

*An effective methodology to measure tourism
at different sub-national levels*

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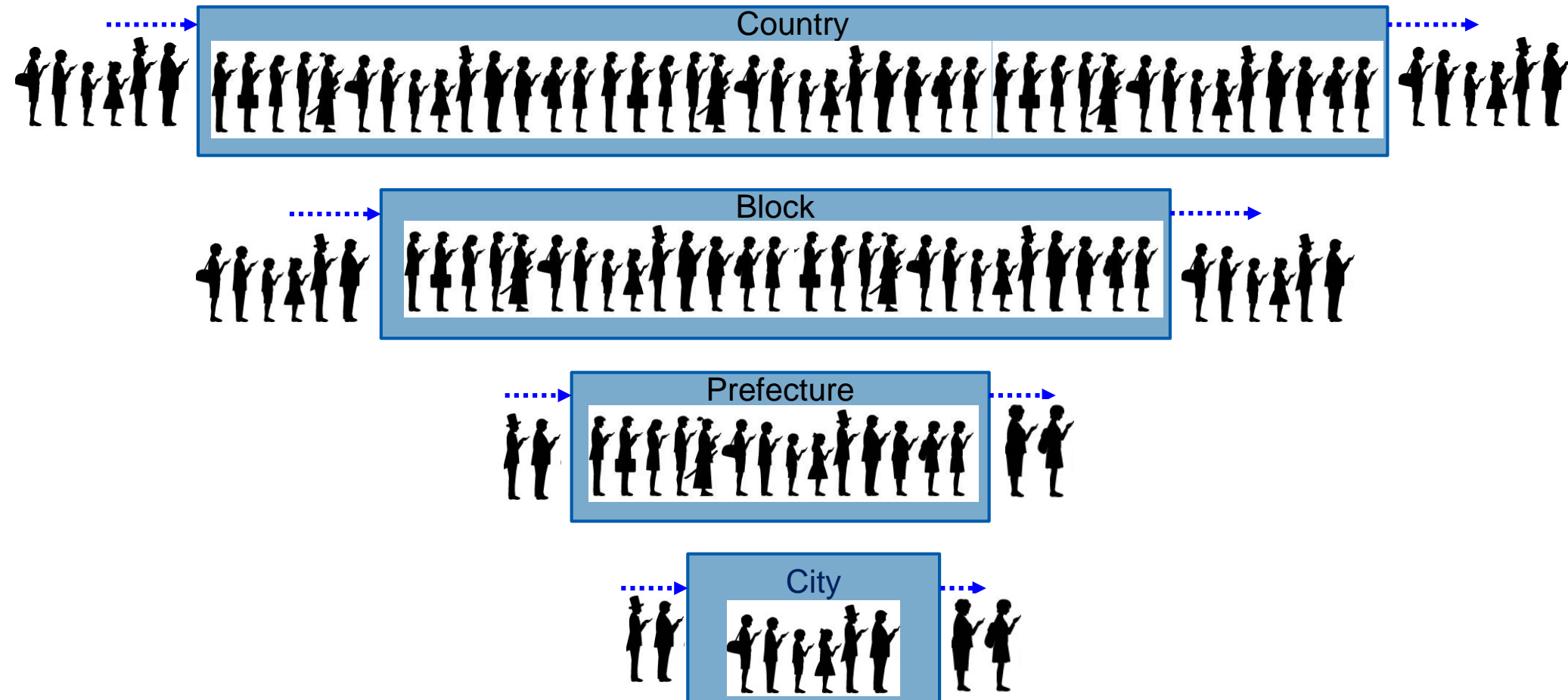
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Several levels of sub-national

In Japan, there are several levels of sub-national, e.g. block, prefecture, city.

- In general, if the area is smaller, it becomes difficult to guarantee an adequate sample size.



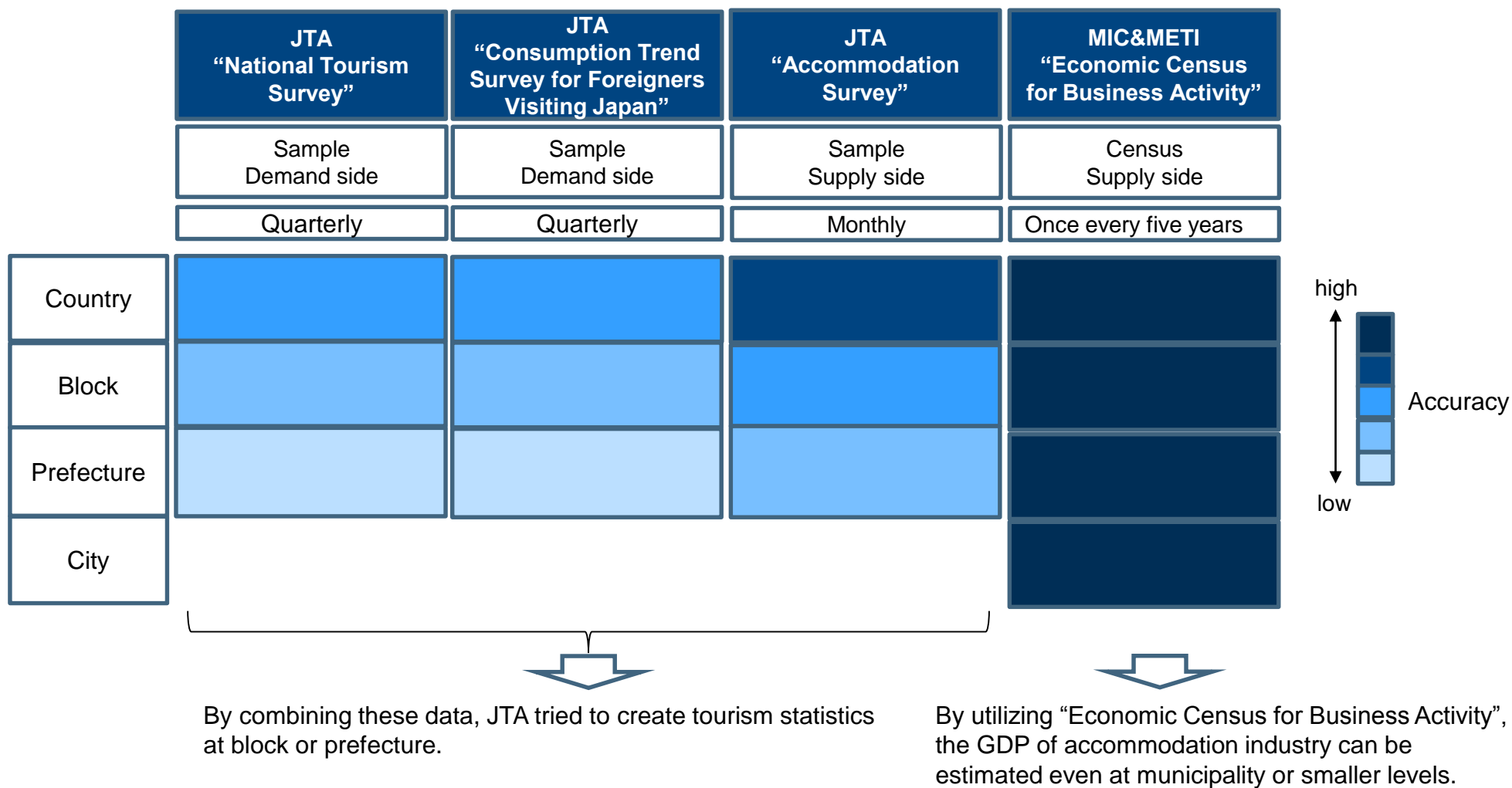
Related statistics in Japan

Data for compiling tourism statistics at sub-national levels are available in Japan.

		Number of Visitors		Tourism expenditure	
		Overnight	Same-day		
Japanese		JTA “Accommodation Survey”	JTA “National Tourism Survey”	JTA “National Tourism Survey”	MIC&METI “Economic Census for Business Activity”
			JTA “Consumption Trend Survey for Foreigners Visiting Japan”	JTA “Consumption Trend Survey for Foreigners Visiting Japan”	
Foreigner			JTA “Consumption Trend Survey for Foreigners Visiting Japan”	JTA “Consumption Trend Survey for Foreigners Visiting Japan”	

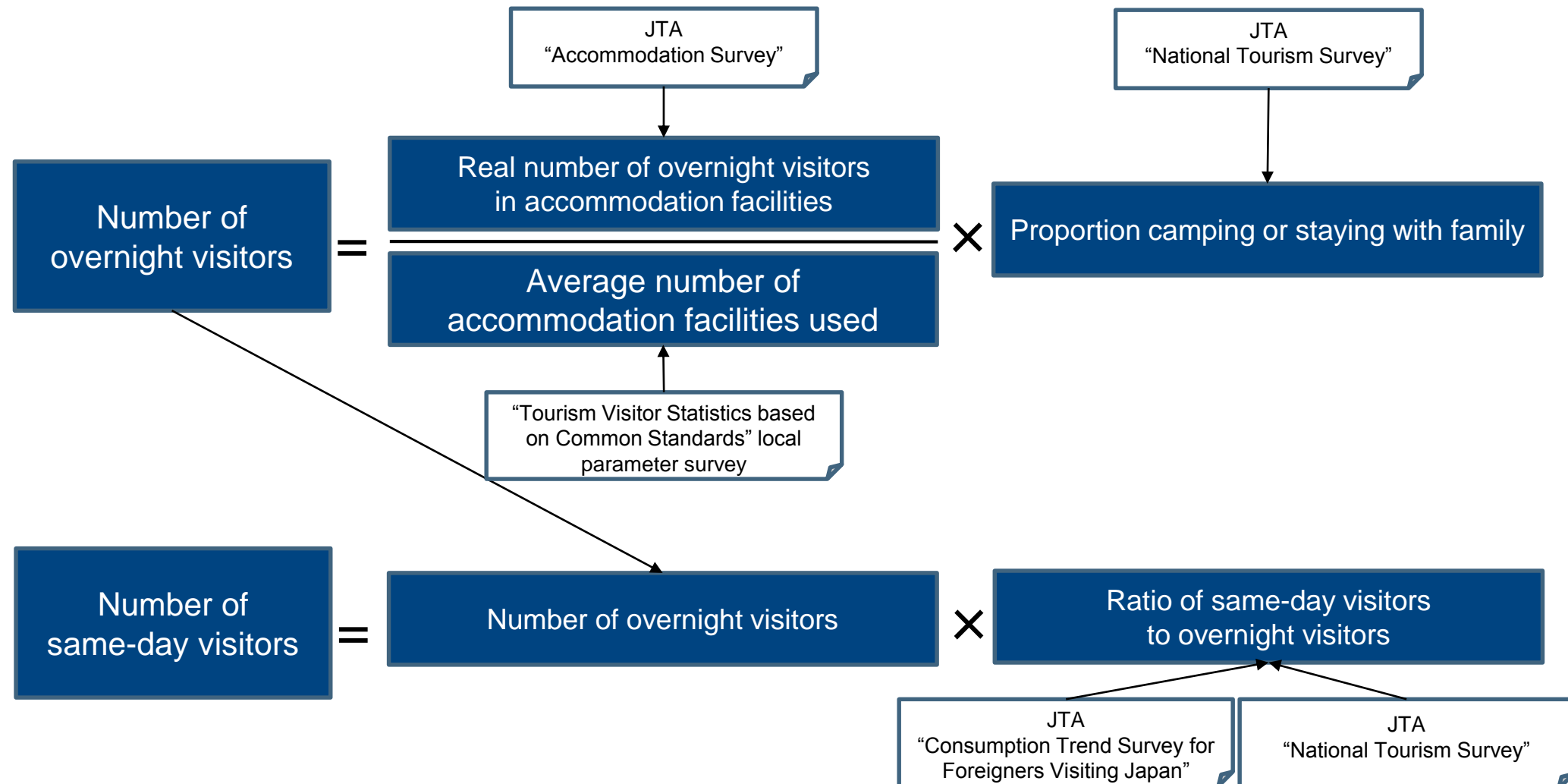
Selective use according to sub-national levels

Different compilation methods should be selected according to sub-national levels.



Number of visitors

Numbers of visitors are compiled by using “Consumption Trend Survey for Foreigners Visiting Japan”, “National Tourism Survey”, “Accommodation Survey”, etc.



Tourism expenditure

The amounts of tourism expenditure are compiled by multiplying the expenditure amount (individual expenditure) by the number of visitors.

Overnight visitor expenditure amount = Number of overnight visitors × Individual expenditure

JTA
“National Tourism Survey”

JTA
“Consumption Trend Survey for
Foreigners Visiting Japan”

Same-day visitor expenditure amount = Number of same-day visitors × Individual expenditure

Table: Number of visitors with and without stay (two divisions), for Japanese and foreign visitors, respectively (estimated values for 2014)

	Number of visitors (thousand persons)			
	Japanese		Foreigner	
	overnight	same-day	overnight	same-day
Hokkaido	16,099	9,258	1,237.9	5.0
Aomori	4,967	2,375	48.0	3.8
Iwate	5,922	4,157	51.2	5.5
Miyagi	9,689	7,308	80.1	6.5
Akita	3,704	2,296	24.3	1.1
Yamagata	5,642	4,177	38.1	3.5
Fukushima	10,464	7,668	35.1	6.8
Ibaraki	6,330	12,816	77.2	11.0
Tochigi	8,512	8,971	141.2	61.9
Gumma	7,779	7,217	114.6	16.1
Saitama	6,922	13,363	92.0	24.4
Chiba	16,489	21,394	2,183.5	1,166.1
Tokyo	37,697	48,334	5,870.6	553.8
Kanagawa	17,292	24,259	1,033.0	395.5
Niigata	9,888	6,736	98.6	10.9
Toyama	3,622	1,797	105.1	25.4
Ishikawa	6,141	2,477	263.8	8.9
Fukui	3,350	4,412	25.4	5.4
Yamanashi	6,686	10,444	940.6	338.9
Nagano	14,941	12,089	382.6	38.8
Gifu	6,069	8,818	446.4	62.4
Shizuoka	19,747	20,305	624.3	186.9
Aichi	15,954	21,231	981.7	67.9
Mie	8,232	9,880	138.2	40.0
Shiga	5,272	10,351	206.4	55.3
Kyoto	11,041	12,622	1,972.3	881.4
Osaka	20,449	21,883	4,232.2	282.9
Hyogo	13,761	17,813	582.0	365.7
Nara	2,265	3,532	111.5	277.1
Wakayama	4,378	3,677	267.2	49.9
Tottori	3,494	2,626	57.5	4.5
Shimane	3,878	2,513	21.5	1.9
Okayama	6,138	8,121	82.9	18.2
Hiroshima	9,854	8,167	288.8	51.0
Yamaguchi	5,058	3,959	47.7	17.2
Tokushima	2,869	2,484	30.7	4.2
Kagawa	3,559	4,158	128.1	14.3
Ehime	4,721	3,593	54.4	4.3
Kochi	3,713	2,551	29.1	1.3
Fukuoka	14,667	14,381	911.5	65.4
Saga	3,270	4,104	78.6	33.9
Nagasaki	6,908	3,660	362.6	140.6
Kumamoto	7,098	6,167	368.1	144.8
Oita	5,074	3,800	272.8	141.3
Miyazaki	3,825	3,249	115.8	19.2
Kagoshima	7,358	3,491	227.6	17.2
Okinawa	11,518	1,095	1,325.8	2.0

Table: Tourism expenditure with and without stay (two divisions), for Japanese and for foreign visitors (estimated values for 2014)

	Tourism expenditure (Million yen)			
	Japanese		Foreigner	
	overnight	same-day	overnight	same-day
Hokkaido	579,054	82,938	165,290	67
Aomori	131,442	21,120	3,352	44
Iwate	156,908	36,052	3,859	67
Miyagi	239,129	58,396	5,200	84
Akita	81,966	13,979	1,918	13
Yamagata	148,376	35,402	2,103	47
Fukushima	259,271	64,094	1,903	85
Ibaraki	150,772	129,192	6,215	144
Tochigi	236,544	100,877	11,273	774
Gumma	220,281	71,659	9,704	208
Saitama	155,428	111,269	6,494	325
Chiba	523,889	273,953	142,535	15,273
Tokyo	1,179,437	400,390	677,447	14,367
Kanagawa	404,991	219,194	76,561	4,773
Niigata	246,325	69,152	4,752	146
Toyama	81,075	26,301	5,098	333
Ishikawa	193,456	38,712	12,527	110
Fukui	89,889	54,469	1,390	74
Yamanashi	190,392	114,335	54,001	5,396
Nagano	441,778	143,982	22,847	488
Gifu	154,691	77,848	24,218	821
Shizuoka	542,490	213,920	25,993	2,944
Aichi	375,344	177,300	62,790	1,004
Mie	250,191	108,787	7,714	525
Shiga	113,567	90,572	11,020	739
Kyoto	337,713	120,939	123,002	12,035
Osaka	543,587	212,250	301,430	3,587
Hyogo	366,915	165,835	31,845	4,436
Nara	54,869	24,050	5,652	3,613
Wakayama	125,543	40,277	14,039	698
Tottori	97,272	26,025	2,548	55
Shimane	116,324	28,468	1,102	23
Okayama	144,272	87,223	4,341	229
Hiroshima	215,944	111,635	15,565	569
Yamaguchi	103,853	41,690	2,382	205
Tokushima	66,294	21,189	1,569	59
Kagawa	87,647	33,268	6,797	171
Ehime	120,895	29,663	2,951	51
Kochi	86,152	19,936	1,853	18
Fukuoka	368,629	176,554	57,798	816
Saga	98,280	34,619	3,157	408
Nagasaki	190,531	36,853	17,154	1,703
Kumamoto	170,450	59,107	16,856	1,766
Oita	134,903	41,124	14,020	1,712
Miyazaki	93,894	35,911	6,040	232
Kagoshima	235,030	29,385	9,924	218
Okinawa	641,196	7,046	129,790	27

Notes:

- (1) These are the results of compilations using a combination of existing JTA statistical surveys (the "National Tourism Survey," the "Consumption Trend Survey for Foreigners Visiting Japan," and the "Accommodation Survey").
- (2) For each statistical survey, there were cases in which adequate sample sizes could not be guaranteed; accordingly, there is a possibility of large margins of error in the figures.
- (3) The numbers of visitors are real figures. In other words, when one person visits the given prefecture in one trip, this is counted as one visitor.

Estimation method for small area using supply-side statistics

As an example, the GDP of the accommodation industry by railroad station was compiled in our research.

- In order to figure out the scale of tourism economy of a small area, supply-side statistics are necessary.
- Since tourist sites are often smaller than a municipality, the data which focused on areas not limited to administrative districts is needed for a tourism analysis.



- As an example, the GDP by industry for each railroad station in the 23 special wards of Tokyo was compiled by using the “2012 Economic Census for Business Activity”.



- We conducted an analysis about the relationship between development of the railway network and the location of accommodation facilities in Tokyo.

The GDP by station and line in Tokyo was compiled using “2012 Economic Census for Business Activity” and the I-O tables by municipality.

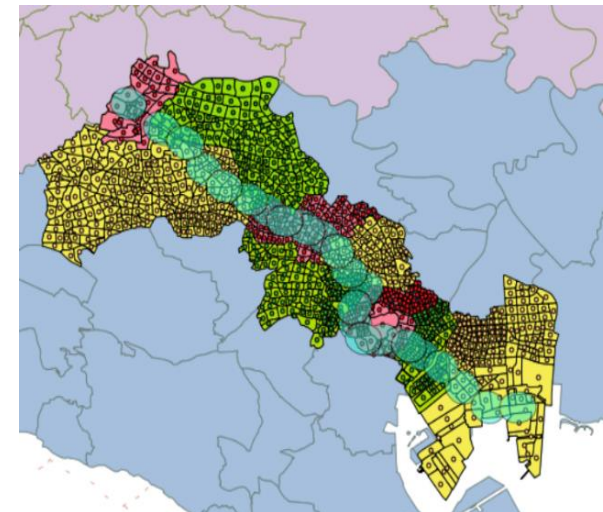
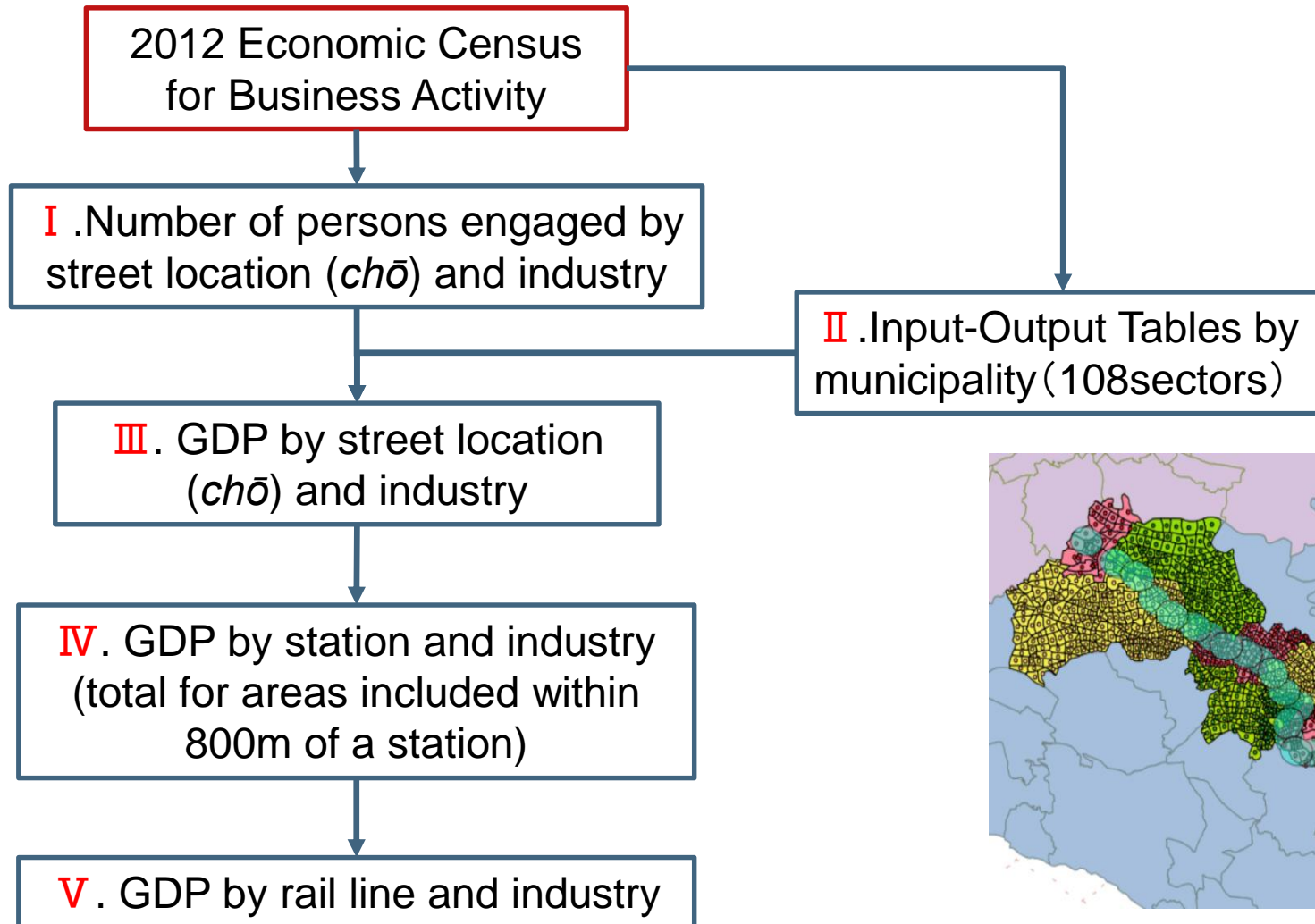


Illustration of GDP by Yūrakuchō Line

The result of the estimated GDP by railroad station in Tokyo

The result shows that there are regional biases in industry blocks within the 23 wards of Tokyo.



The number of line transfers from airports and GDP of accommodation industry

The location of accommodations has been influenced by the ease of access to airports in terms of number of railway line transfers.

Haneda Airport

Number of line transfers	Number of railway stations	Average GDP of accommodation industry (yen, in millions)	Average ratio of GDP of accommodation industry	Average distance (km)
0	42	4,067 *	0.48 **	13.52
1	231	2,901 ***	0.26 ***	18.00
2 or more	192	1,213 -	0.15 -	19.00

Narita Airport

Number of line transfers	Number of railway stations	Average GDP of accommodation industry (yen, in millions)	Average ratio of GDP of accommodation industry	Average distance (km)
0	50	5,233 ***	0.37 **	51.70
1	293	2,413 ***	0.25 ***	54.32
2 or more	122	861 -	0.15 -	55.34

※The “*,” “**,” and “***” in the table indicate significance (0.1, 0.05, and 0.01, respectively) following the results of testing for differences between the average values for a given group of stations and another group with one additional transfer.