

Táiwān High-Speed Rail Passenger Traffic Statistics - to 2019

We present annual passenger traffic statistics for the high-speed railway line in Táiwān in the tables and figures below. This compilation extends from 2007, when Táiwān opened its first dedicated high speed railway, to the most recent years for which data are available.

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Transcription:

All names of organizations, cities and railway stations in Táiwān are transcribed into the Latin alphabet according to the *Hànyǔ pīnyīn* system. This became the official standard for romanization in Táiwān from the beginning of 2009. Transcriptions are based on Modern Standard Chinese (also known as Standard Mandarin, and in mainland China as *Pǔtōnghuà*, "Common Chinese"). The authors have included (linguistic) tone symbols herein (i.e. ˊˋˊˋ). Although essential for correct pronunciation, these symbols are seldom used except in textbooks and other learning resources.

Transportation ministry:

[中華民國交通部](#)

中华民国交通部

Zhōnghuá mínguó jiāotōng bù,

English-language title

[Ministry of Transportation and Communications,](#)

(MOTC), Republic of China

Train Operators:

Full title

[交通部臺灣鐵路管理局](#)

交通部台湾鐵路管理局

Táiwān tiělù guǎnlǐjú.

Common
abbreviation

臺鐵

台鐵

Táitiě

English-language title

[Táiwān Railways Administration, MOTC](#)

(TRA)

TRA, an agency of MOTC, operates conventional trains.

Full title	Common abbreviation	English-language title
台灣高速鐵路股份有限公司	高鐵	Táiwān High Speed Rail Corporation
台湾高速铁路股份有限公司	高铁	(THSRC)
<i>Táiwān gāosù tiělù gǔfèn yǒuxiàn gōngsī.</i>	<i>Gāotiě</i>	

THSRC operates Taiwan's high-speed railway.

Infrastructure management:

	English-language title
交通部鐵道局	Railway Bureau , MOTC
交通部铁道局	
<i>Jiāotōng bù tiědào jú.</i>	

This agency manages railway infrastructure improvements. It was created in 2018 by merger of the Railway Reconstruction Bureau and the Bureau of High Speed Rail.

Terms:

In Chinese, the high-speed railway is referred to as:

台灣南北高速鐵路

台湾南北高速铁路

Táiwān nánběi gāosù tiělù, "Táiwān South-North High-Speed Railway," also:

台灣高速鐵路

台湾高速铁路

Táiwān gāosù tiělù, "Táiwān High-Speed Railway," and:

台灣高鐵 / 台湾高铁 / *Táiwān gāotiě.*

The latter might be described as the Chinese-language equivalent of "THSR" (the railway) or "THSRC" (the undertaking). The line is also referred to as:

台灣新幹線 / 台湾新干线 / *Táiwān Xīngànxìàn*;

"Xīngànxìàn" is the Chinese pronunciation of the Japanese term *Shinkansen*. The THSRC line is the first high-speed railway built outside Japan that was based primarily on Japanese *shinkansen* practice. As in Japan, high-speed lines have tracks built to international standard gauge (1,435mm / 4'8½") rather than 1,067mm / 3'6" as used on conventional lines.

Development of high-speed rail in Táiwān:

THSRC opened its initial segment of line, Bǎnqiáo (Táiběi) – Zuǒyíng (Gāoxióng), 332.1 km / 206.4 mi, on 2007 January 5. It extended service from Bǎnqiáo to Táiběi station, 7.2 km / 4.5 mi, on 2007 March 2. The segment between Táiběi station and Nángǎng station (eastern Táiběi), 9.2 km / 5.7 mi, was opened on 2016 July 1. THSRC shares the Táiběi cross-city rail tunnel with TRA.

The high-speed line had eight stations, including Táiběi and Zuǒyíng, as opened. Three additional stations were opened on 2015 December 1, followed by Nángǎng station in 2016, bringing the total to 12 stations.

With the exception of Táiběi, all THSRC stations are located away from the business centers of towns along the line. In addition, all current or planned stations not within the municipal boundaries of Táiběi, Táizhōng and Gāoxióng were located outside then-current urban areas at the time of construction.

Zuǒyíng high-speed rail station is located 1.9 km / 1.2 mi north of the original Zuǒyíng station. It is served by TRA and the Gāoxióng metro Red Line in addition to high-speed trains. The station is called Zuǒyíng by THSRC (sometimes "HSR Zuǒyíng" or "Zuǒyíng HSR" in English), Zuǒyíng \ Gāotiě by the Gāoxióng metro system, and Xīnzuǒyíng ("New Zuǒyíng") by TRA.

Two high-speed rail extensions have been studied: Nángǎng – Yílán city (~ 50 km / ~ 30 mi), and Gāoxióng – Píngdōng city (17.5 km / 10.9 mi). At 2019 September, MOTC an-

nounced its selection of an alignment between HSR Zuǒyíng station and Liùkuàicuò station on the TRA Píngdōng Line, 2.2 km / 1.4 mi west of Píngdōng station, bypassing central Gāoxióng to the north. MOTC explained that, among the four alternatives studied, its choice of alignment would cost the least, require the shortest time to build and have the smallest impact on Gāoxióng residents. Opening was anticipated by 2029 following nine years of construction.

Extension of high-speed trains southward from Zuǒyíng HSR to Gāoxióng station (4.8 km / 3.0 mi) has been deferred indefinitely. Contrary to earlier projections, this segment was not built as part of the Gāoxióng cross-city tunnel project (Zuǒyíng HSR – Fèngshān, 15.4 km / 9.6 mi; opened 2018 October 18). Completion of the new Gāoxióng station, which includes space for an underground high-speed rail terminal, is planned for 2025.

Of the 2007 system length, 72.4 percent was built on viaduct (including bridges), 18.3 percent was built in tunnel and 9.3 percent was built on embankment or in cuttings. The line includes the world's longest continuous railway viaduct, 157 km / 97 mi.

Tables and Figures:

In the table below, the years correspond to Táiwān fiscal years, which coincide with calendar years (i.e. January 1 - December 31). Line length statistics are as at the end of the (fiscal and calendar) year.

"Average travel distance" statistics are derived as the quotient of "annual passenger-kilometers" and "annual passengers."

"Annual passenger traffic density" statistics are derived as the quotient of annual passenger-kilometers and route length. As we have explained previously (see [Traffic Density: What Does That Mean?](#) publictransit.us Special Report No. 7.2), this statistic is expressed in "passenger-kilometers per kilometer of system length (or: line length)." We refer to this clumsy-sounding unit as a tennyson, in memory of Edson L. Tennyson, PE (1922-2014, former Transit Commissioner, City of Philadelphia and former Deputy Transportation Secretary, Commonwealth of Pennsylvania). Mr. Tennyson was one of the best-known public transit experts of his time, and his input and insights were crucial for our own understanding of passenger traffic density (among other concepts). We emphasize, however, that this label is strictly informal and confined to *publictransit.us*; it has no official recognition.

Comparisons among high-speed rail services located in different countries should be performed with care. An important parameter is the presence or absence of seat-reservation requirements. If train occupancy is limited to no more than 100 percent of seated capacity - in other words, if passengers are not permitted to travel as standees - then overall system capacity is limited, and to a significant degree.

Among the operators of major high-speed rail systems, only those in Germany, Japan and Taiwan permit passengers to travel without seat reservations. In South Korea, passengers wishing to travel aboard high-speed trains without available seats are required to purchase "standee" tickets. Elsewhere, the near-universal practice is to require seat reservations for travel aboard high-speed trains - with the single significant exception of Germany. Some European countries (e.g. Belgium, Netherlands and the United Kingdom) permit unreserved travel aboard domestic trains using high-speed rail lines, but not aboard international trains. In Germany, seat reservations are required for travel aboard high-speed trains to certain destinations abroad, e.g. Paris. The degree to which seat-reservation requirements constrain high-speed rail traffic outside of Germany, Japan, South Korea and Taiwan is not clear.

Table 1: Táiwān High Speed Rail Passenger Traffic Statistics

Year	Length (km / mi)	Annual Passenger Traffic (millions)	Average Travel Distance (km / mi)	Annual Passenger Traffic Density (millions)
2007	339.3 / 210.8	15.6	226.2 / 140.6	10.4
2008	"	30.6	214.7 / 133.4	19.4
2009	"	32.3	212.2 / 131.8	20.2
2010	"	36.9	202.8 / 126.0	22.3
2011	"	41.6	195.7 / 121.6	24
2012	"	44.5	194.1 / 120.6	25.5
2013	"	47.5	192.0 / 119.3	26.9

Year	Length (km / mi)	Annual Passenger Traffic (millions)	Average Travel Distance (km / mi)	Annual Passenger Traffic Density (millions)
2014	"	48	192.3 / 119.5	27.2
2015	"	50.6	191.0 / 118.7	28.5
2016	348.5 / 216.5	56.6	185.4 / 115.2	30.1
2017	"	60.6	183.3 / 113.9	31.9
2018	"	64	180.7 / 112.3	33.2
2019	"	67.4	177.9 / 110.6	34.4

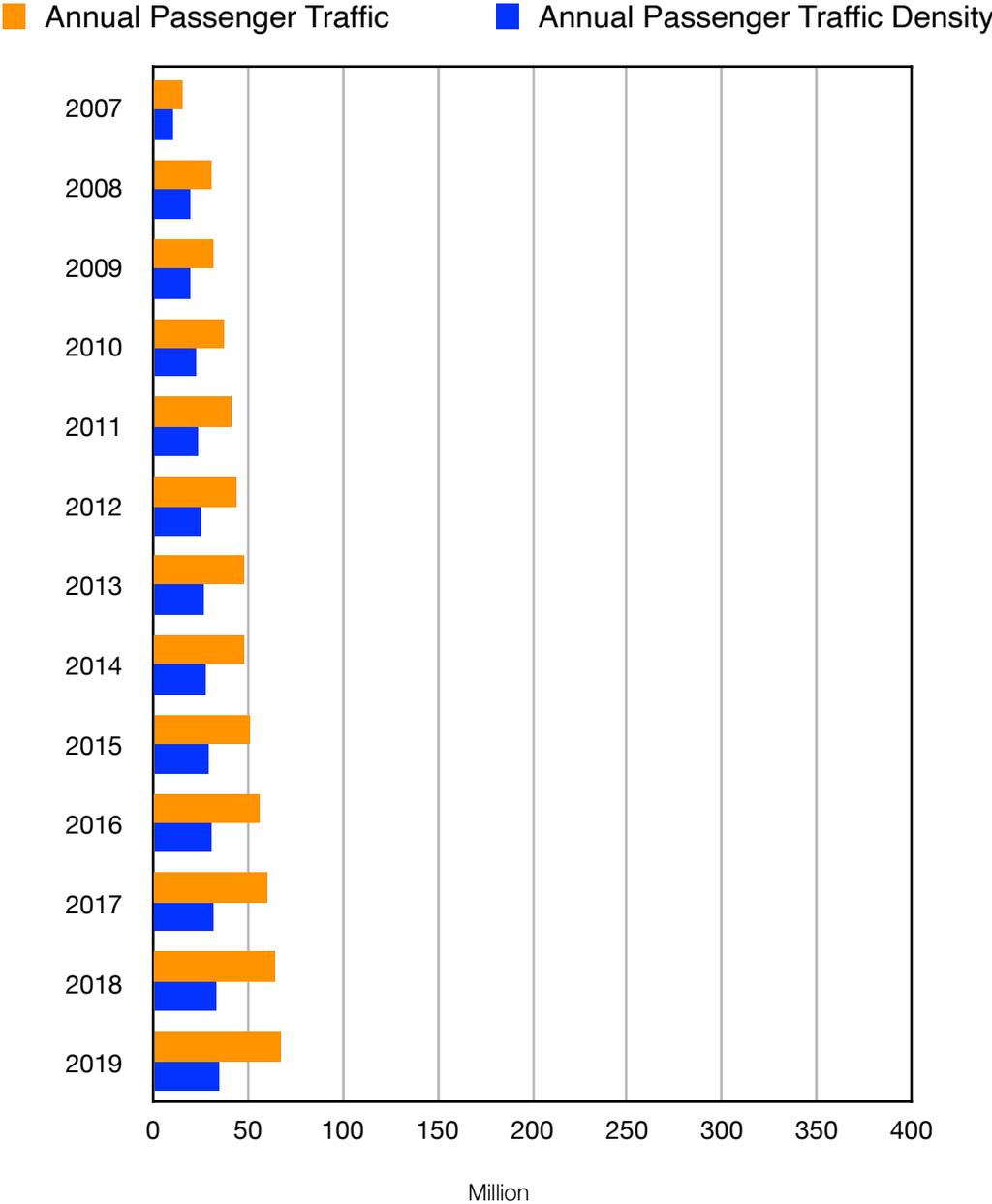
Notes for Table 1:

Bǎnqíáo (Táiběi) – Zuǒyíng (Gāoxióng), 332.1 km / 206.3 mi, opened 2007 January 5.

Bǎnqíáo – Táiběi station, 7.2 km / 4.5 mi, opened 2007 March 2.

Táiběi station – Nángǎng, 9.2 km / 5.7 mi, opened 2016 July 1.

Figure 1: Táiwān High Speed Rail Passenger Traffic



Notes for Figure 1:

Charts for Japan, Korea (KR) and Taiwan are prepared to a uniform scale.
 Annual Passenger Traffic Density is expressed as passenger-km per km of line length (tennysons).

We shall update the table and figure above on occasion as additional data becomes available.

References:

[Taiwan High Speed Rail Corporation.](#)

[KTX vs 新幹線 徹底比較 \(仮\)](#) [KTX vs shinkansen tettei hikaru (kari)].

(The authors express sincere appreciation to the compiler of this very useful webpage, but the most recent update is for 2012.)

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