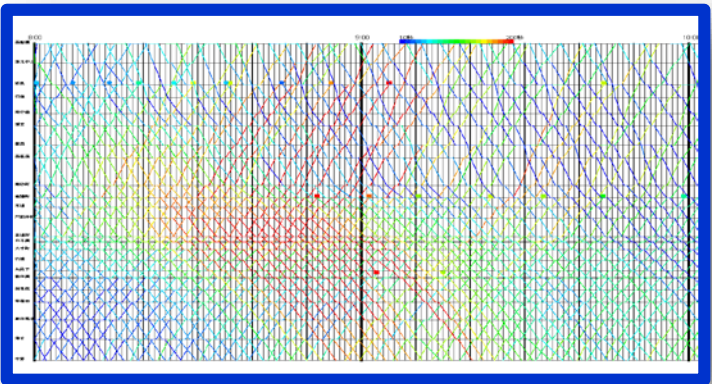
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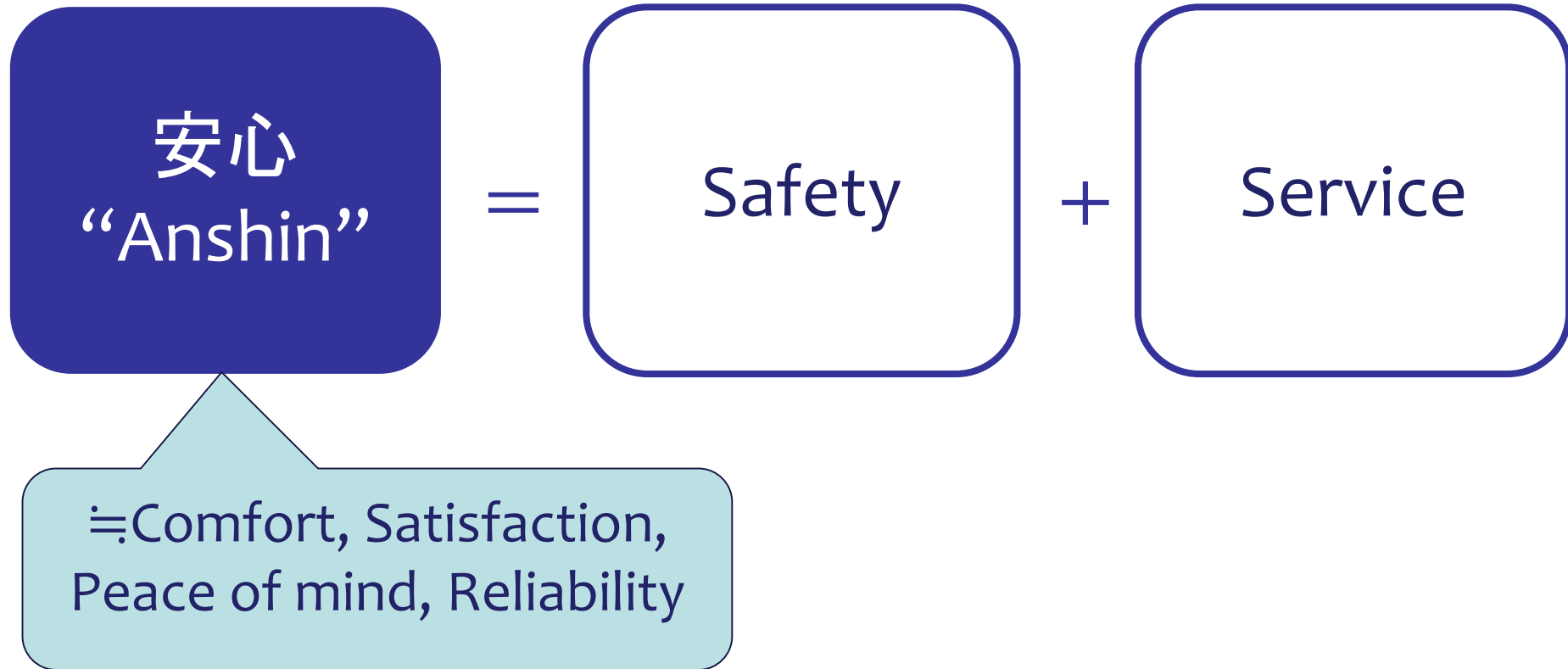


Echika Omotesando(Dec. 2005)



Echika IKEBUKURO(Mar. 2009)





Thank you for your attention !