


Mobilidade Urbana em Tóquio

A panoramic view of the Tokyo skyline at dusk. The sky transitions from a deep blue at the top to a warm orange and yellow near the horizon. The city is densely packed with buildings, many of which are illuminated with lights. The most prominent feature is the Tokyo Tower, which is brightly lit with a warm orange glow and stands out against the darkening sky. Other skyscrapers are visible in the background, some with their lights on. The overall scene captures the vibrant energy of a major metropolitan area at night.

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Mestrado em Políticas de Desenvolvimento de Infraestrutura de Transportes (Tokyo Univ of Marine Science and Technology)

Doutorado em Modelagem Computacional para o Planejamento de Transportes (Tokyo Univ of Marine Science and Technology)

Pós-doutorado em Sistemas de Transporte e Logística em Caso de Desastres Naturais (Kyoto University)

Passado

- PTV Support Center Japan: Sócio Diretor
- PTV Modelagem de Sistemas de Transportes: Sócio Diretor
- Prefeitura do Recife - ICPS: Diretor Executivo de Planejamento da Mobilidade

Presente

- EWS Engenharia de Transportes: Diretor
- Takumi Engenharia: Chief Modeling Officer
- Consultor STC para o Banco Mundial (Resiliência de Infraestrutura frente a Desastres Naturais)
- Nihon University: Research Fellow

Futuro

- Big Data para Mobilidade
- AI para Mobilidade
- Serviços para MaaS
- DSS-Mobilidade para governos municipais

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Visão geral sobre Tóquio

Pedestres

Ciclistas

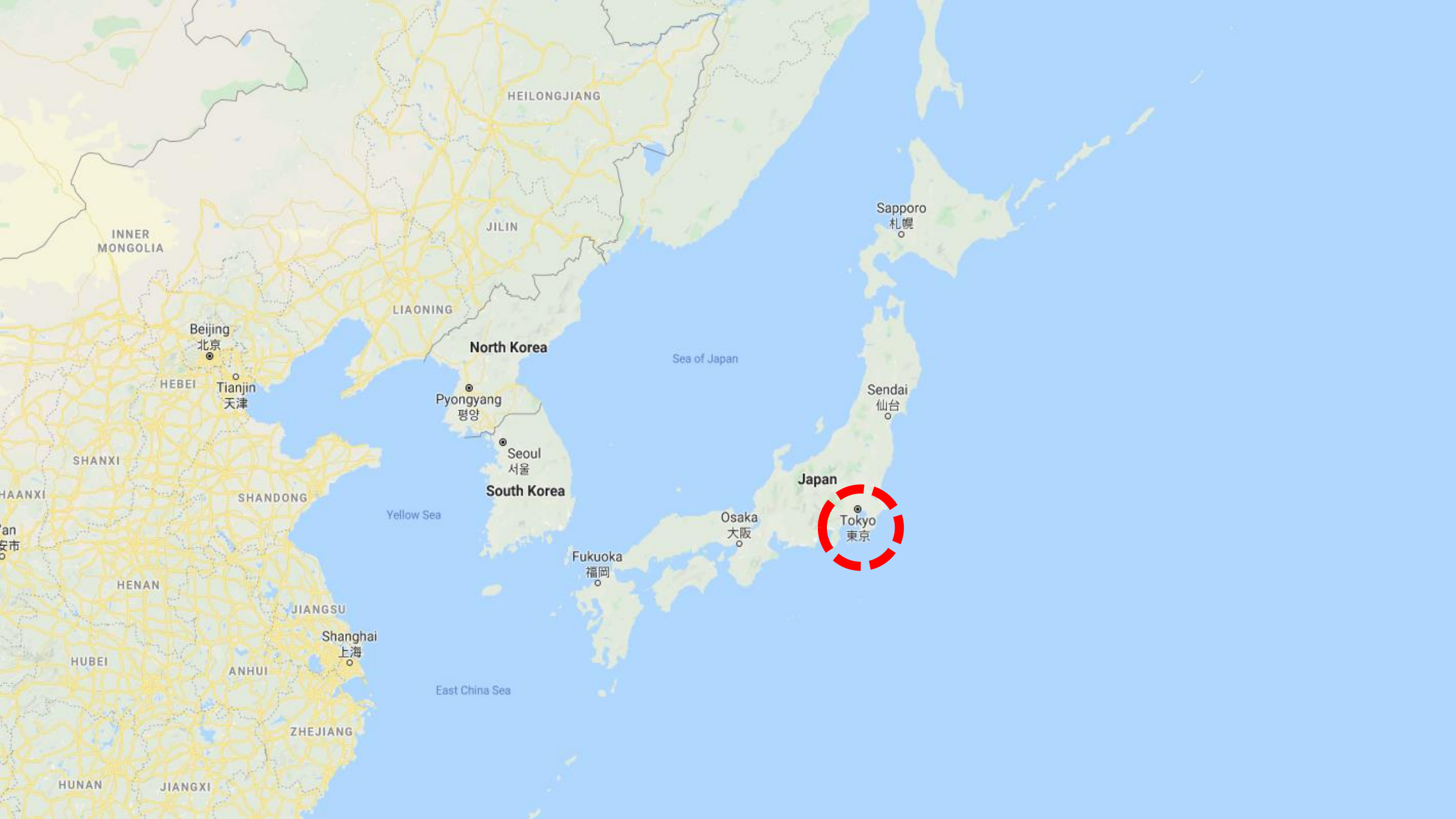
Transporte individual

Transporte coletivo

Transporte de carga urbana

Big Data para mobilidade





HEILONGJIANG

INNER MONGOLIA

JILIN

Sapporo
札幌

LIAONING

Beijing
北京

North Korea

Sea of Japan

Tianjin
天津

Pyongyang
평양

Sendai
仙台

HEBEI

Seoul
서울

South Korea

Japan

SHANXI

SHANDONG

Yellow Sea



Osaka
大阪

Fukuoka
福岡

SHAANXI

HENAN

JIANGSU

Shanghai
上海

East China Sea

HUBEI

ANHUI

ZHEJIANG

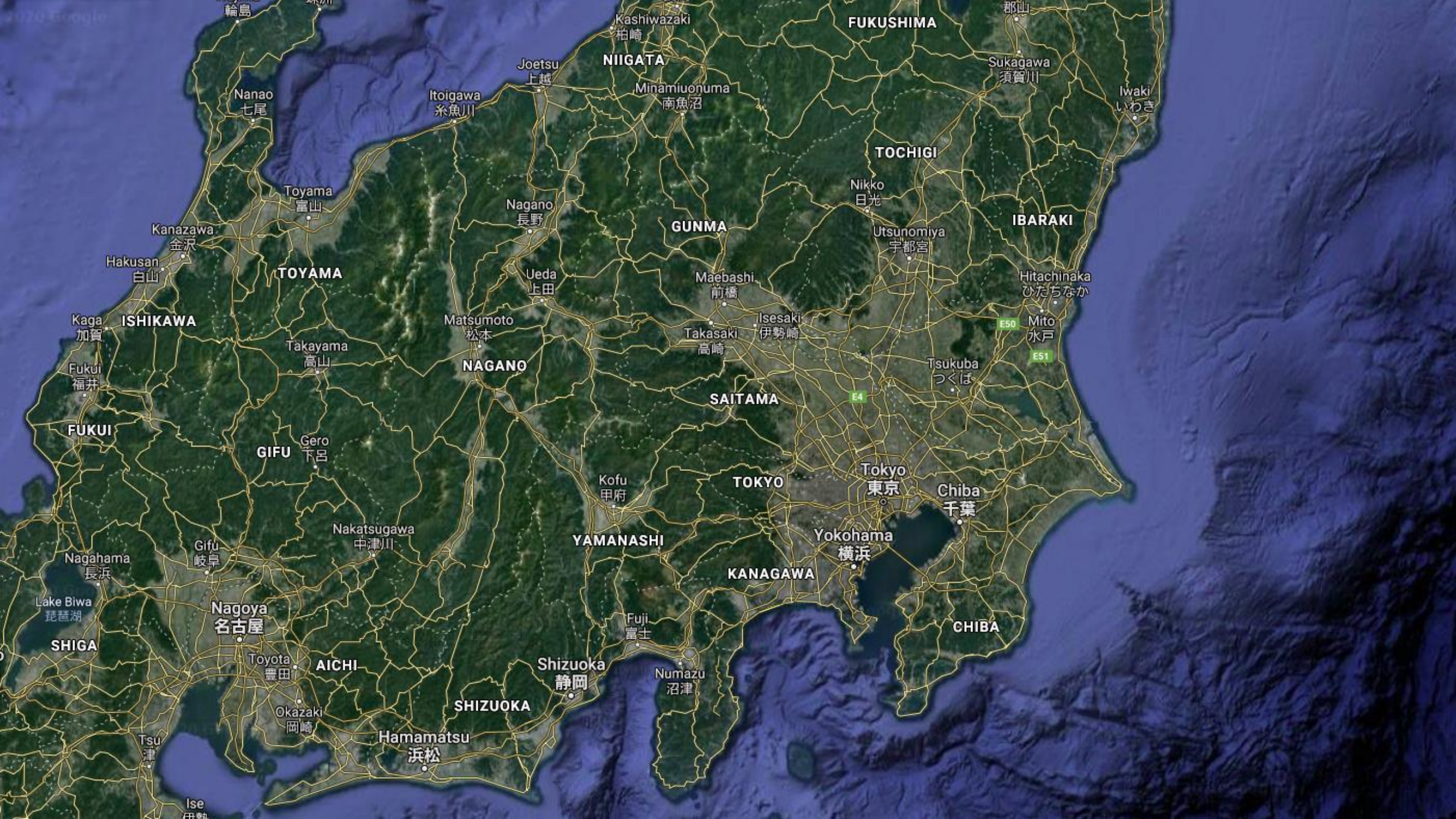
HUNAN

JIANGXI

Greater Tokyo Area

População	38 milhões (30%)
Empregos	12 milhões
Desemprego	2,5% (pré-covid)
PIB	US\$ 1.8 trilhões





FUKUSHIMA

NIIGATA

TOCHIGI

GUNMA

IBARAKI

TOYAMA

ISHIKAWA

NAGANO

SAITAMA

FUKUI

GIFU

TOKYO

YAMANASHI

KANAGAWA

CHIBA

SHIGA

Nagoya
名古屋

AICHI

SHIZUOKA

Shizuoka
静岡

Hamamatsu
浜松

Kashiwazaki
柏崎

Minamiuonuma
南魚沼

Sukagawa
須賀川

Iwaki
いわき

Nanao
七尾

Itoigawa
糸魚川

Joetsu
上越

Nagano
長野

Nikko
日光

Utsunomiya
宇都宮

Kanazawa
金沢

Hakusan
白山

Kaga
加賀

Fukui
福井

Toyama
富山

Takayama
高山

Matsumoto
松本

Ueda
上田

Maebashi
前橋

Takasaki
高崎

Isesaki
伊勢崎

Hitachinaka
ひたちなか

Mito
水戸

Tsukuba
つくば

Gero
下呂

Kofu
甲府

Tokyo
東京

Chiba
千葉

Nakatsugawa
中津川

Yokohama
横浜

Nagahama
長浜

Gifu
岐阜

Lake Biwa
琵琶湖

Toyota
豊田

Fuji
富士

Numazu
沼津

Tsu
津

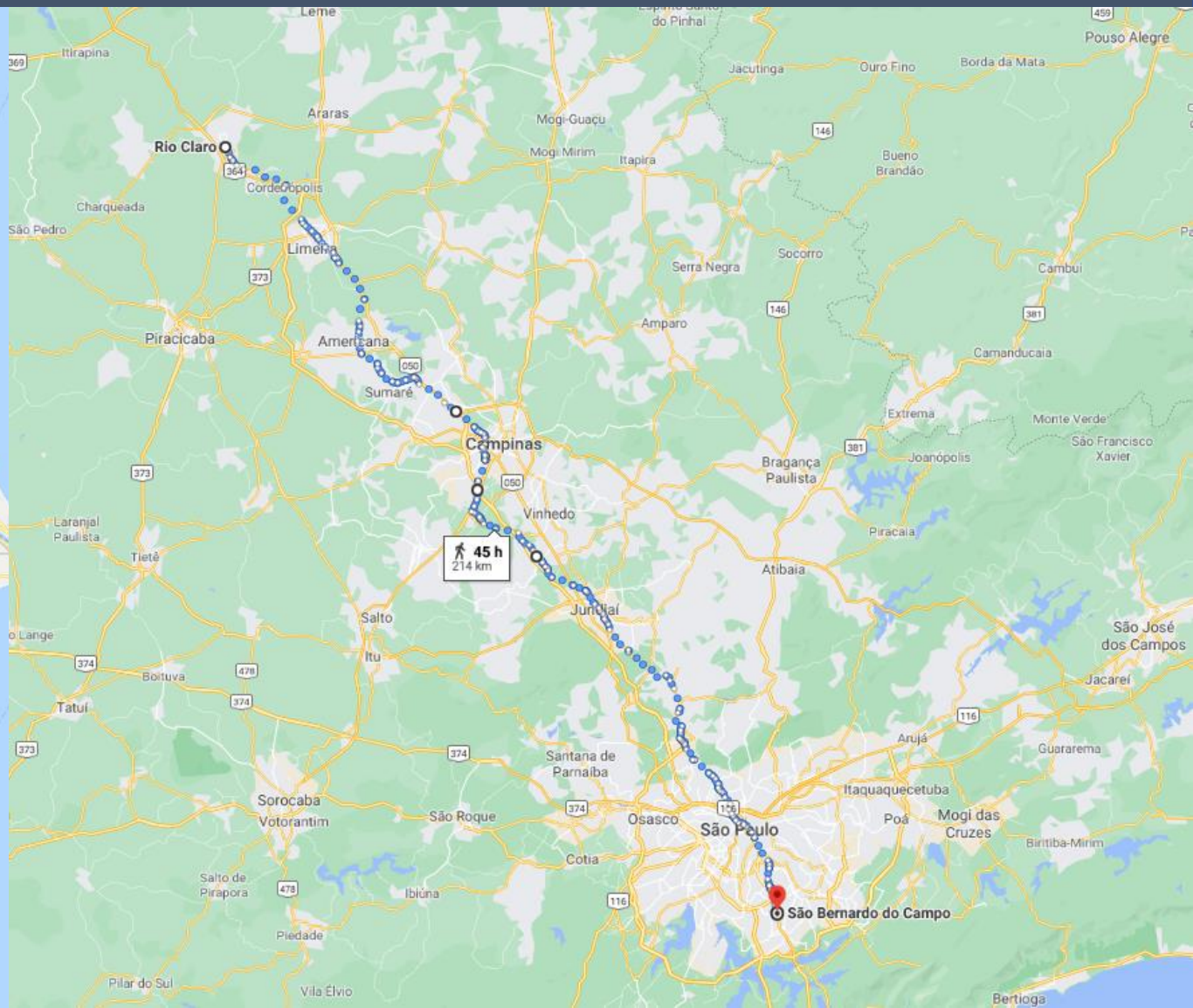
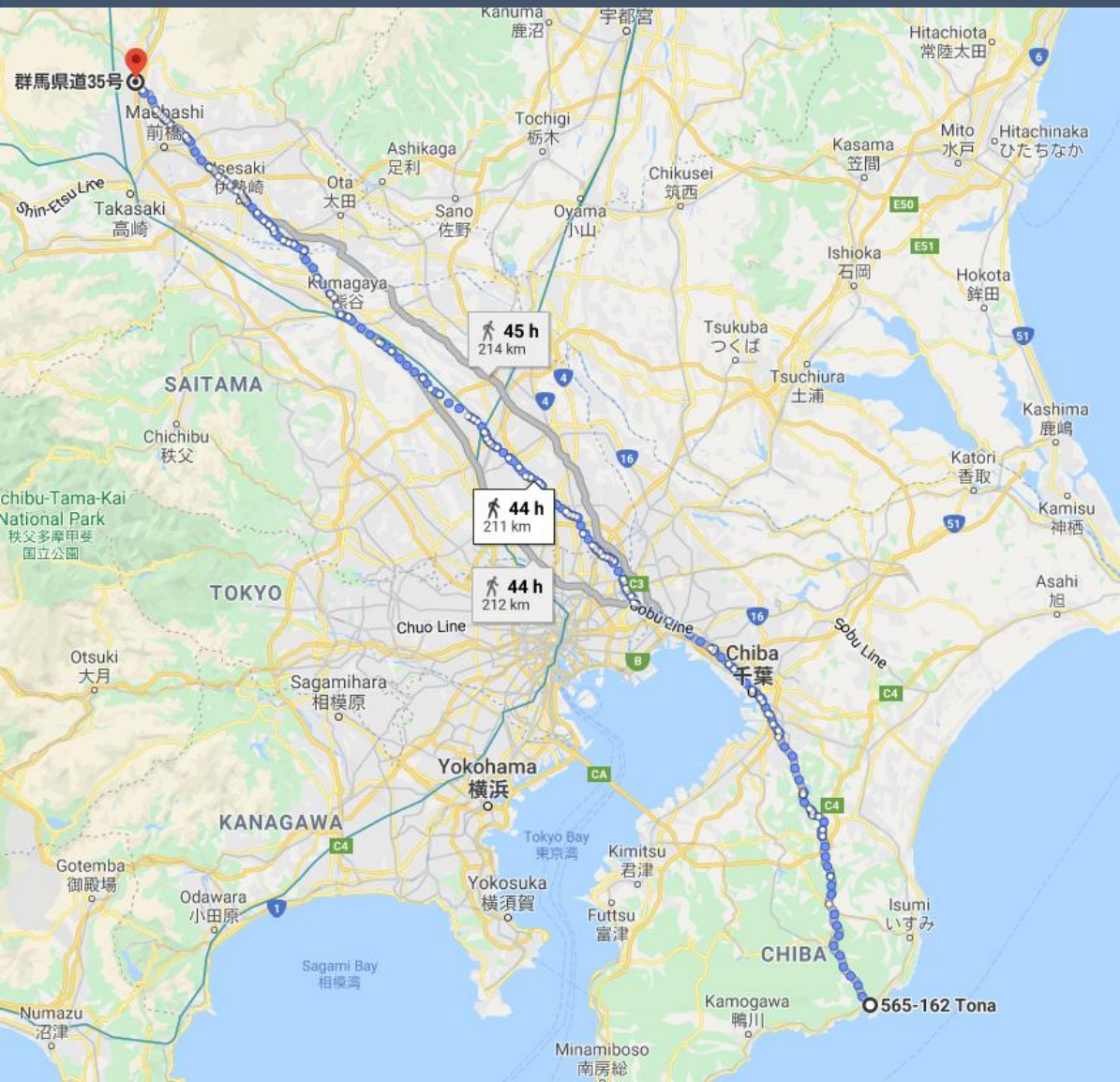
Ise
伊勢

郡山

輪島

1792 Google

O tamanho do desafio

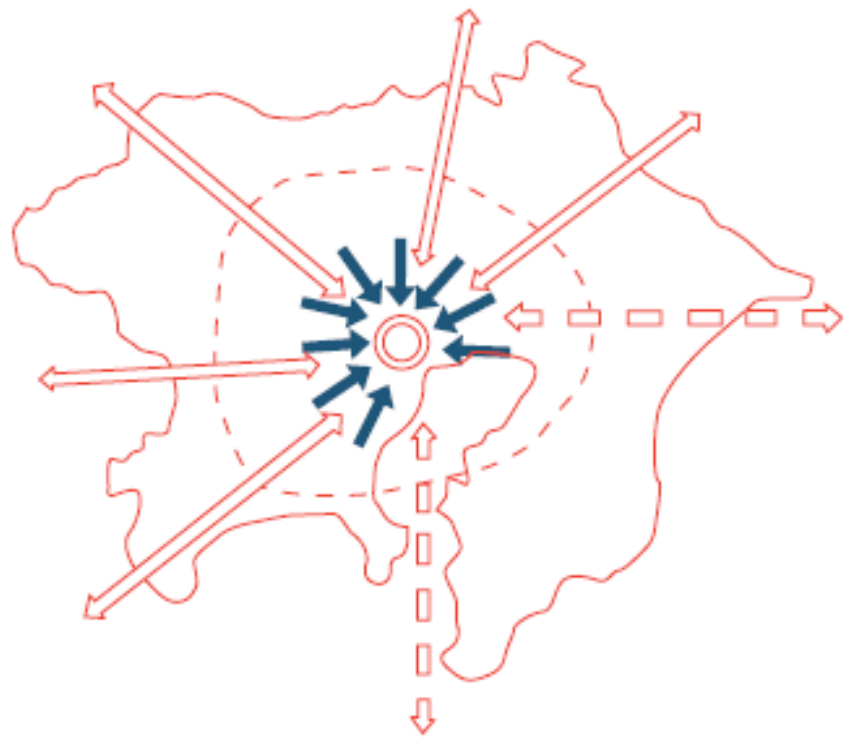


Estrutura Urbana e Mobilidade

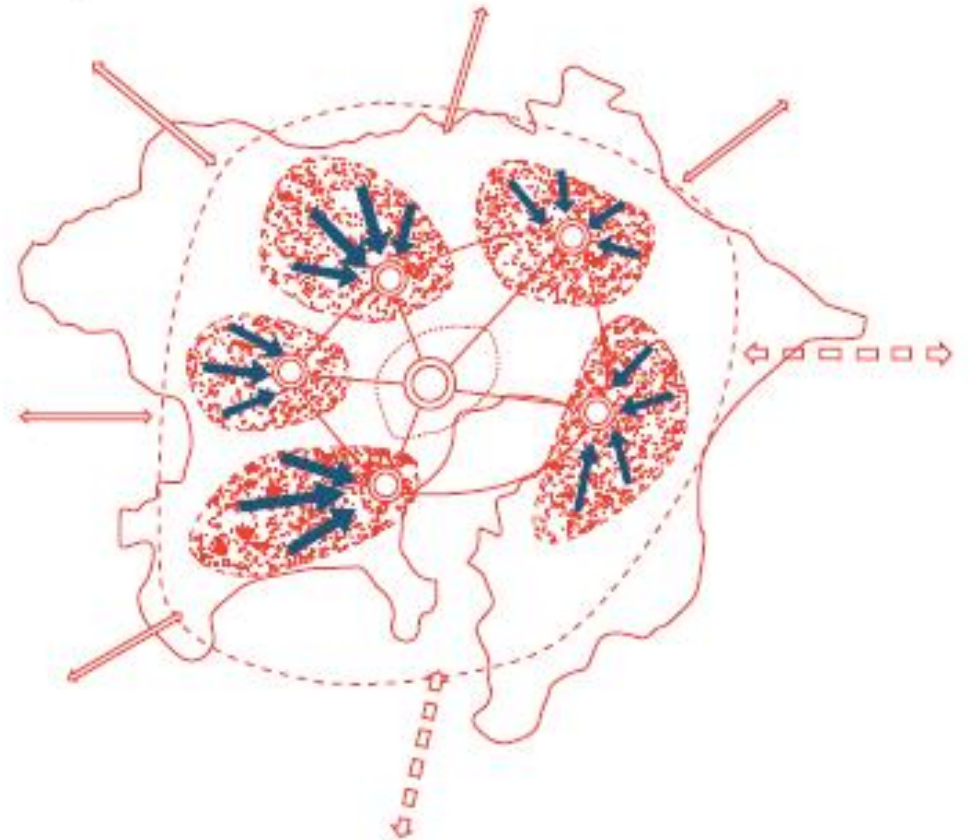


Figure 7 Status and future concept of the Greater Tokyo area (the Capital Reform Plan)

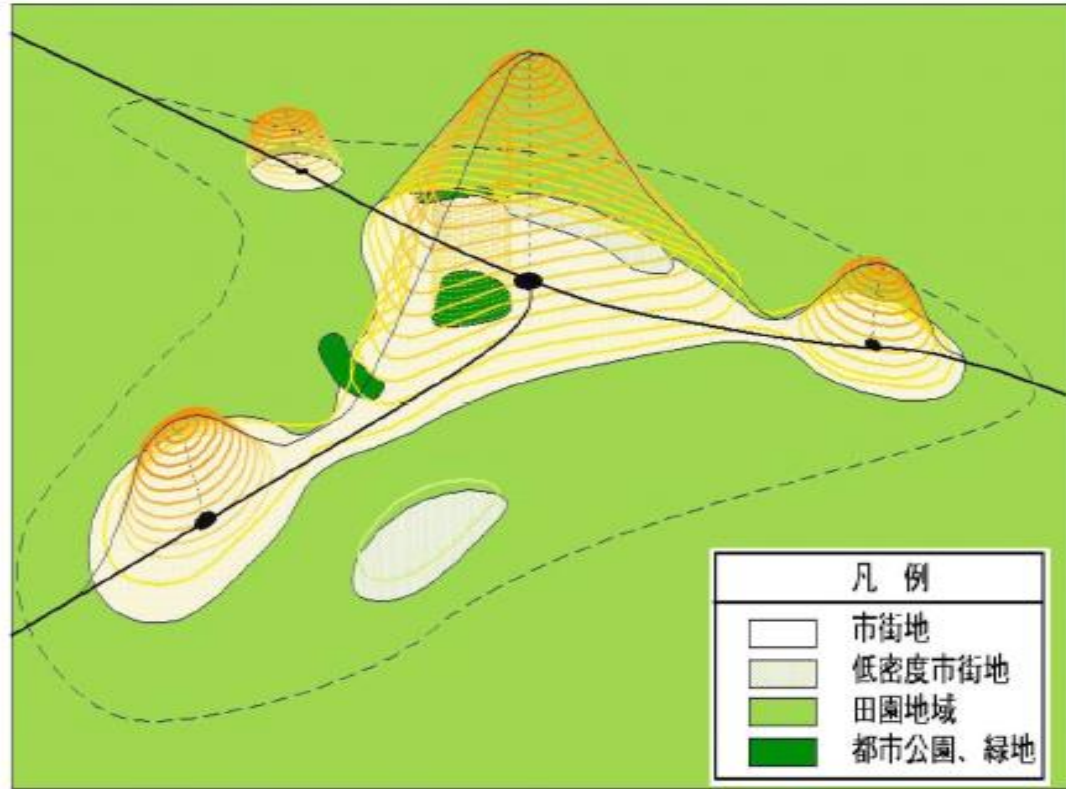
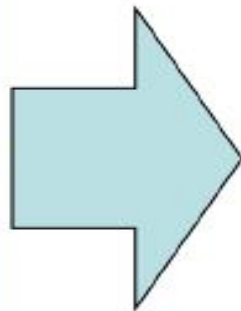
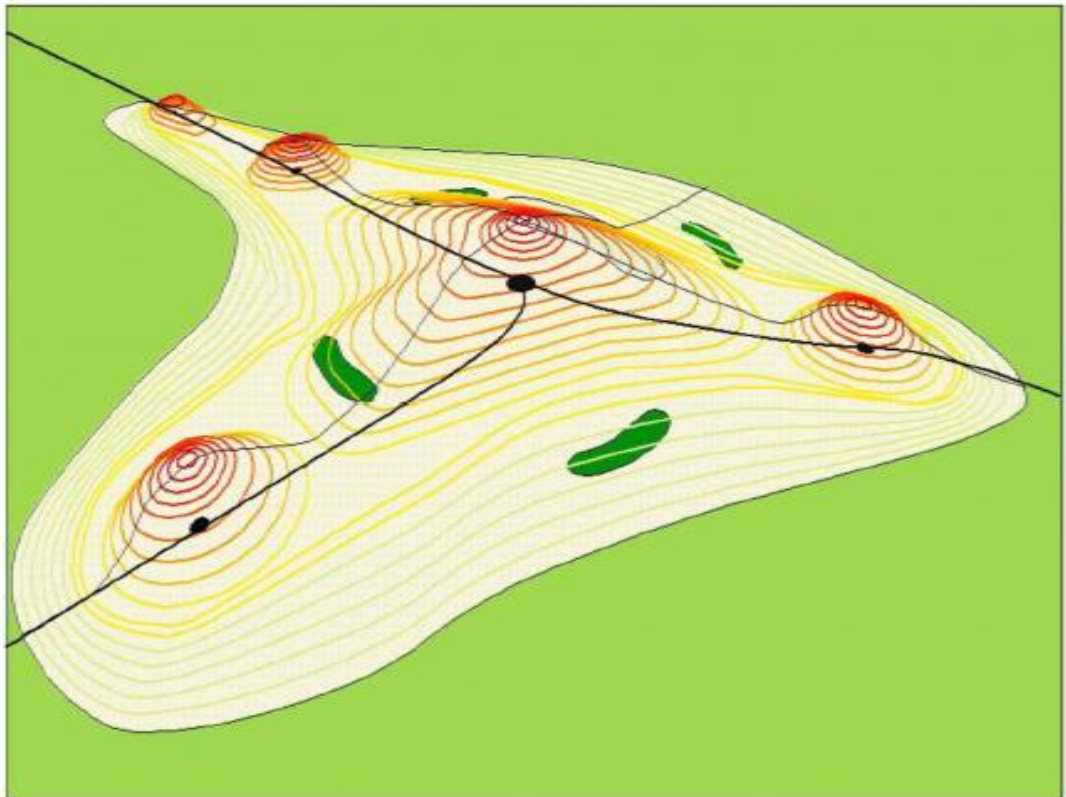
(a) Overconcentration into the center of Tokyo



(b) Concept of a combined urban area

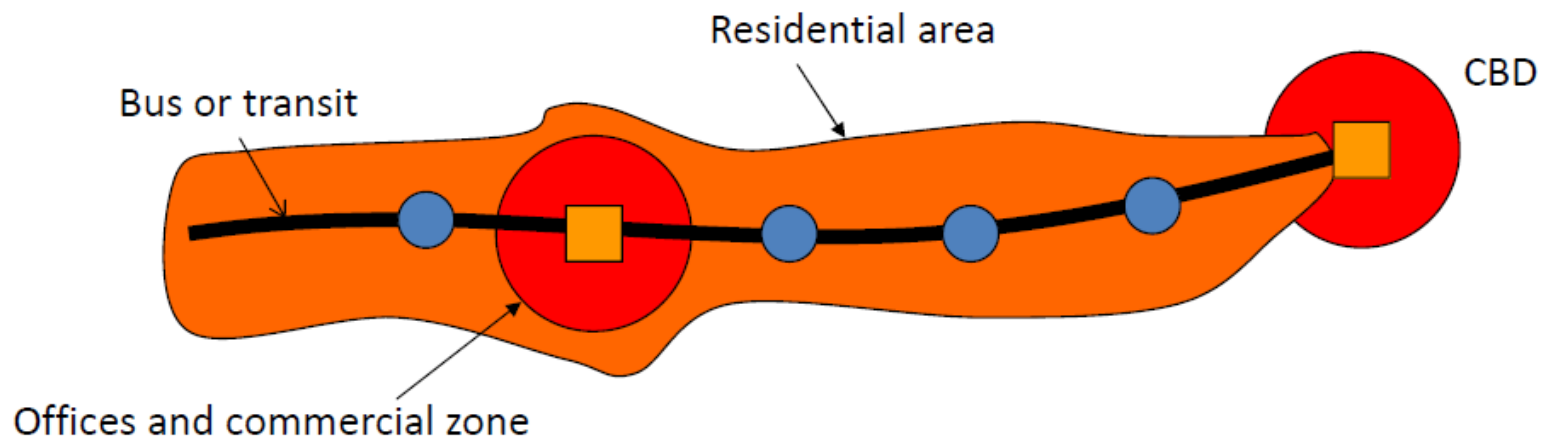


Source: National Land Agency



TOD

Desenvolvimento
Orientado ao
Transporte Público



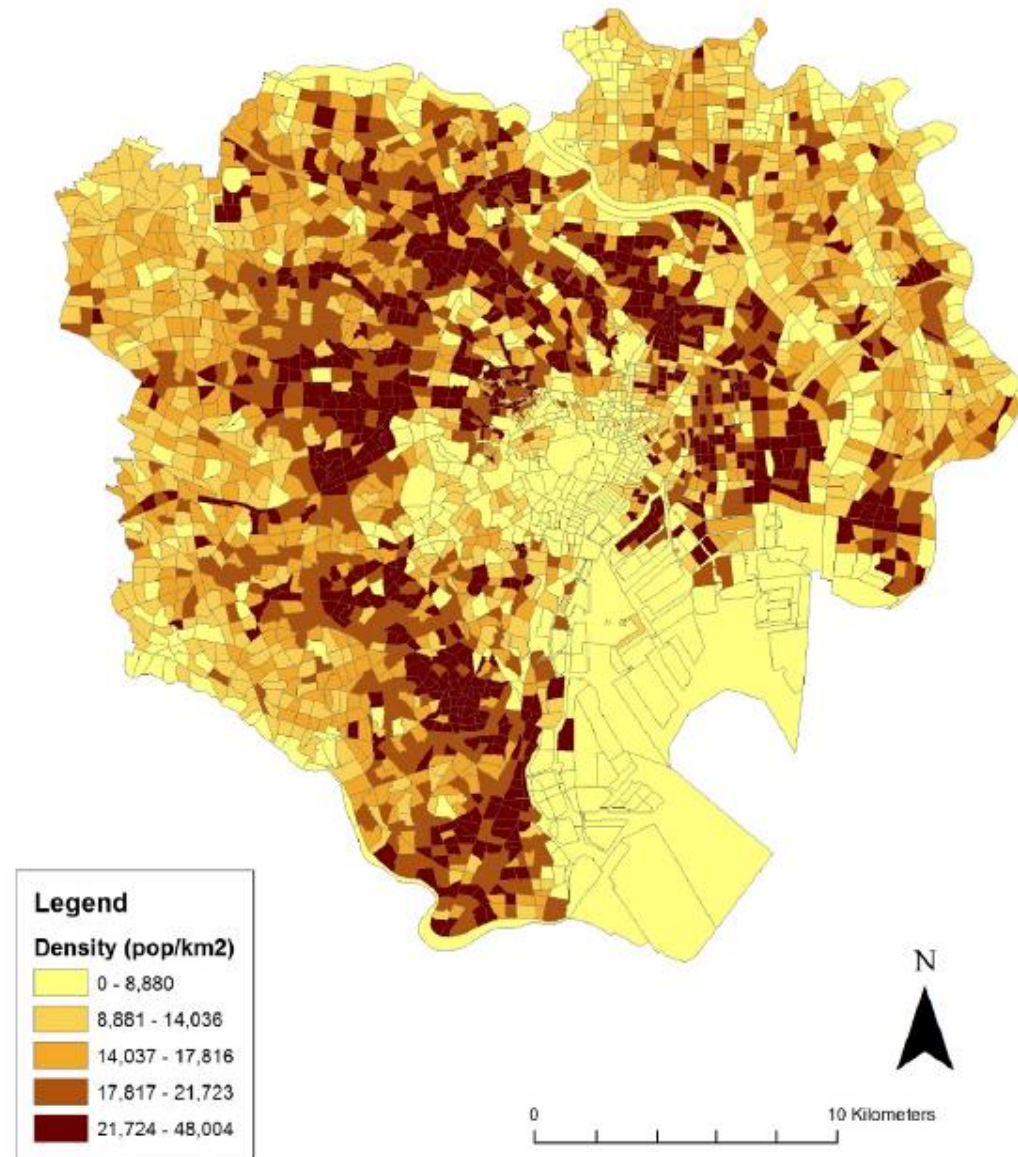


Figure 1: Population density in Central Tokyo. Map showing the density in each of the census tracts in the 23 wards of Central Tokyo. Source: Nakamura (2010); data from Official Statistics of Japan

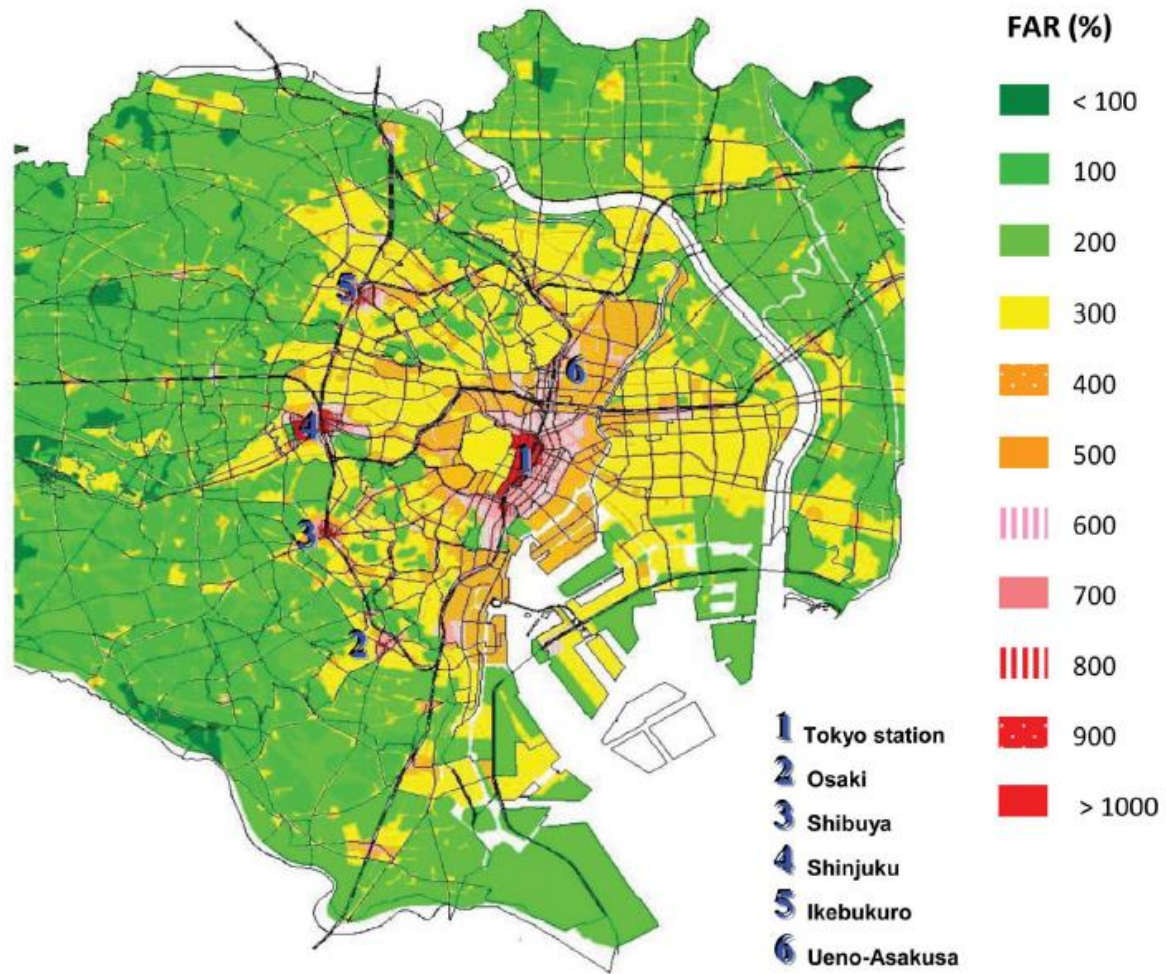


Figure 1. Floor area ratio map of central Tokyo. Source: A copy of this map was personally received from the Tokyo Metropolitan Government.



Pedestres



2500 pessoas por
tempo de verde
do semáforo

**Cruzamento
de Shibuya**



















Ciclistas





















利用時間

24時間

(一時利用の場合、1回72時間以内)

- ・事前登録制
- ・幼児用座席付きの自転車は夜間等係員の居ない時間帯は入庫できません

受付時間

10:00-21:00

定期料金

定期料金	区民一般	区民学生	区外
1か月	1,500円	1,000円	2,000円
3か月	4,000円	2,500円	5,500円

一時利用料金

最初の2時間無料、以降8時間毎に100円
(事前登録料1,000円)

■駐輪場管理室 03(6274)6125
■受付時間外 03(3572)3900

中央区立銀座六丁目地下駐輪場 利用案内(抜粋)

- ・当駐輪場は、短時間駐輪するためのスペースを提供することを目的とするものであり、自転車をお預りするものではありません。
- ・当駐輪場における駐輪時間は継続して最長72時間までとします。72時間を超えた場合は放置車両とみなし、保管場所へ搬去します。返還には別途搬去保管手数料が必要です。
- ・当駐輪場に駐輪することができる自転車は、付属装物及び積載物等を含めて下記の基準に該当するものとし、三輪車、サイドカゴ、アクセサリ等は入庫不可とします。



Funcionamento 24h

Atendimento 10h – 21h

Preço Avulso até 2 horas: grátis
a cada 8 horas: 1 USD

Pré-registro 10 USD

Morador do bairro Estudante Não morador

Preço Mensal 15 USD 10 USD 20 USD

Preço Trimestral 40 USD 25 USD 55 USD



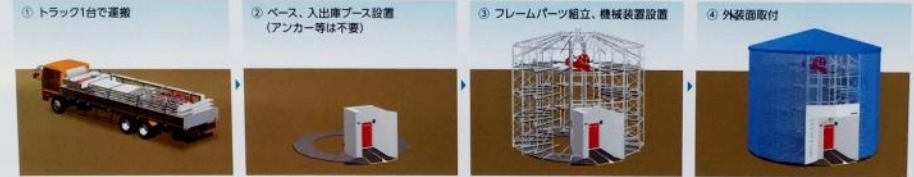


“自転車文化”を育み、機能的で快適な街づくりに貢献する可搬式駐輪システム

モバイルエコサイクルの特長

1 設置・撤去が容易な可搬システム

徹底した分割組み立て方式のため、シンプルな手順で急速設置が可能です。設置は1日～2日、撤去の際は1日で作業が完了します。



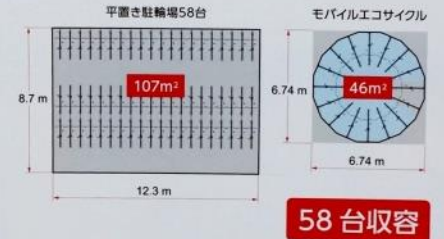
2 簡単・高速な入出庫 (出庫時間 最短 8.0 秒)

入出庫はICタグ・ICカードによる簡単操作。平均出庫時間も9.7秒で、ラッシュ時でも利用者を待たせません。



3 省スペース、高収容

46m²の敷地に、58台の自転車を収容可能。平置き駐輪場と比べると、約2.3倍の収容効率です。



4 雨濡れ・悪戯の心配もなく安心

自転車は覆われた空間に収容されるため、雨に濡れたり、悪戯される心配もありません。

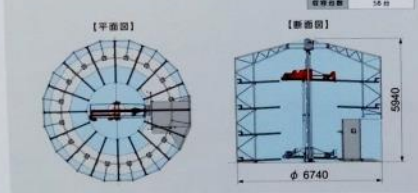


5 外表面を文化的・商業的に利用可能

外表面は自由に印刷ができるため、景観に合ったデザインにすることが可能です。また、注目を集める新しいメディアとして、企業広告、観光案内としても活用できます。



モバイルエコサイクル仕様

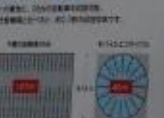


機能的で快適な可搬式駐輪システム

特長



省スペース、高収容



58台収容



Transporte Individual Motorizado

イー
カラ
オケ
歌
広
場

docomo

初台 首都高
Hatsudai SHUTOKO
↑
20 新宿駅西口
Shinjuku Sta.
→ (414)

広告募集中
03-3543-7771
www.hit-ad.co.jp

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SPRINT
スポーツ

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美和ロップ
Think Next Security
MIWA

THEグローバル社
ウィルローズ マンションシリーズ

artist

エアリアル
価格

アコム 6F
左折

レク

First Kitchen

6F E C C

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The Bestselling Cars in Japan

Car models with most unit sales in Japan in 2019

■ Kei car ■ Full-sized car

Honda N-Box	253,500
Daihatsu Tanto	175,292
Suzuki Spacia	166,389
Nissan Days	157,439
Toyota Prius	125,587
Daihatsu Move	122,835
Nissan Note	118,472
Toyota Sienta	110,880

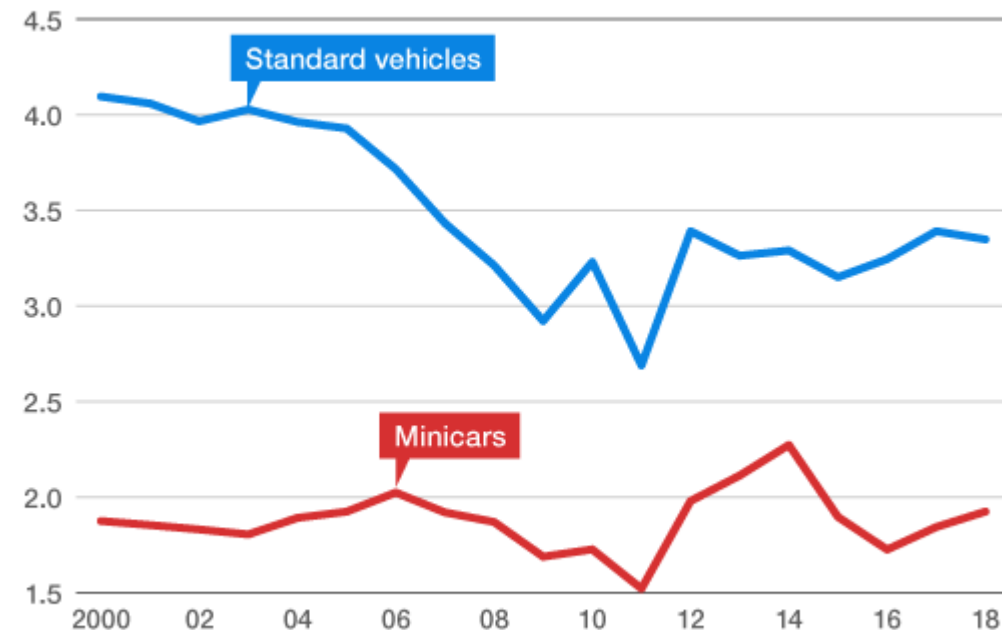


Image credit: Ceficefi/Wikimedia Commons
Source: Japanese Automobile Dealers Association



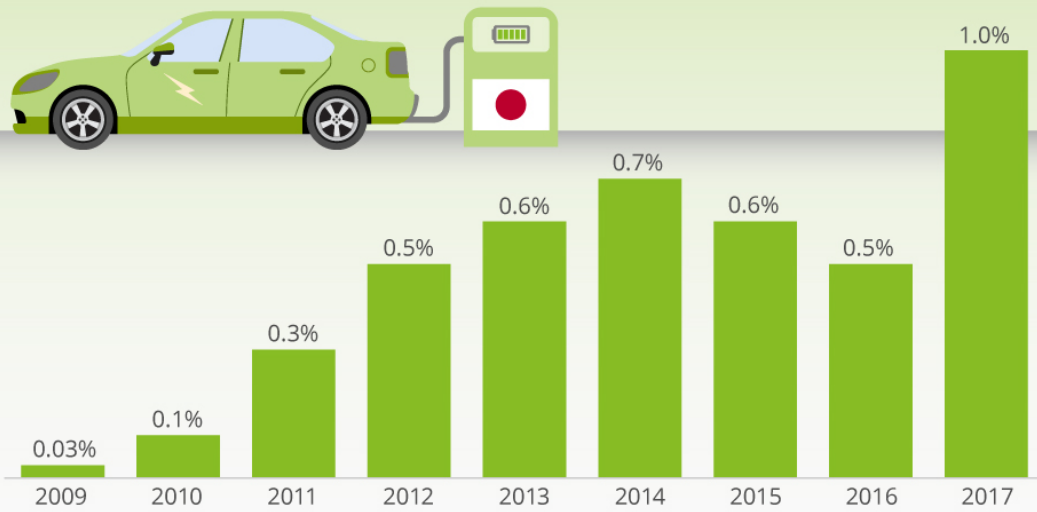
Sales of New Vehicles in Japan

(million vehicles)



Japan is catching up on battery-powered cars

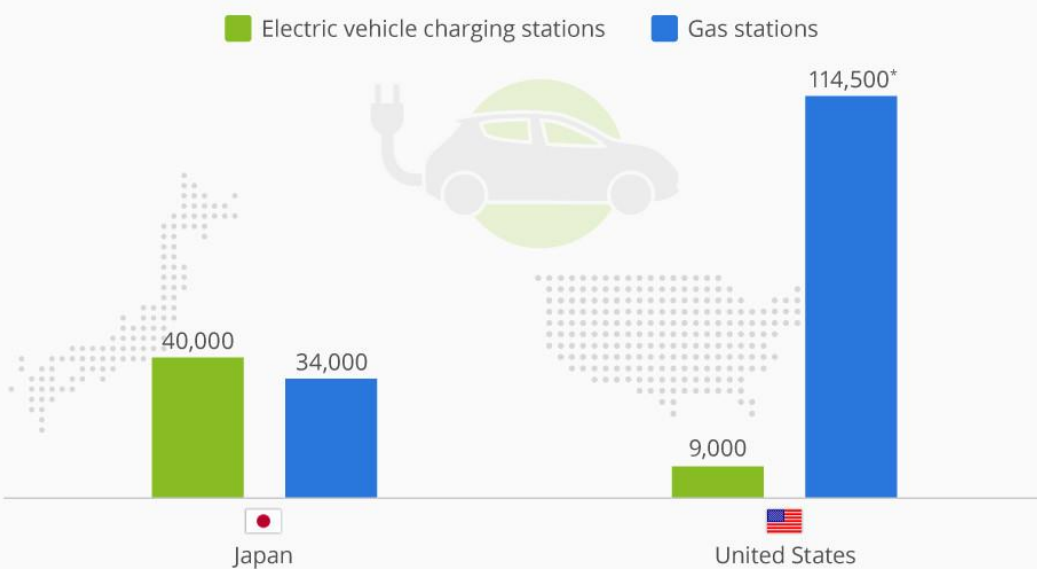
Market share of electric cars in Japan from 2009 to 2017



CC BY-SA **statista**

Japan Has More Car Charging Points Than Gas Stations

Estimated number of vehicle charging points & gas stations in Japan and the U.S. (2016)



30 min USD 0,33
60 min USD 1
5h USD 12

OnePark 片町1丁目
8:00-24:00
30分 300円 [5時間毎最大料金]
24:00-8:00
60分 100円 **1200円**
0120-963-964
駐車場専用駐車場中



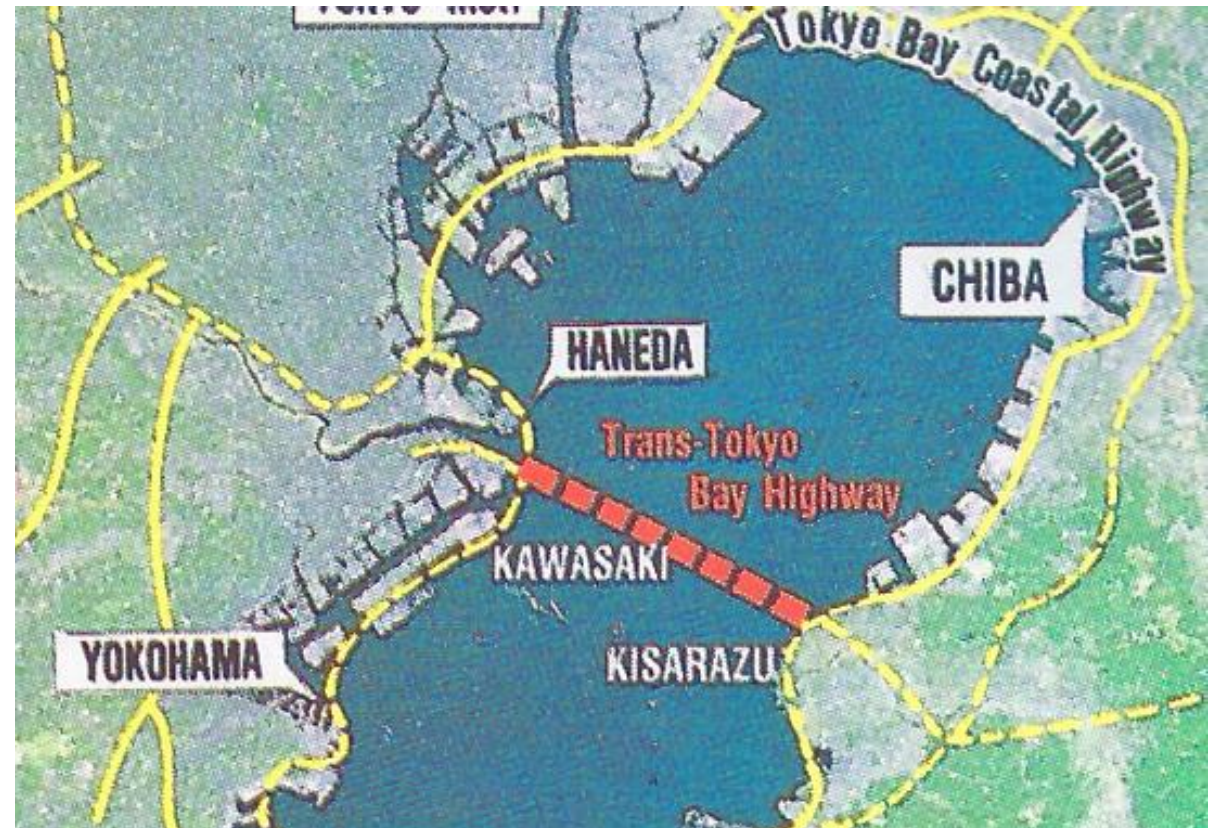
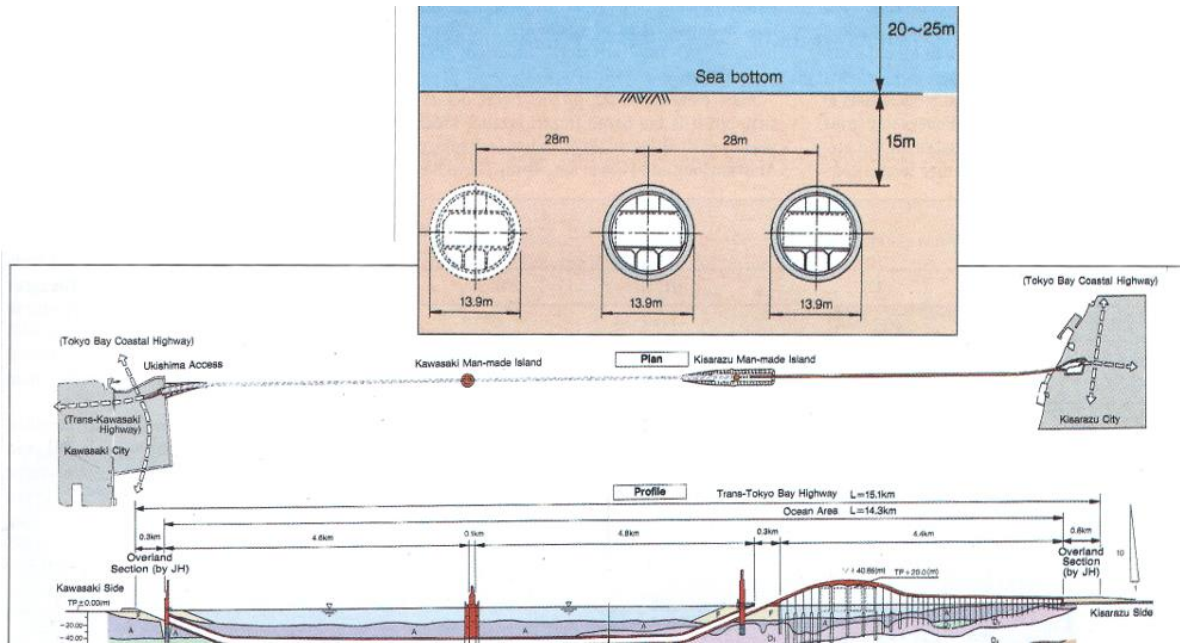












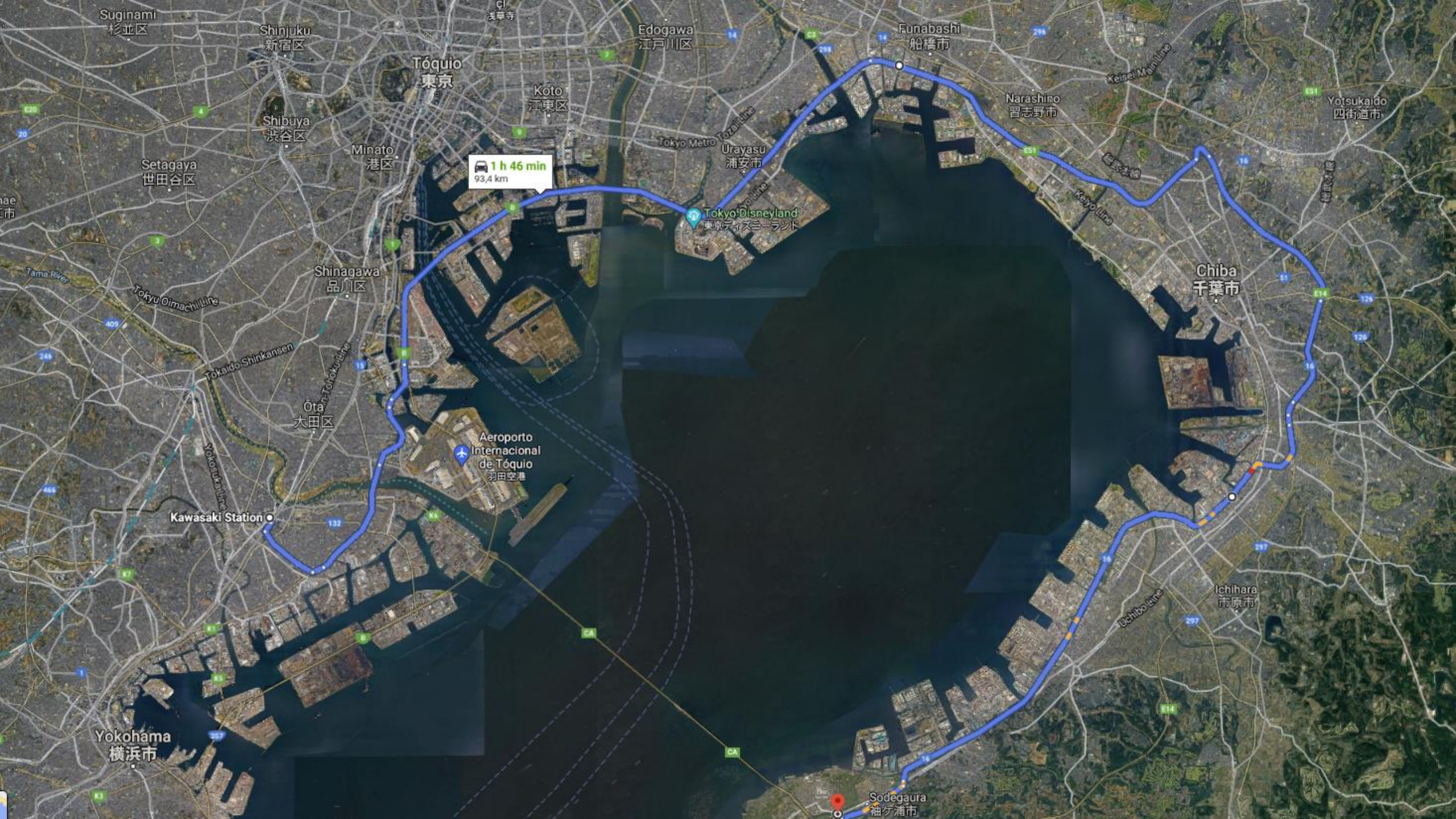
**Toll table of Tokyo-bay Aqua Line
(Kawasaki-Ukishima Junction – Kisarazu-Kaneda Interchange)**

Type of car	Toll	ETC Aqua-Line Special discount	ETC Pilot Test discount (from July 2009)
Normal cars	3,000JPY	2,320JPY	800JPY
Midsized cars	3,600JPY	2,780JPY	960JPY
Large cars	4,950JPY	3,830JPY	1,320JPY
Specific large cars	8,250JPY	6,380JPY	2,200JPY
Kei-cars and motorcycles	2,400JPY	1,860JPY	640JPY



Google





1 h 46 min
93,4 km

Yokohama
横浜市

Kawasaki Station

Aeroporto
Internacional
de Tóquio
羽田空港

Ōta
大田区

Shinagawa
品川区

Tokyo Disneyland
東京ディズニーランド

Urayasu
浦安市

Tóquio
東京

Koto
江東区

Edogawa
江戸川区

Funabashi
船橋市

Narashino
習志野市

Chiba
千葉市

Ichihara
市原市

Sodegaura
袖ヶ浦市

Yotsukaido
四街道市

Setagaya
世田谷区

Shibuya
渋谷区

Shinjuku
新宿区

Minato
港区

Suginami
杉並区

浅草寺

Keisei Main Line

Tokyo Metro Tozai Line

Yamanote Line

Keiyo Line

Tokaido Shinkansen

Kosoku Line

Tokaido Line

Uchibo Line

Keisei Line

Tama River

Tokyo Oimachi Line

CA

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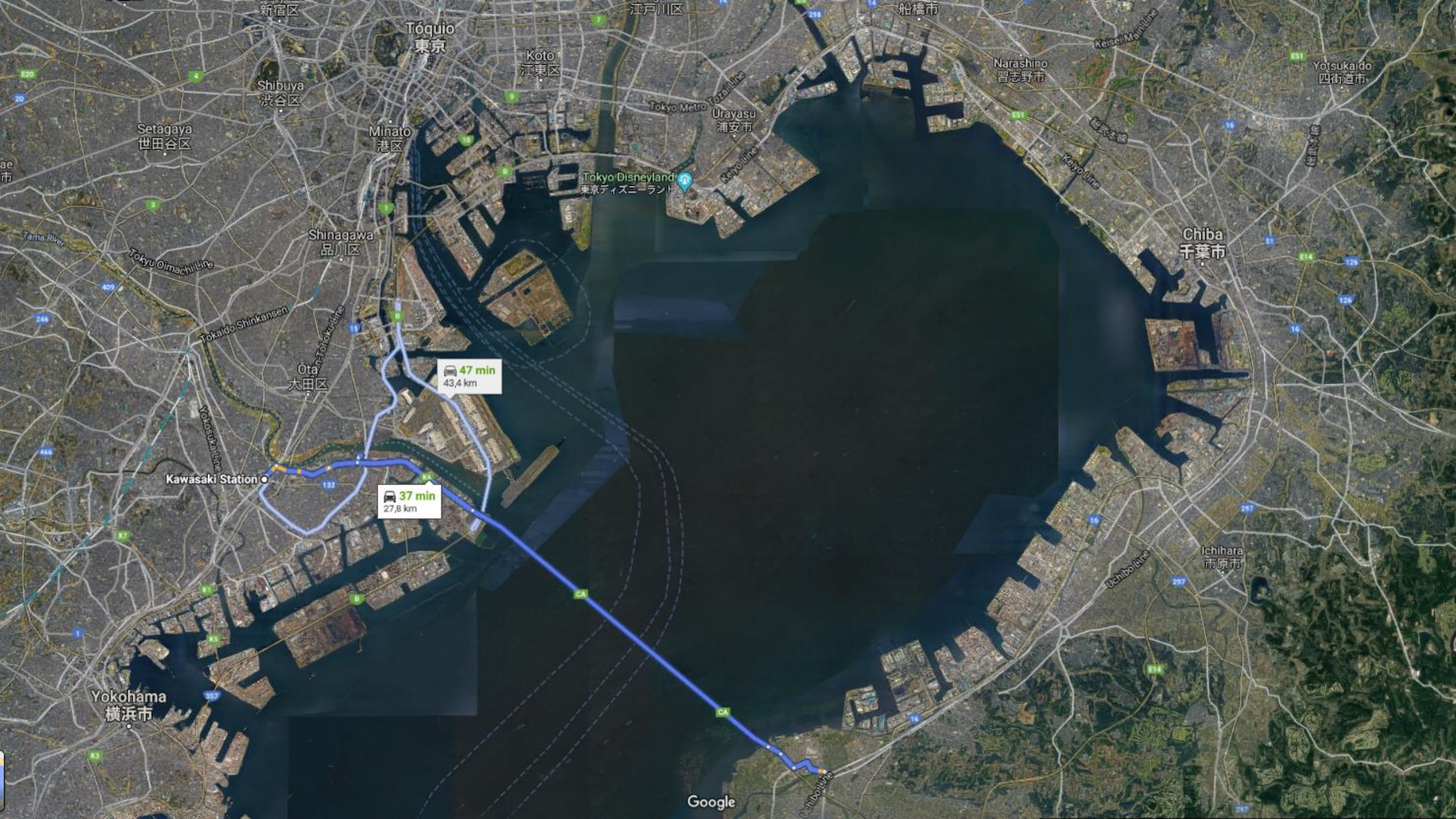
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Tóquio
東京

Koto
江東区

Shibuya
渋谷区

Setagaya
世田谷区

Minato
港区

Urayasu
浦安市

Narashino
習志野市

Yotsukaido
四街道市

Shinagawa
品川区

Chiba
千葉市

Ota
大田区

Kawasaki Station

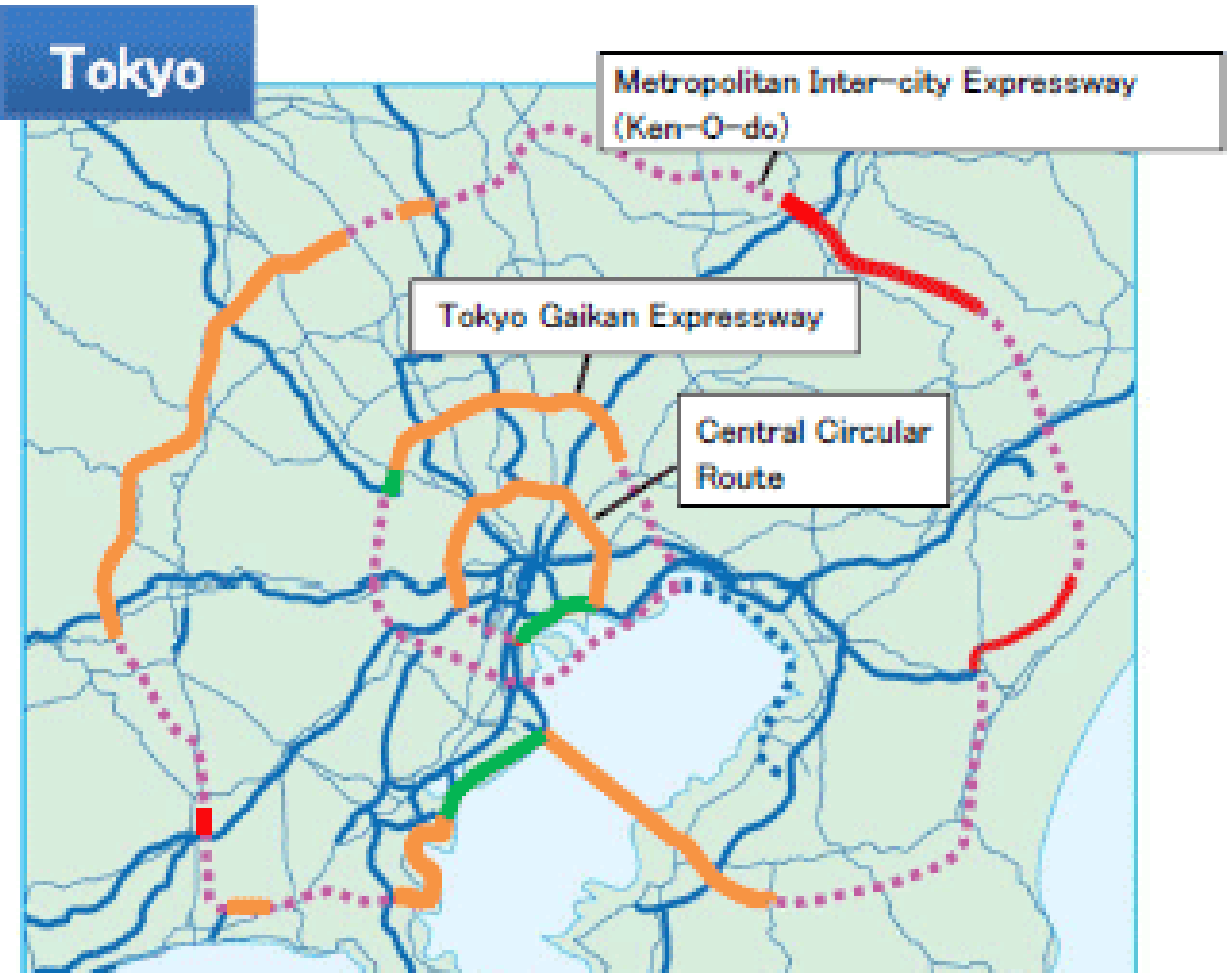
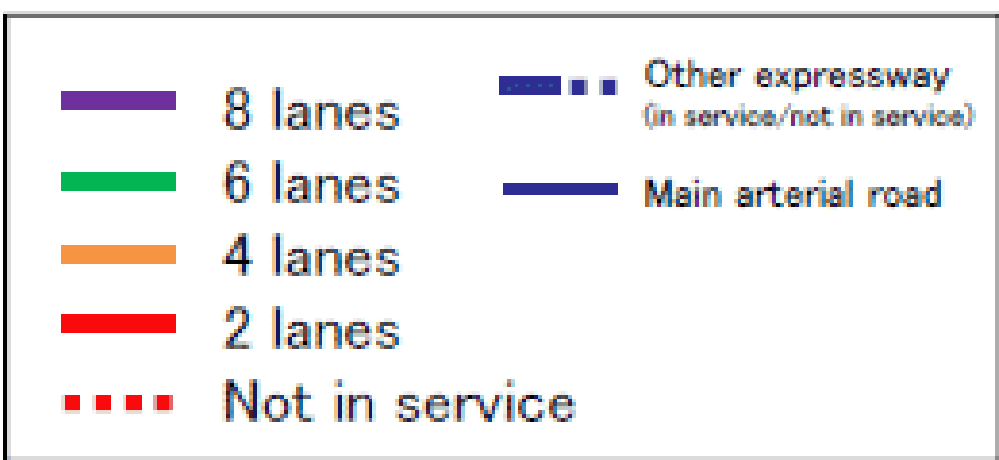
Ichihara
市原市

Yokohama
横浜市

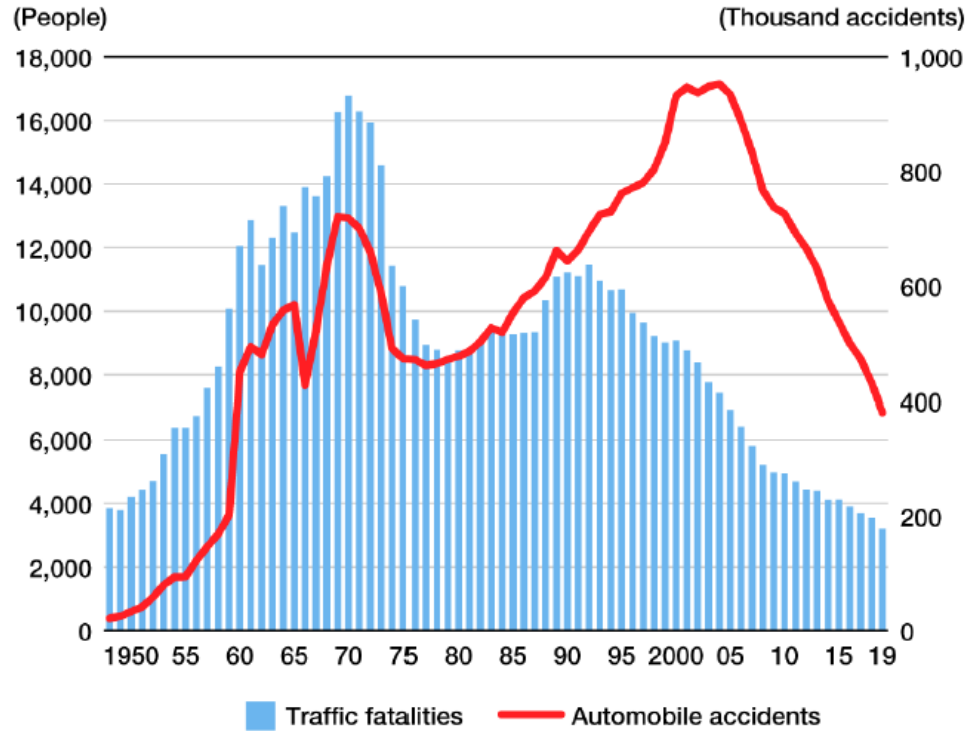
Google

47 min
43,4 km

37 min
27,8 km



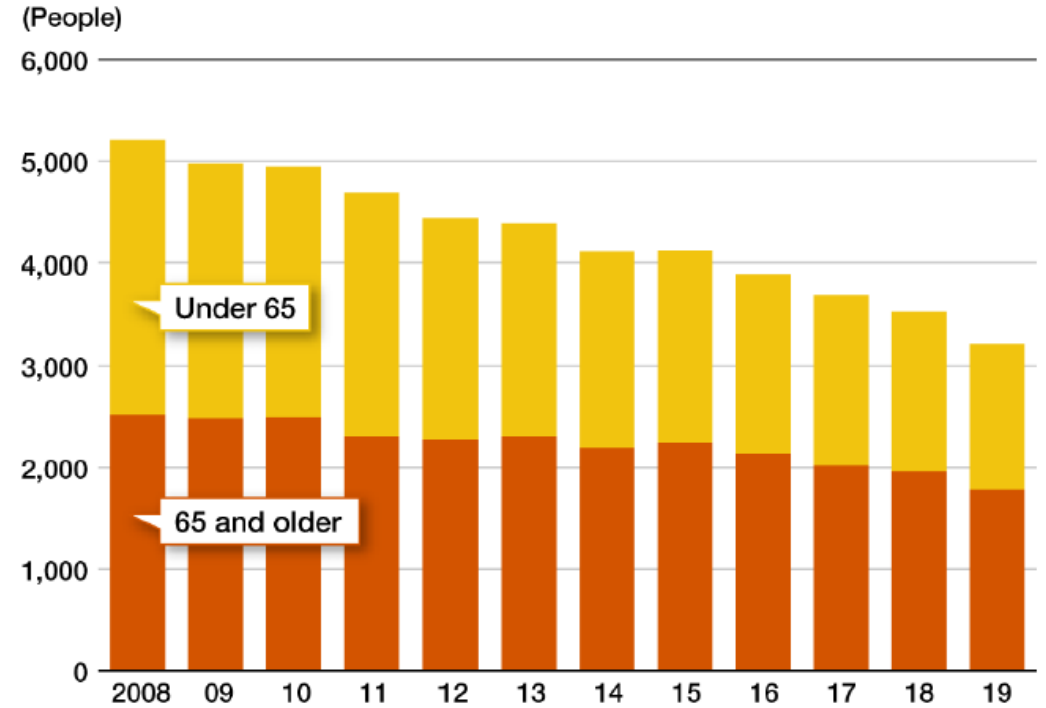
Number of Automobile Accidents and Traffic Fatalities in Japan



Created by *Nippon.com* based on data released by the National Police Agency

nippon.com

Traffic Fatalities Among Senior and Other Citizens in Japan

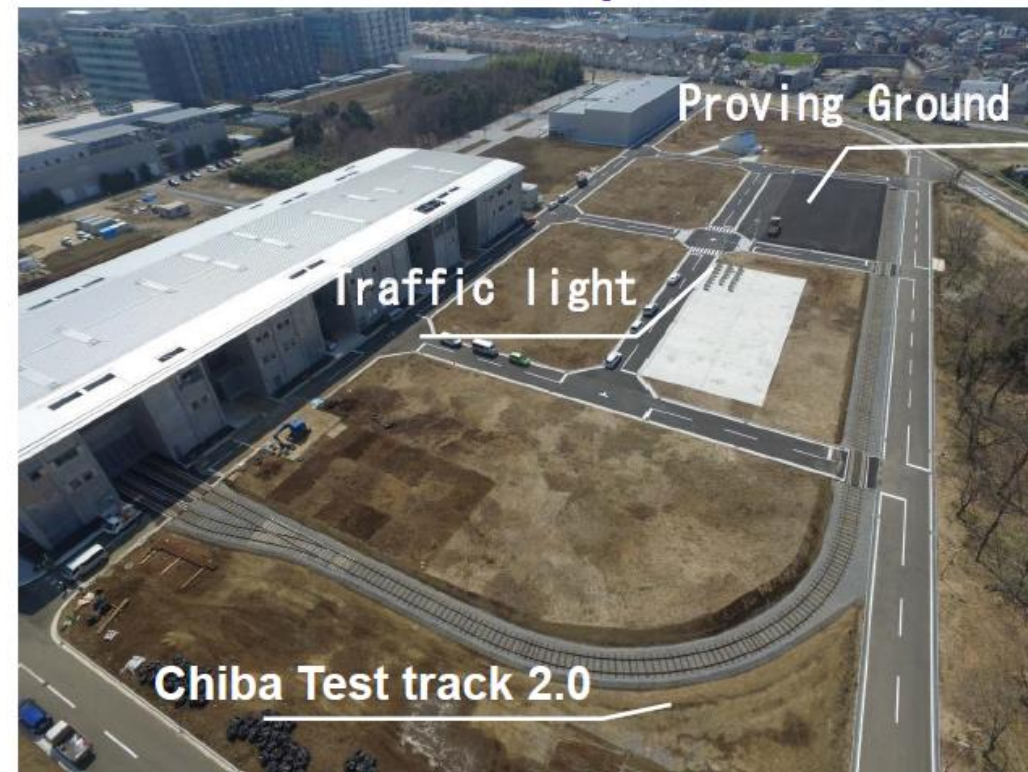
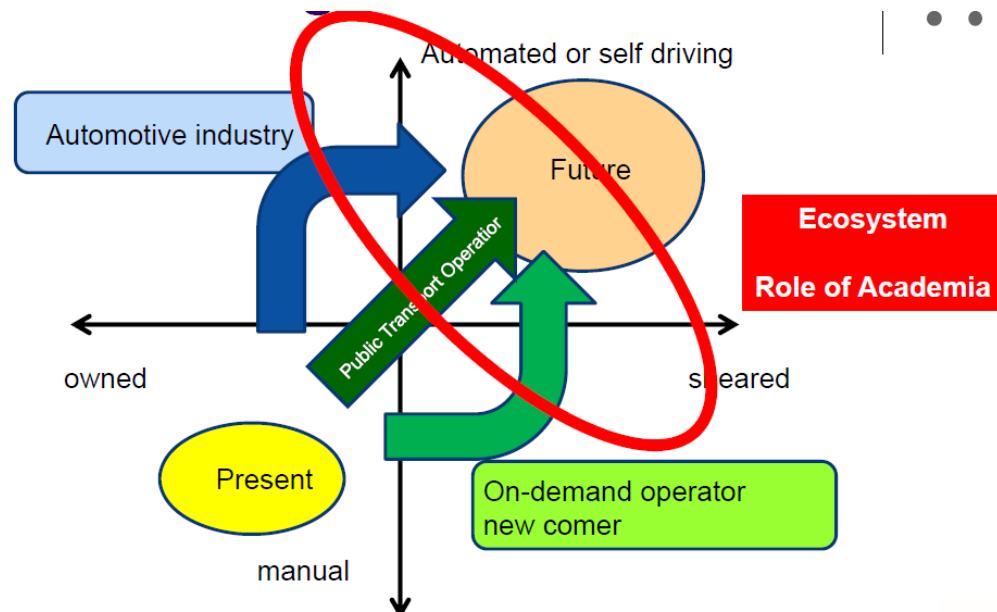


Created by *Nippon.com* based on data released by the National Police Agency

nippon.com

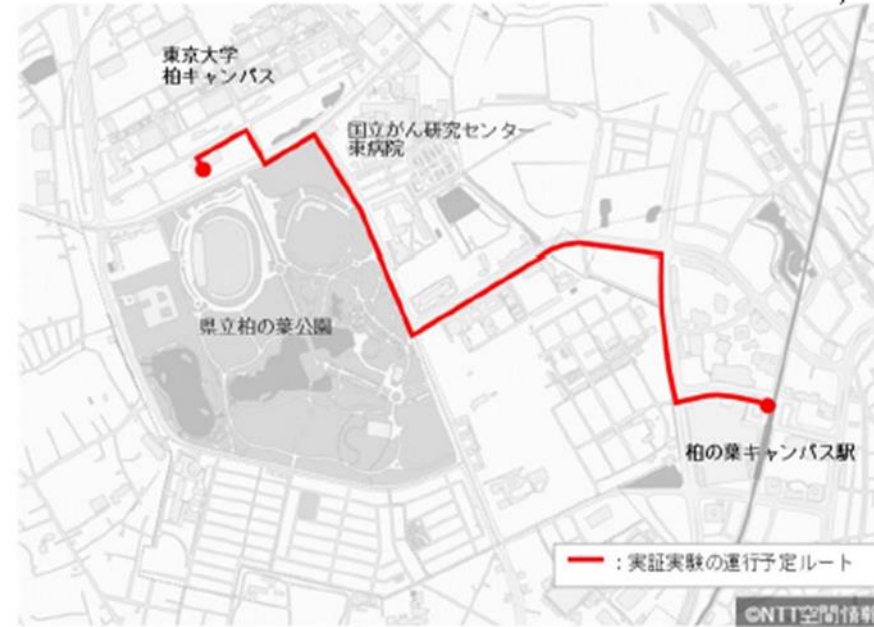


No Japão os **veículos autônomos** estão sendo desenvolvidos prioritariamente para **transporte coletivo** com operação dentro de estratégias de Mobility as a Service (MaaS).





Launched 5 months Automated bus business operation experiment on the public road in Nov. 1, 2019



- Between Kashiwanoha Campus Station of Tsukuba Express Railway and the University of Tokyo Kashiwa Campus
- Level 2



Veículos autônomos iniciaram testes em áreas pré-definidas de Tóquio em 2019.



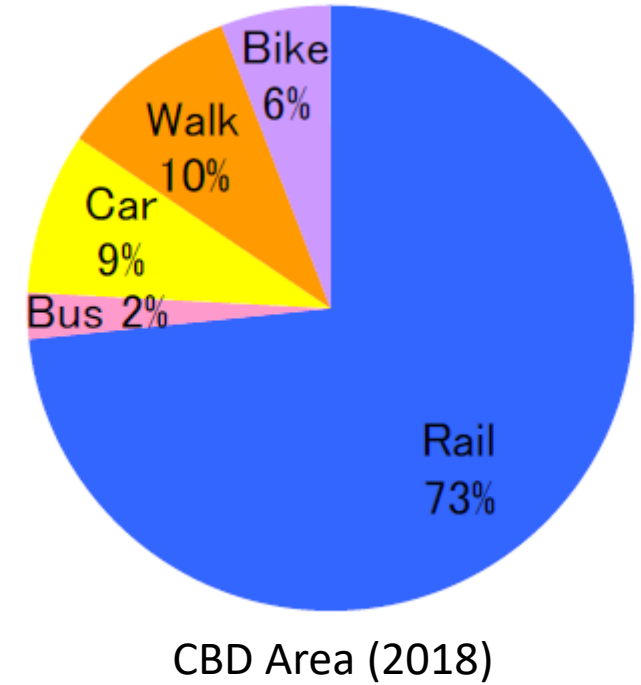
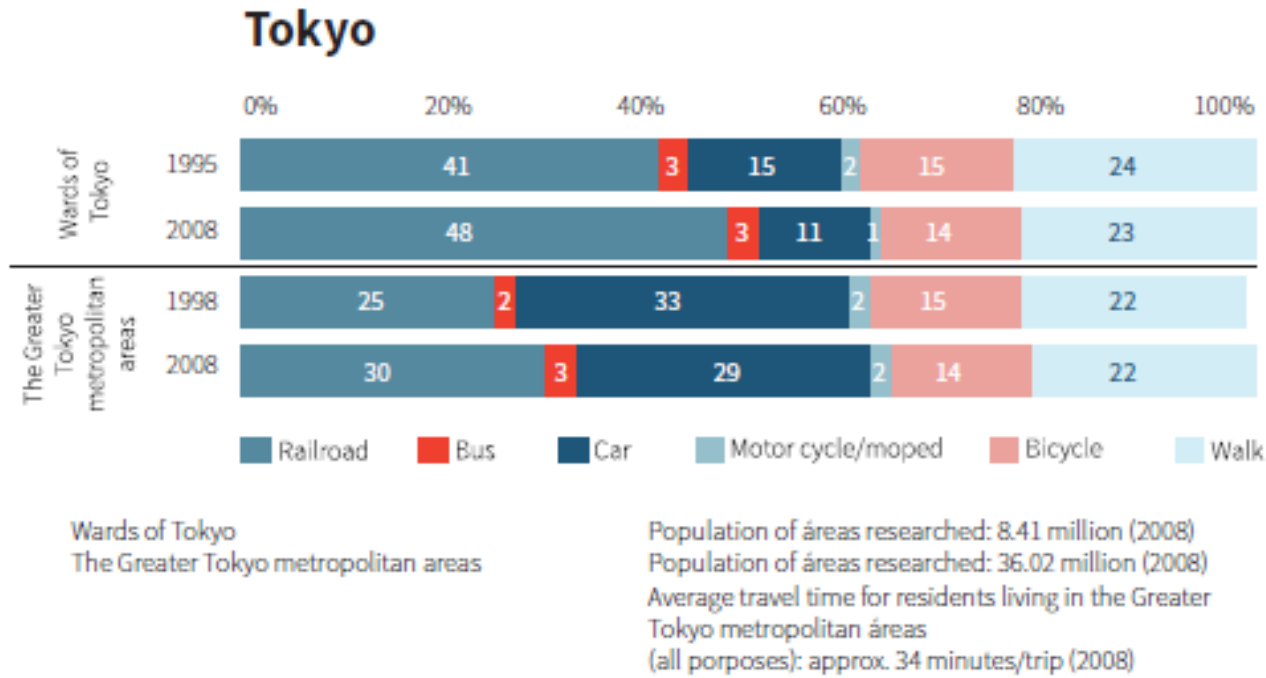
14 山手線
Yamanote Line
原宿・渋谷
品川方面
for Harajuku, Shibuya
& Shinagawa

新宿
代々木

13

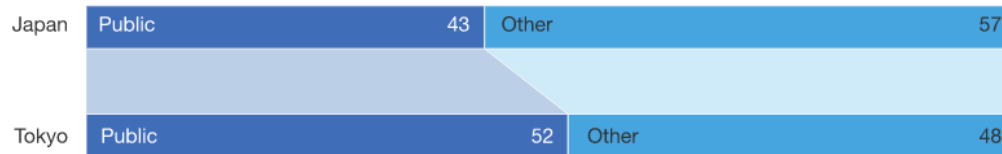
Transporte Público Coletivo

Figure 13 Transportation in Greater Tokyo Metropolitan Area



Travelers rely heavily on public transit in Japan, especially in megacities, such as Tokyo.

Share of passenger-kilometers by mobility mode, 2016, %



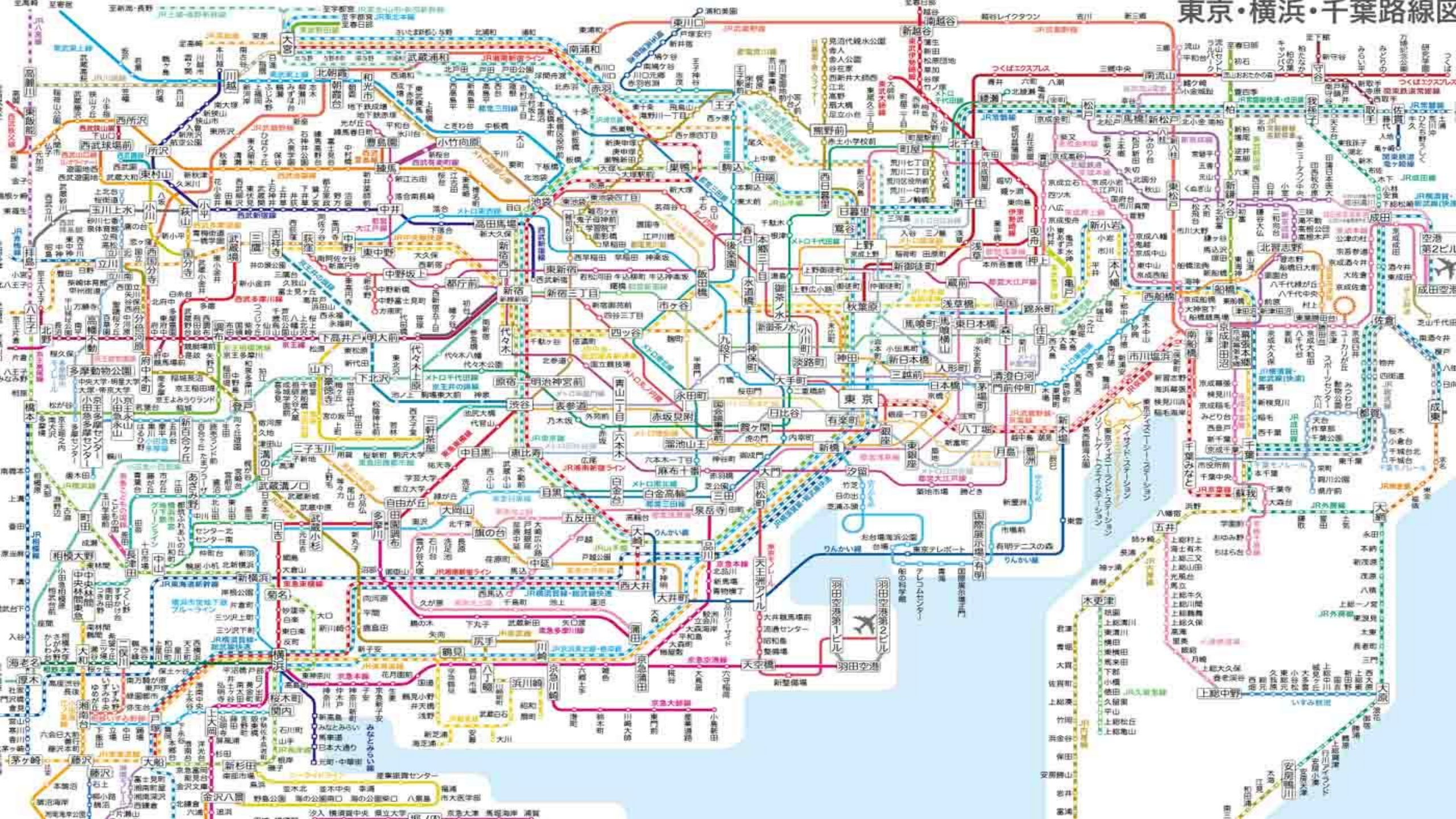
Source: Ministry of Land, Infrastructure, Transport and Tourism: annual report on changes in automotive distances traveled



Sem escala Not to scale
fevereiro/ 2014 february



東京・横浜・千葉路線図



Trilhos de Tóquio

133 linhas

1.684 estações

Operator	Daily ridership	Annual ridership
East Japan Railway Company	16,359,962	5,971,386,130
Tokyo Metro	7,422,095	2,709,064,675
Tōkyū Corporation	3,171,660	1,157,655,900
Toei Subway	3,128,718	1,141,982,070
Tōbu Railway	2,522,067	920,554,455
Odakyū Electric Railway	2,069,383	755,324,795
Keio Corporation	1,851,364	675,747,860
Seibu Railway	1,804,521	658,650,165
Keihin Electric Railway (Keikyu)	1,316,499	480,522,135
Keisei Electric Railway	786,063	286,912,995
Sagami Railway	634,899	231,738,135
Total	41,067,231	14,989,539,315









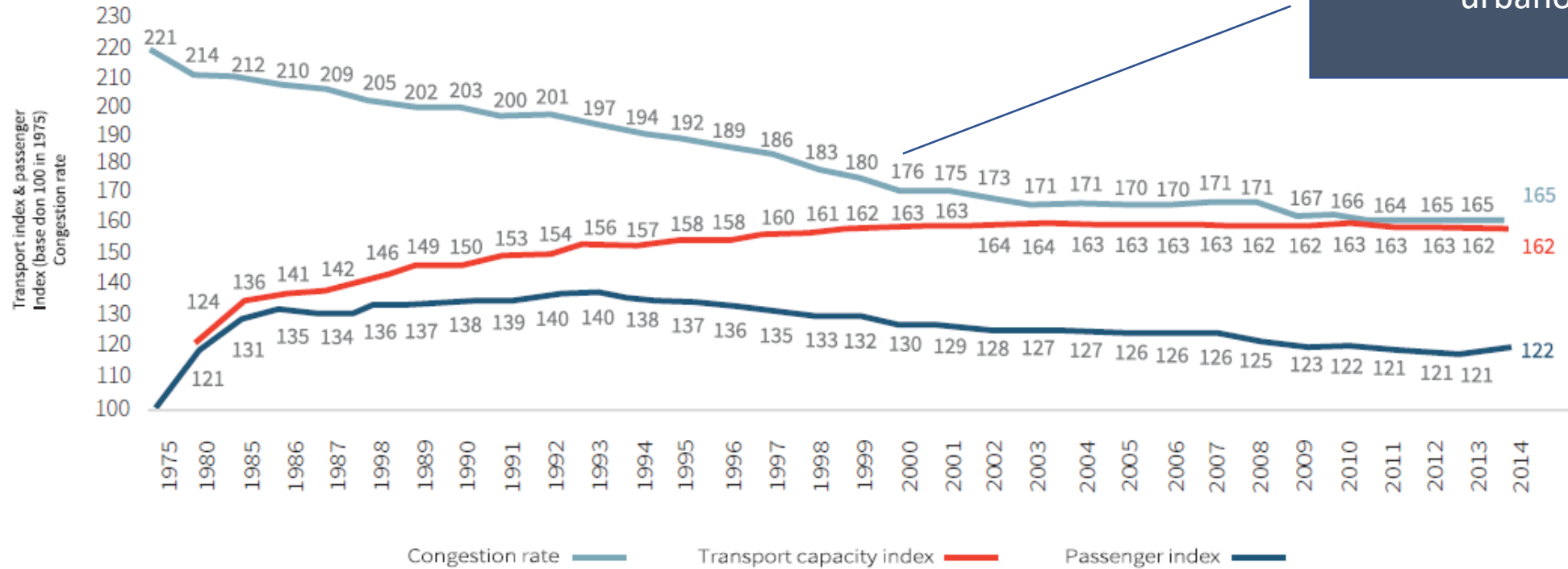
Peak



Off peak

Figure 11 Trends in average train congestion rate for major 31 track sections

Duplicação de trilhos urbanos



Source: MLIT



上26 上野公団行 2019年4月10日現在

車番	平日	土曜	休日
1			
2	18 58	18 58	28
3	27 53	27 55	7 35
4	18 44	17 40	3 38
5	14 43	20	21
10	15 54	6 51	6 51
11	36	40	31
12	2 31	13 43	5 38
13	0 32 56	8 35	8 38
14	24 56	7 44	16 48
15	28 57	30	23 57
16	28	15 54	33
17	10 56	48	23
18	28	50	13 54
19	5	38	45
20	8 52	48	47
21	41	41	41
22	29	23	29
23			
車番			

Japan Train Station Daily Entry and Exit





JR 新宿駅

LUMINE

新宿駅 Shinjuku Station

Takashimaya

UNIQLO

DUTY FREE







JR 新宿駅
JR東日本 Shinjuku Station

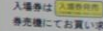
南口
South Entrance
南入口 남쪽 입구

防犯カメラ作動中

！ 入場券のご案内

駅構内をご利用の際は
(店舗利用・通り抜け等)
入場券が必要です

入場券は  マークがついた
券売機にてお買い求めいただけます
新宿駅長

防犯カメラ作動中

線形	11	14:30	由井
特急成田エクスプレス31号	13:40	成田空港	
特急成田エクスプレス33号	14:10	成田空港	
中央本線 (特急・臨時)			
特急あずさ	19号	14:00	松本
特急かいじ	11号	14:30	甲府

中央線 快速	中野・立川・高尾方面
13:44	OTSUKI 12
13:46	HACHOJI 12

中央・総武線	水戸橋・秋葉原・千原方面
13:44	TSUDANUMA 13
13:49	CHIBA 13

中央・総武線	東中野・中野・三鷹方面
13:44	中野 16
13:49	三鷹 16

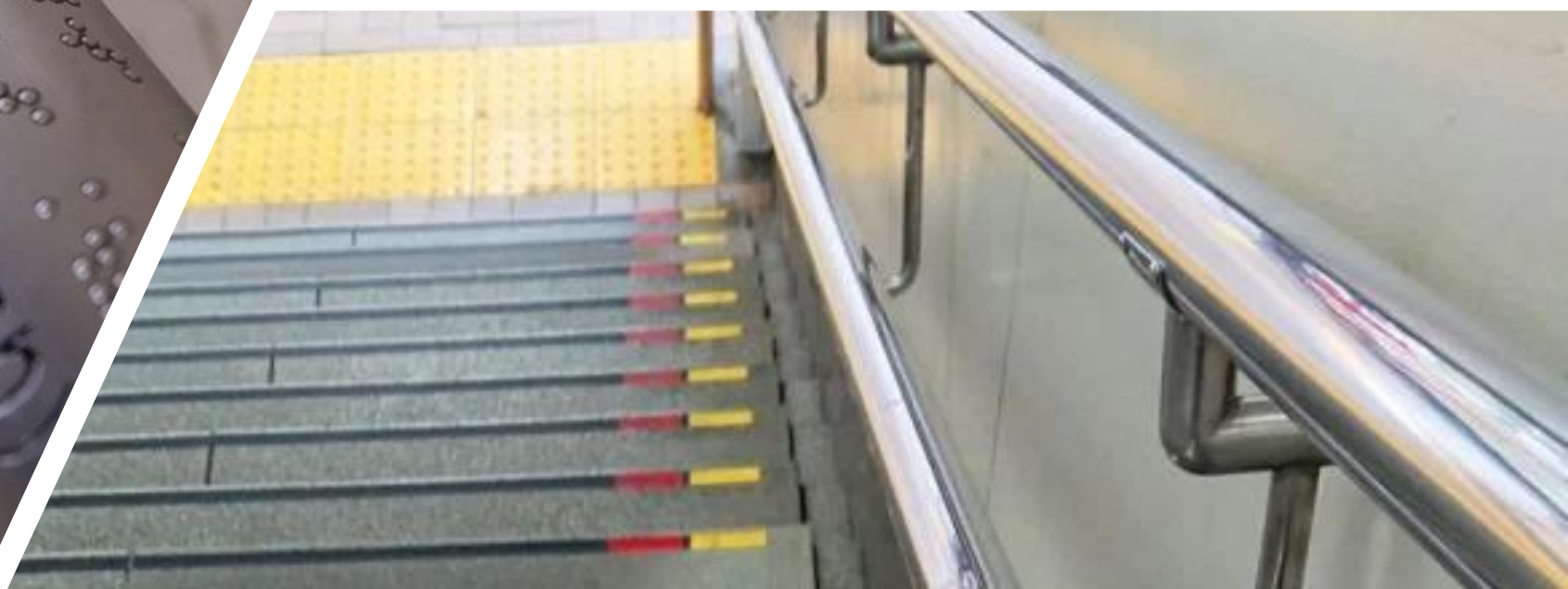
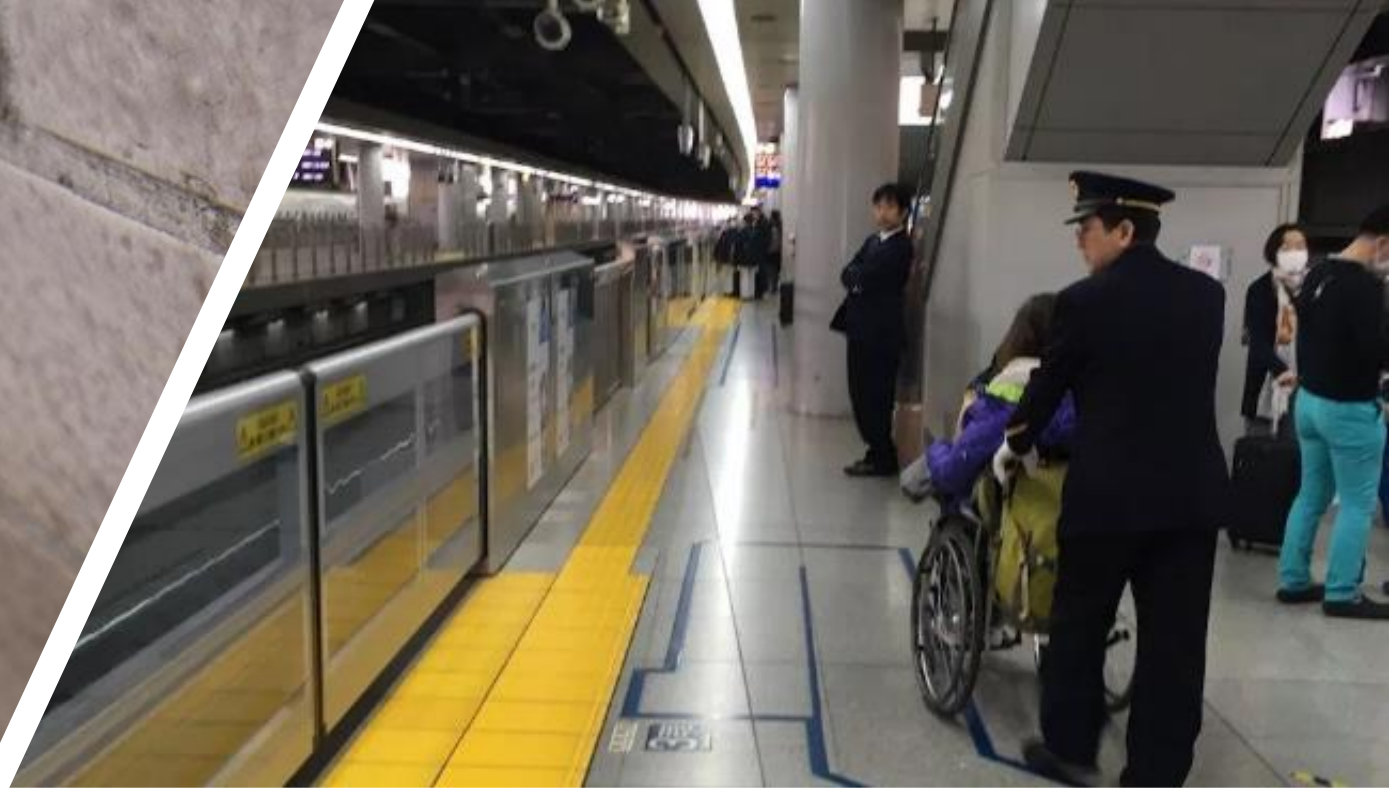


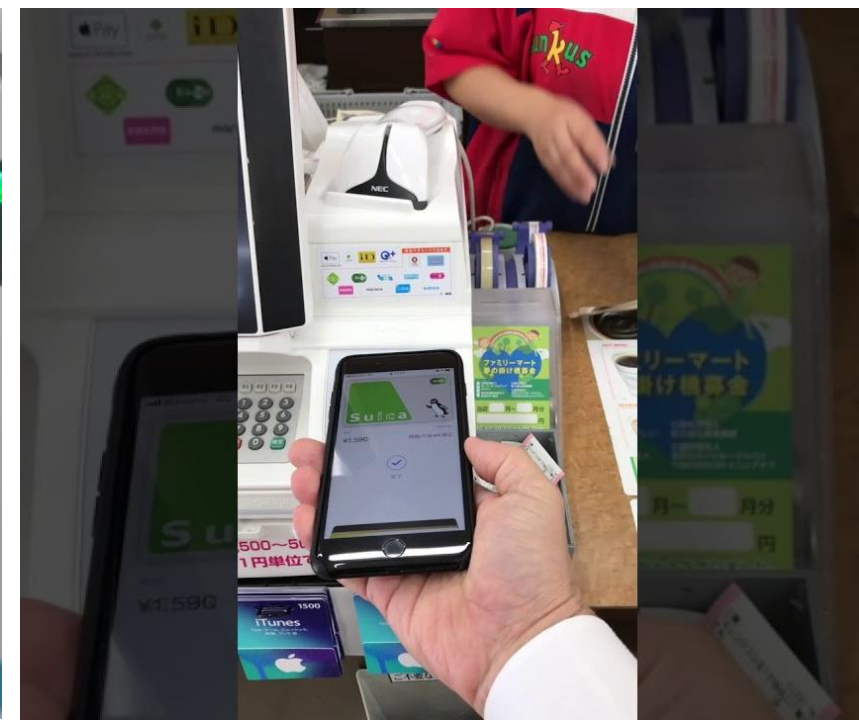
KIOSK
NewDays

は、**KIOSK**
NewDays











Não há **subsídio** público
para o transporte
público em Tokyo!

Tokyo-area Private Railways



Length of developed rail network in the Tokyo Metropolitan Area after 2000

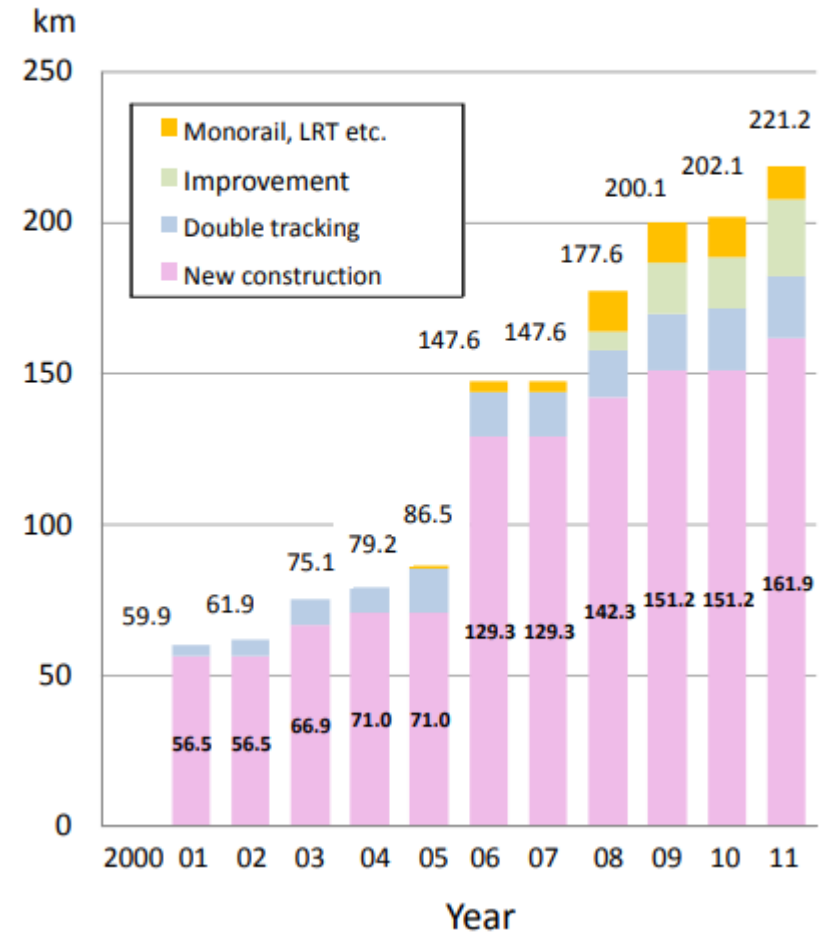


Table 1-4 Consolidated Operating Income of Kintetsu Group Holding
(JPY millions)

Segment information	2014/3	2018/3
Operating income	54,623	64,643
Transportation	30,371	29,206
Real estate	12,201	16,297
Merchandise sales	4,829	7,080
Hotel and leisure	5,799	9,627
Others	1,058	1,611
Operating revenue	1,246,360	1,222,779
Transportation	222,577	228,186
Railways	158,308	158,089
Bus services	34,326	34,677
Taxi services	11,554	11,497
Others	18,389	23,923
Real estate	159,311	149,565
Real estate sales	100,327	68,308
Building Business	22,250	45,849
Building management	42,630	40,966
Merchandise sales	382,037	395,817
Department stores	275,630	281,817
Stores and restaurants	108,102	115,286
Hotel and leisure	500,475	478,669
Hotels	48,931	61,183
Travel Agents	436,883	405,172
Cinema	3,216	3,544
Aquarium	–	9,015
Japanese-style hotel and leisure facility	11,593	–

Source: Kintetsu Group Holding, Fact Book 2018

Table 1-6 Operating Income of the Tokyu Corporation
JPY millions

Consolidated Segment information	2008/3	2018/3
Operating income	86,734	82,917
Transportation	33,907	29,002
Real Estate	24,945	32,357
Life Services	14,903	15,999
Hotel and Resort	6,893	5,103
Business support	6,035	0
Others	51	456
Non-Consolidated Segment information		
Operating income	59,042	55,980
Railway operation	32,207	24,609
Real estate	26,835	26,799
Real estate sales	12,387	7,011
Real estate leasing	14,447	19,787
Other business	0	4,572
Operating revenue	256,167	269,564
Railway operation	145,938	154,870
Real estate	110,229	95,593
Real estate sales	56,595	20,286
Real estate leasing	53,633	75,066
Other business	0	19,101

Source: Tokyu Fact Book 2018.

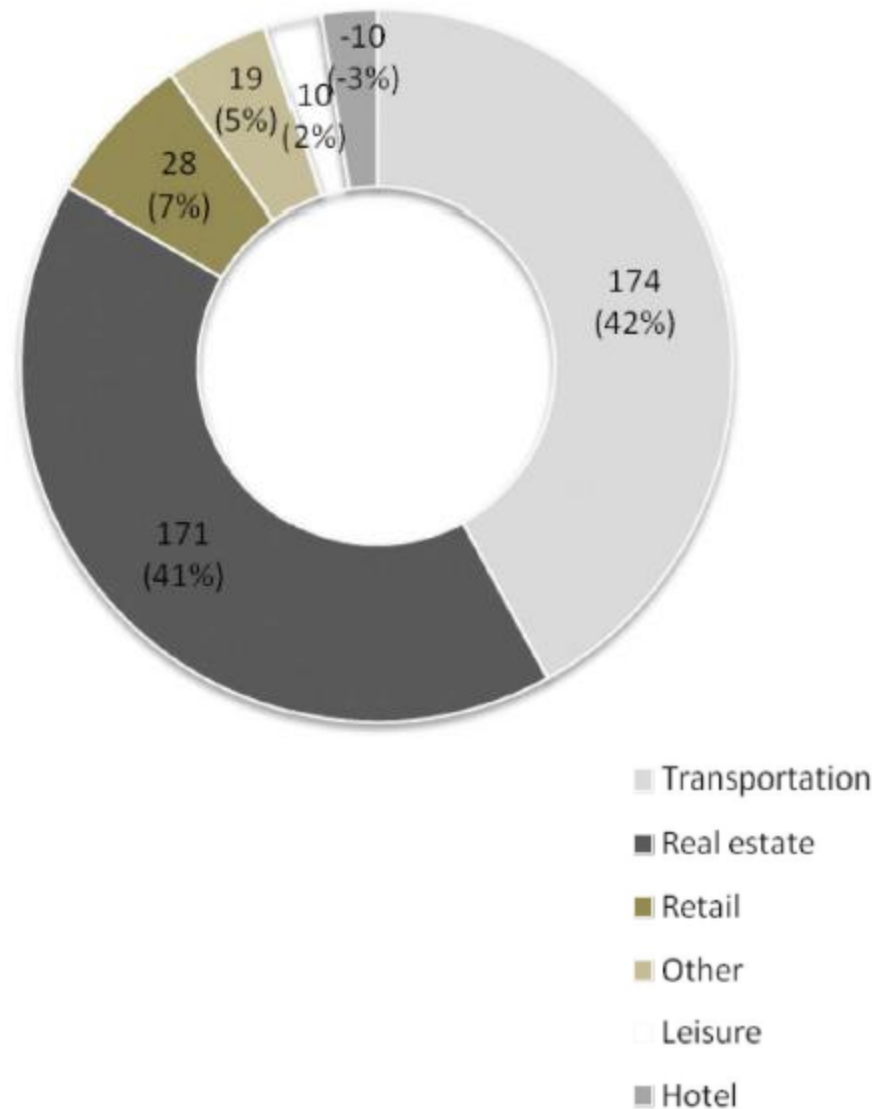


Table 1-5 Major Office Properties of the Tokyu Corporation (March 2018)

Project name	Planned	Total floor		Basement
	completion date	area (m2)	Building height	levels
1 Queen's Square Yokohama	Jul. 1997	496,596	36	5
2 SHIBUYA SCRAMBLE SQUARE (Shibuya Station Block)	FY2019, (East building) FY2027 (Central, West building)	276,000	47	7
3 Futako Tamagawa Rise (Phases I)	Nov. 2010	106,750	16	2
4 (Phases II)	June. 2015	157,016	30	2
5 Shibuya Hikarie	Apr. 2012	144,546	34	4
6 Shibuya Mark City	Feb. 2000	138,620	23	1
7 SHIBUYA STREAM (Shibuya Station)	2018 Autumn	116,700	35	4
8 Cerulean Tower	Mar. 2001	105,950	41	6
9 Setagaya Business Square	Sep. 1993	94,374	28	2
10 Tokyu Capitol Tower	Jul. 2010	87,428	29	4
11 Carrot Tower	Nov. 1996	77,365	27	5
12 JR Tokyu Meguro Building	Mar. 2002	52,221	17	4
13 SHIBUYA CAST.(Miyashitacho Plan)	Apr. 2017	34,981	16	2
14 Aoyama Oval Building	Oct. 1988	29,296	16	2
15 Yaesu Center Building	Sep. 1992	17,243	14	3
16 Shibuya Higashiguchi Building	Oct. 1980	17,037	11	3
17 Shin Mizonokuchi Building	Jan. 1988	16,784	5	1
18 Tokyu Bancho Building	Sep. 2011	16,756	11	0
19 Gotanda Fujikura Building	Oct. 1977	12,858	9	1

Source: Tokyu Fact Book 2018.

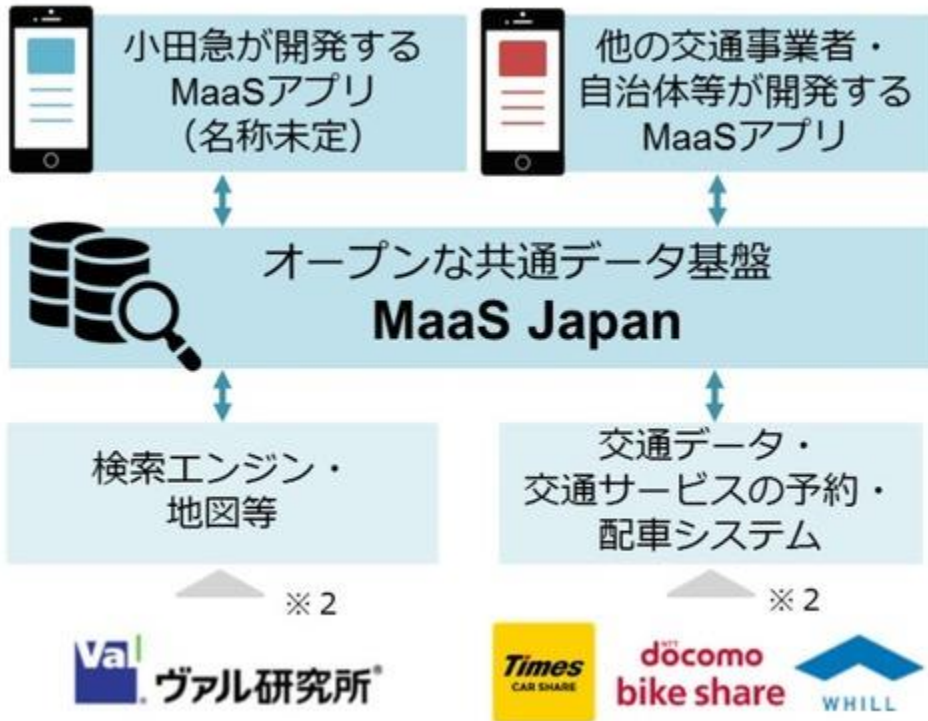
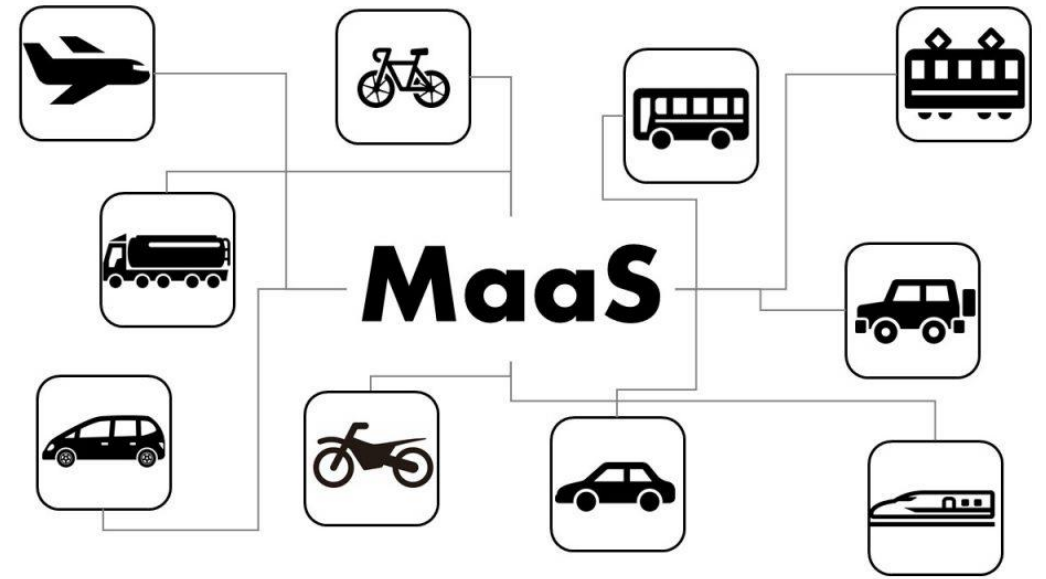
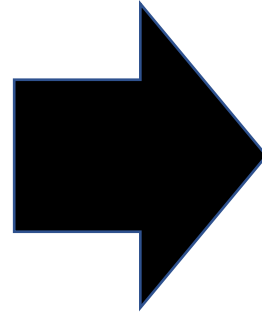
Table 1-3 Performance by the Major 16 Railway Operators in Japan in FY2017

	Number of passengers perday (million)	Total railway operation km	Number of station	Operating revenue of transportation (billion yen)	Consolidated operating Revenue (billion yen)	Consolidated operating profits (billion yen)	
Tóquio	Tokyo Metro	7.4	195	179	376	426	97
	Tokyu	3.2	105	97	155	1,139	83
	Tobu	2.5	463	204	163	570	67
	Odakyu	2.1	121	70	121	525	51
	Keio	1.8	85	69	86	435	39
	Seibu	1.8	177	92	103	531	64
	Hankyu	1.8	144	90	103	760	105
	Kintetsu	1.6	501	286	157	1,223	65
	Keikyu	1.3	87	73	85	316	29
	Meitetsu	1.1	444	275	93	605	47
	Keihan	0.8	91	89	56	322	31
	Keisei	0.8	152	69	67	255	30
	Hansin	0.7	49	51	36	n.a.	n.a.
	Nankai	0.7	155	100	61	228	34
	Soutetsu	0.6	36	25	33	261	31
	Nishitetsu	0.3	106	72	22	375	20

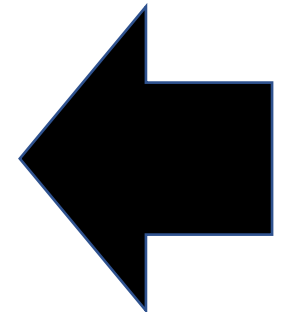
Source: Association of Japanese Private Railways (2018) Oote Mintetsu No Sugao (actual status of the major private railway companies)



Conceito



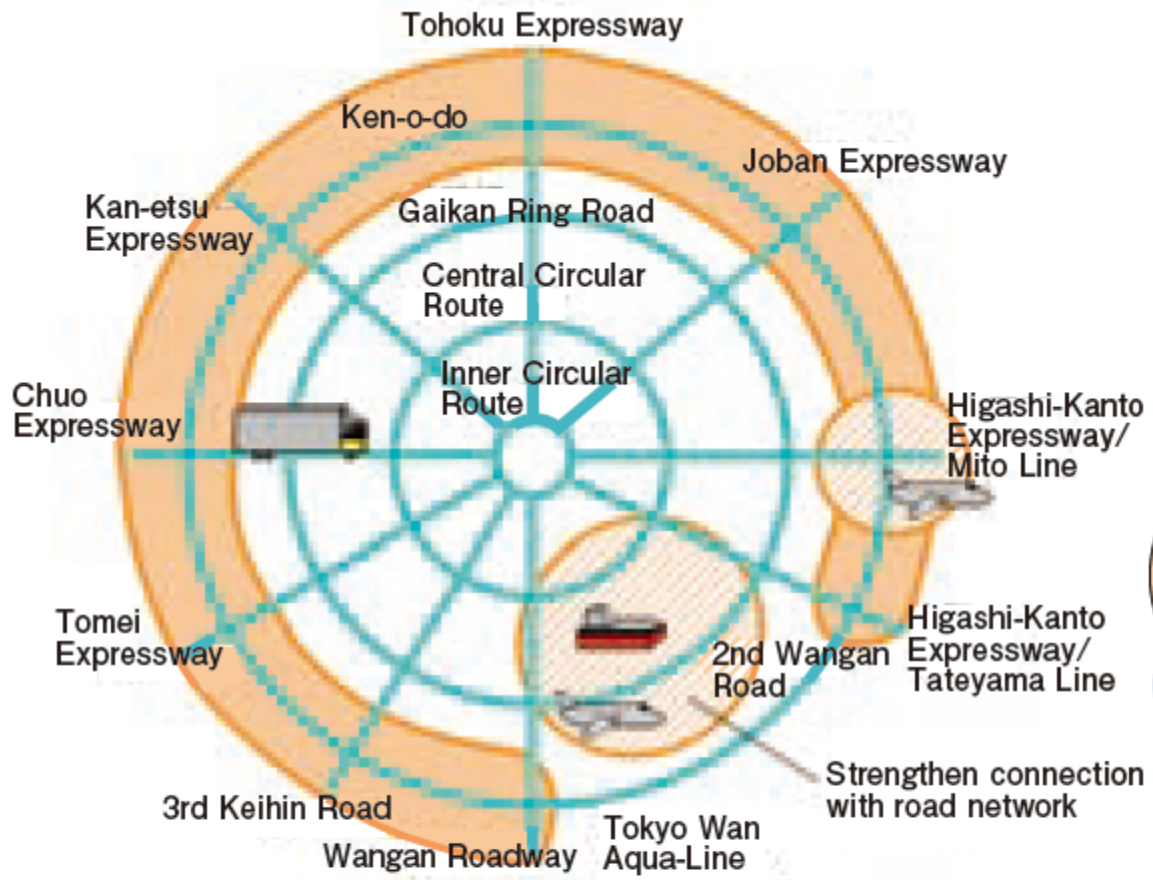
Aplicação





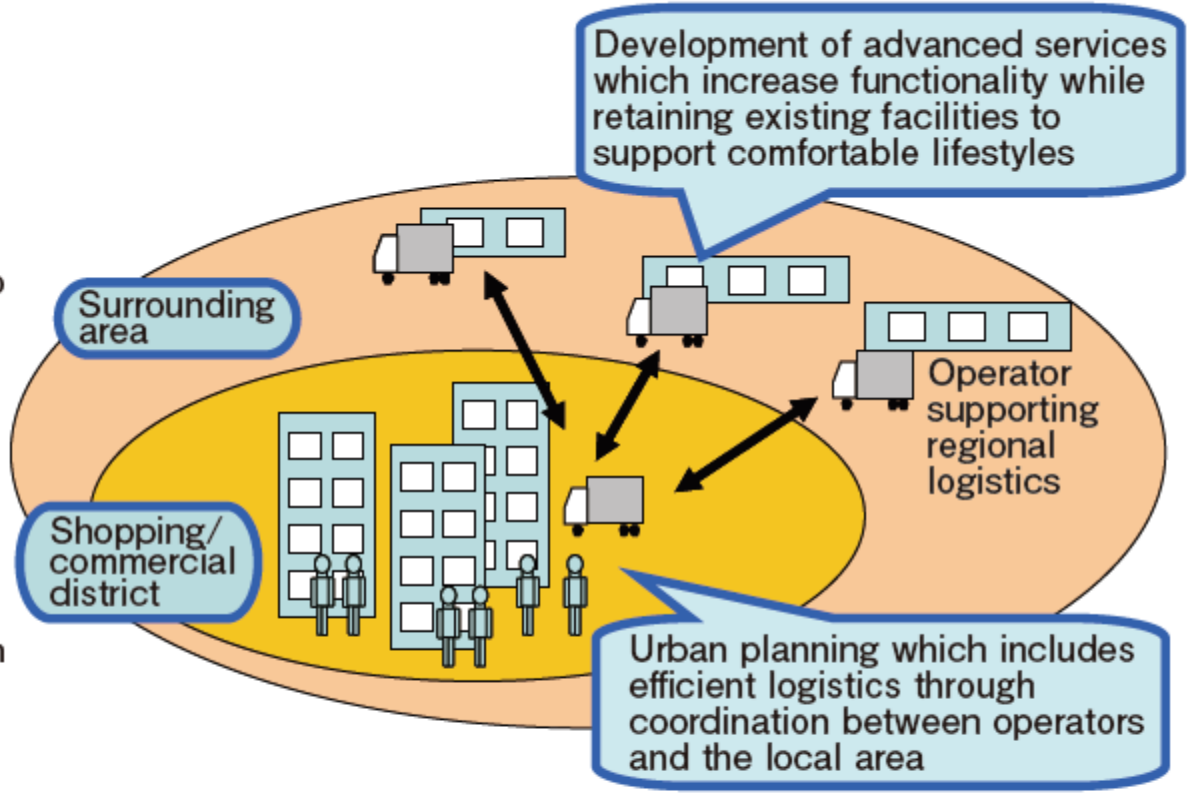
Transporte de Carga Urbana





Logistics Hub (Around Ken-o-do)
 Logistics Hub (Around Ken-o-do)

Note: This is a schematic image of TMG's future vision/period for distribution based on policies such as the Ministry of Land, Infrastructure, Transport and Tourism's policy for development of the 3 ring expressways and 9 radial roads.



Efficient logistics supporting comfortable lifestyles

Development of a Regional Distribution Network of Land, Sea, and Air Transportation







PUDO

Pick Up & Drop Off station

by Packcity Japan



ご利用方法

【宅配ロッカー「ブードーステーション」のご利用について】
確認のうえご利用ください。

- 1 タッチパネルの受け取りボタンにタッチし、受け取り用パスワードを入力してください。
- 2 タッチパネルに指でサインを記入してください。
- 3 該当するロッカーの扉が開くので、荷物をお受け取りください。
！ ロッカーの扉は確実に閉めてください。

Packcity
JAPAN

TOYOTA
豊田自動織機





BIG DATA





Door to Door Transportation and the “Right Now, Right Here and Just for Me” Information Service

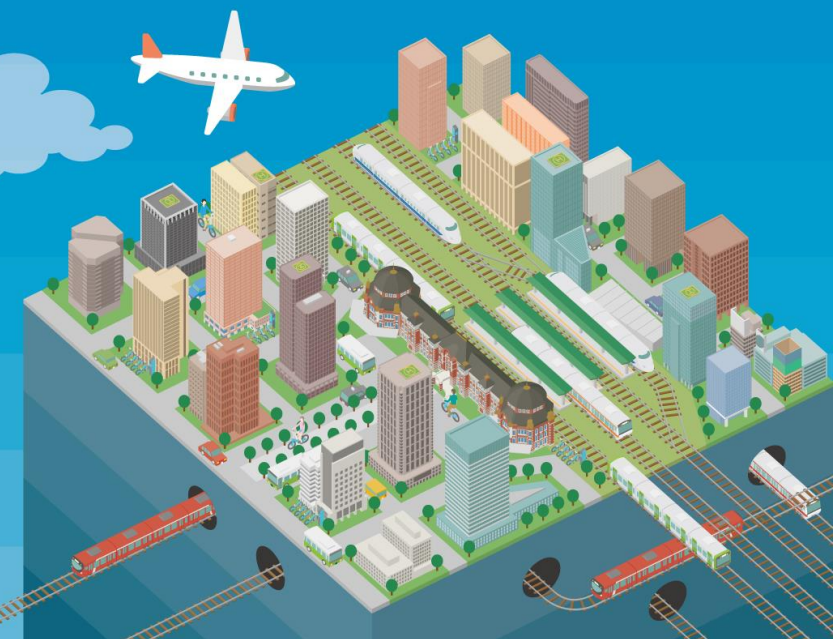
From Station to Eki-naka(in-station) and further to Machi-naka(in-city)

JR East Mechatronics' cutting-edge technology will support your daily life and your home town.

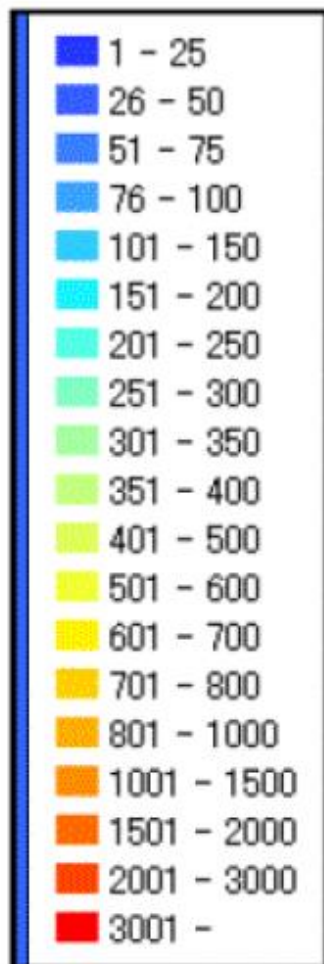


4th Open Data Challenge for Public Transportation in Tokyo

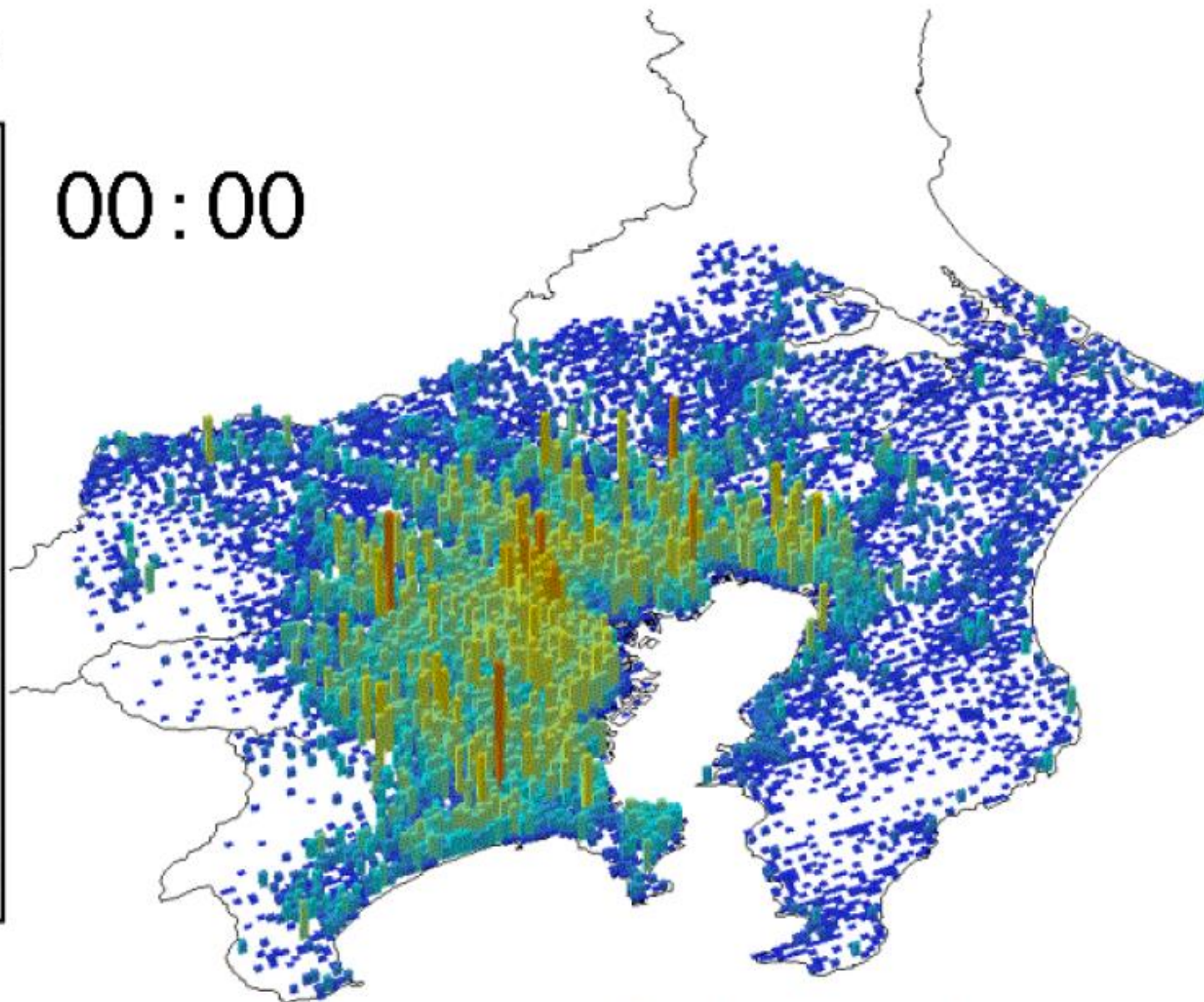
Total amount of prizes
3,000,000 JPY



人数 / 1km²

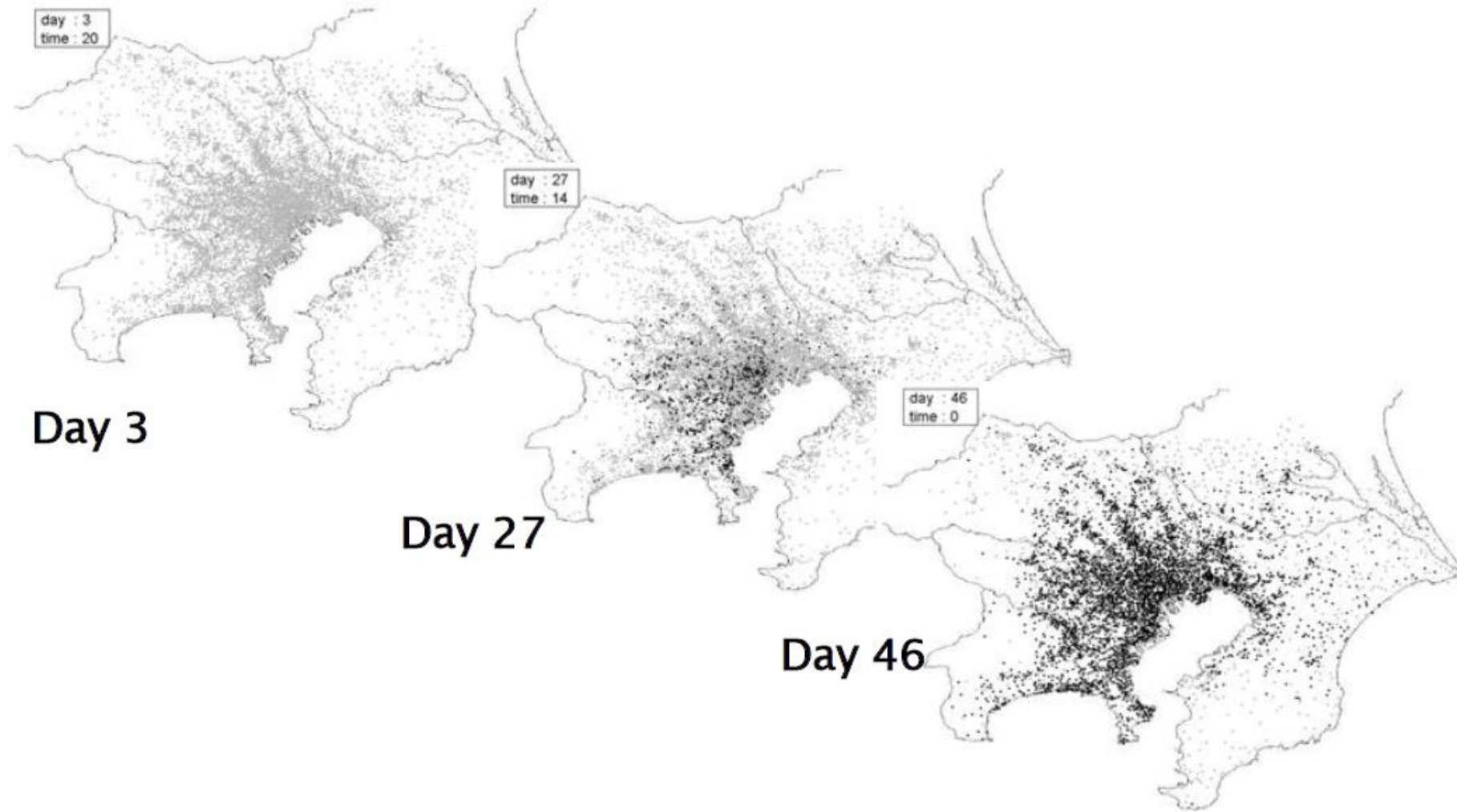


00:00



3D visualization with 1-km² mesh

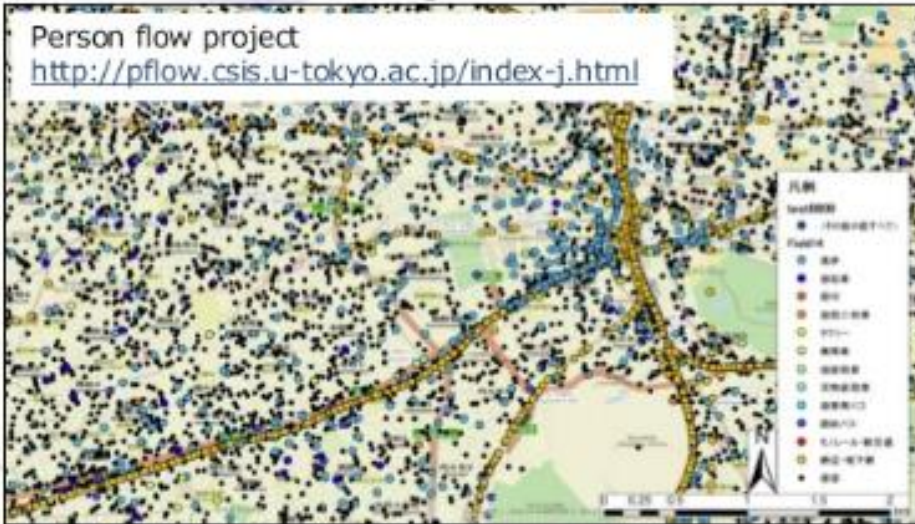
Pandemic simulation based on PFLOW



Aihara & Suzuki lab in IIS, Univ. of Tokyo

1. Available Japanese MGD for urban monitoring

MGD about person distributions and flows



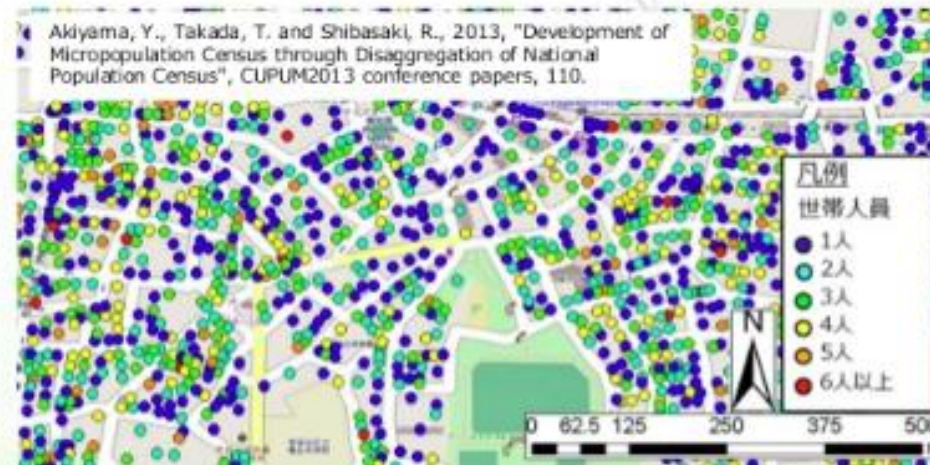
Person flow data



Various mobile census



Pseudo person flow data based on SNS tweets with geo tags



Micro population census

Congestion analysis (Zenrin Data Com Co., Ltd.)

いつもNAVI ラボ 混雑度マップ

混雑度マップ | 地図から住所検索 | ビルからテナント検索 | もっと見る

人気スポットの混雑状況: ディズニーランド USJ 東京駅 渋谷駅 梅田駅 歌舞伎町

いいね! 57 ツイートする 330



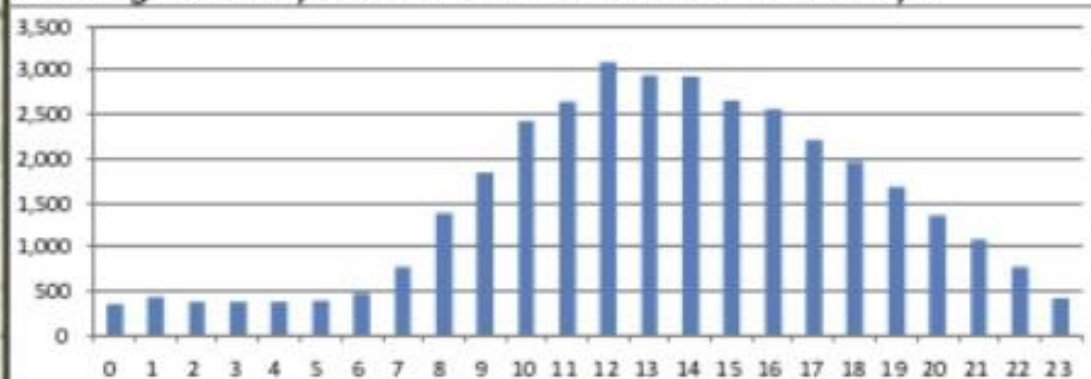
We can monitor estimate populations of every hours by 250m square grids (updated everyday).

- Real time data based on GPS logs by mobile phones
- It covers throughout Japan.

Application 1: Estimation of Dynamic population in commercial areas

35

Number of Shops : 198
Average number of daily visitors : 3,039
Average Hourly number of visitors in weekdays



Time-series numbers of visitor in each commercial area



人々が見える。
街が分かる。
社会を変える。

04:20 p.m.

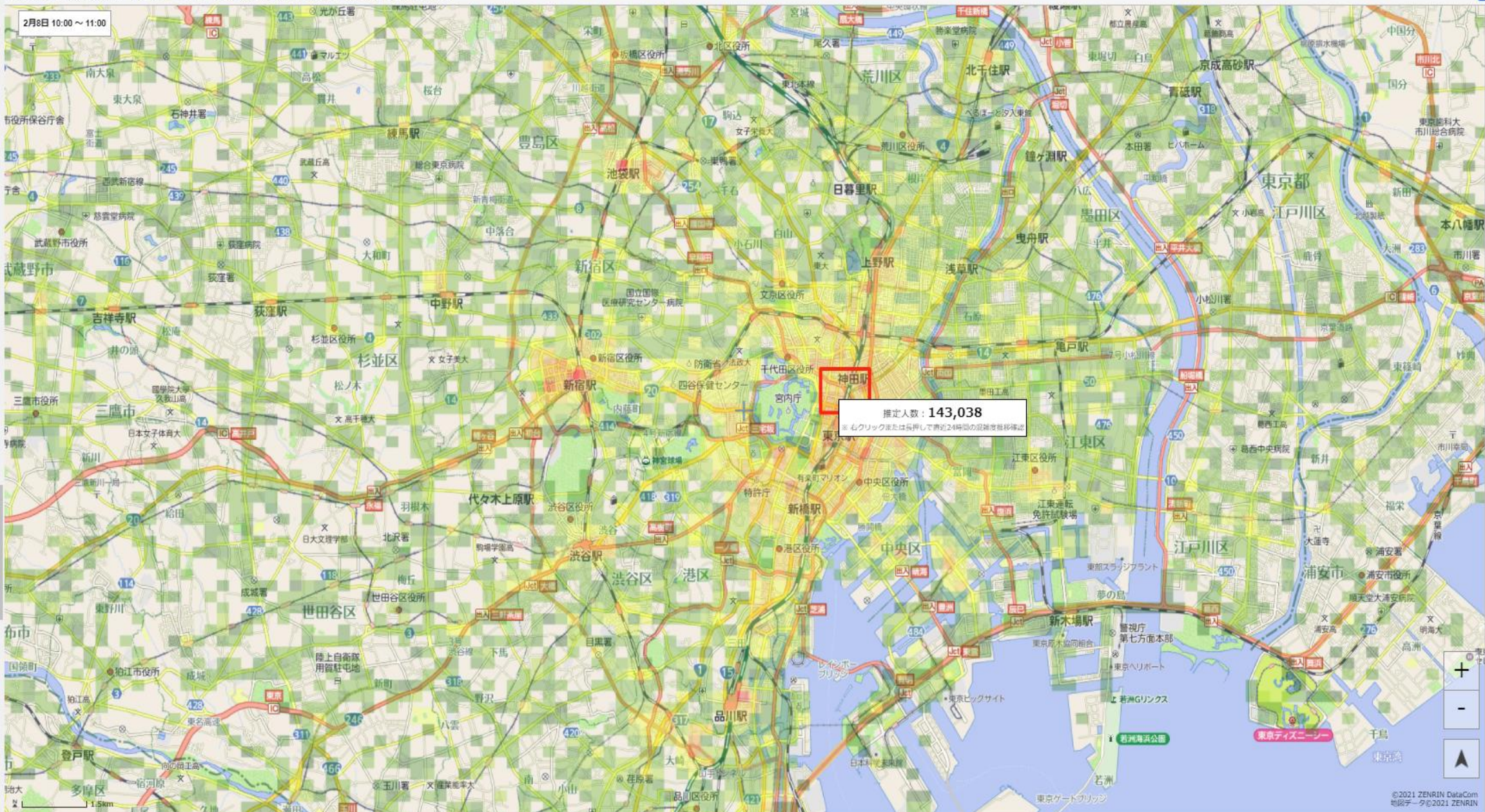
新型コロナウイルス感染症に関する情報はこちら



人気スポットの混雑状況: ディズニーランド USJ 東京駅 渋谷駅 梅田駅 歌舞伎町 東京スカイツリー

Like 251 ツイート

2月8日 10:00 ~ 11:00



混雑度マップとは

混雑統計紹介ページ
GPS対応携帯電話をお持ちの方から許諾を得て送信される位置情報の分布を、日本の総人口に当てはめてメッシュ化して地図上に重ね合わせたものです。また、集団の人数のみをあらわす人口統計情報であるため、混雑度マップからお客様個人を特定することはできません。

混雑状況

※推奨ブラウザ: Internet Explorer8以上、Firefox 3.5以上

- 15,000人以上
- 12,000~15,000人
- 9,000~12,000人
- 5,000~9,000人
- 3,000~5,000人
- 2,000~3,000人
- 1,000~2,000人
- 500~1,000人
- 100~500人

地図上を右クリックまたは長押しすると、直近24時間以内の混雑度の推移を確認できます。

※数値は推測人数です。
※縮尺が広域の場合、混雑状況の分布は表示されません。
※水深情報提供元: 海上保安庁 海洋情報部

詳しい使い方

混雑度ランキング

Obrigado pela
atenção!

Sideney Schreiner

sideney.schreiner@ews.eng.br

www.ews.eng.br