Urban and Regional Railway Transportation updated 2025

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Issues

- Analysis of JR East.
- Analysis of JR Kyushu
- Shinkansen past, present, future
 - SATO, Nobuyuki (2015)
 "History of the Shinkansen",
 The Chuko Paperback
 No.2308 (J)



Overviews

- Japan Railways, acquire revenues mostly from urban area and Shinkansen.
- Many commuting railways are operated in private sectors around major cities.
 - Keio, Odakyu, Tokyu, Seibu, Keikyu, Keisei, and Tobu for Tokyo
 - Meitetsu for Nagoya
 - Kintetsu, Hankyu, Hanshin, Keihan, Nankai for Osaka, Kyoto, and Kobe
 - Nishitetsu for Fukuoka
- Subways are operated by semi-governmental companies in Tokyo, while they are directly run by local municipals in other major cities.

Profit Resources for the 3 JRs



More than 2/3 of the profits was acquired from the transportation business.

^{成長戦略} JR東日本グループの事業セグメント



JR East Accounting Report March 2025

https://www.jreast.co.jp/eco/pdf/pdf_2024/p033-054.pdf

Revenues and Costs

旅客輸送量・鉄道運輸収入 および 主な費用(単体) 計画 参考資料

旅客輸送量·鉄道運輸収入

		旅	客輸送量(百万人	鉄道運輸収入(億円)								
		2024.3	2025.3	対前年	2024.3	2025.3		対前年				
	美		計画	%	実績	計画		増減	%	主な増減要素		
斫	21,2		0 23,132	109.0	5,374	5,807		+432 108.1				
新幹線	定期	1,67	0 1,684	100.9	225	22	7	+1	100.7			
	定期外	19,56	0 21,447	109.6	5,148	5,580)	+431	108.4	 ・鉄道利用の増:+340 ・北陸新幹線敦賀開業:+80 ・天候災害反動増:+20・インバウンド:+1! ・うるう年反動:△10 		
Ŧ		98,47	0 100,588	102.2	11,391	11,743	3	+351	103.1			
在来線	定期	60,23	60,577	100.6	3,953	3,953	3	∆0	100.0			
	定期外	38,23	2 40,011	104.7	7,438	7,790)	+351	104.7	・鉄道利用の増:+300 ・天候災害反動増:+35・インバウンド:+3(・うるう年反動:△25		
合計		119,70	1 123,721	103.4	16,765	17,550)	+784	104.7			
i †	定期	61,90	62,261	100.6	4,178	4,180)	+1	100.0			
	定期外	57,79	2 61,459	106.3	12,587	13,370		+782	106.2			
Ì	な費用	(単体)										
(単位:億円)		m)	2024.3	2025.3	対前年			主な増減要素				
		(11)	実績	計画	増漏	苋	%		土体垣綱女米			
人件費			4,065	3,97	70	△95	97.6		[-] 社員数の減 [+] 賃金の上昇			
物件費			8,122	8,67	70 +	-547	106.7		[+] 物価高騰影響、労務単価上昇影響 [+] コロナ禍に安全を担保した上で抑制した修繕の実施			
減価償却費			3,214	3,28	30	+65	102.0	[+]設備投資の増				

1. Local transportation around Tokyo generates 60%, while Shinkansen yields 30%, of the transportation business that accounts for 68% of the total revenues of the company.

2. The company is so highly capitalized that the capital share including depreciation is higher than 80%.

https://www.jreast.co.jp/investor/guide/pdf/202412guide1.pdf

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Share of JR-east in the Tohoku Region 2018



The passengers of JR account for the total passengers in the Tohoku Region by

- 76% for Aomori
- 55% for Akita
- 100% for Morioka
- 95% for Yamagata

	東京-青森 1	Tokyo – Aomori	東京-秋田 Tokyo - Akita		東京-富山 Т	okyo – Toyama	東京-金沢 To	kyo – Kanazawa	東京-函館 Tokyo - Hakodate	
	JR (新青森) (Shin-Aomori)	Air	JR	Air	JR	Air	JR	Air (小松空港) (Komatsu Airport)	JR (新函館北斗) (Shin-Hakodate Hokuto)	Air
所要時間 Time Required	2:58 2 hrs 58 mins	2:50 2 hrs 50 mins	3:37 3 hrs 37 mins	2:45 2 hrs 45 mins	2:05 2 hrs 05 mins	2:20 2 hrs 20 mins	2:25 2 hrs 25 mins	2:40 2 hrs 40 mins	3:57 3 hrs 57 mins	2:40 2 hrs 40 mins
運賃·料金 Fares & Charges	¥ 17,670	¥ 37,150	¥ 18,020	¥28,400	¥ 12,960	¥ 25,500	¥ 14,380	¥ 25,500	¥ 23,430	¥36,600
1日当たり本数 Trains per Day	17	6	14	9	22	3	22	10	10	8

https://www.jreast.co.jp/investor/factsheet/pdf/factsheet03.pdf

Shinkansen share versus Flights in the JR West area 2022

山陽新幹線・航空機との競合

各年3月期(3月31日に終了した1年間)



 $\begin{bmatrix} 150 - 100 \\ 0 - 100 \\$

Kansai-Fukuoka: 84%
Tokyo-Hiroshima: 61%
Tokyo-Fukuoka: 7%
Aichi-Fukuoka: 48%
Kansai-Kumamoto: 61%
Kansai-Kagoshima: 55%

Q1: How much is the share of the bullet train between Paris and Lyon?

Q2: How much is the share of the Amtrak between New York and Washington DC?

https://www.westjr.co.jp/company/ir/library/fact/pdf/2023/fact05.pdf

JR WEST GROUP FACT SHEETS 2023 5

Shinkansen

- History
 - Tokaido (Tokyo Osaka, 1964)
 - Sanyo (Osaka Hakata, 1975)
 - Johetsu (Tokyo- Niigata, 1982)
 - Nagano (Tokyo Nagano, 1997)
 - Tohoku (Tokyo Morioka, 1982 Aomori, 2010)
 - Kyushu (Hakata Kagoshima, 2011)
 - Hokuriku (Nagano Kanazawa 2015, Tsuruga 2024)
 - Hokkaido (Aomori-Hakodate, 2016)
 - West Kyushu (Takeo-Nagasaki 2022)



Shinkansen Map

https://www.nippon.co m/ja/features/h00077/

History of JR

- JR was originally a government-own company, providing railway train services for all over Japan.
- In 1987, JR was privatized and divided into
 - JR Hokkaido
 - JR East (listed on TSE 2002)
 - JR Tokai (listed on TSE 2006)
 - JR West (listed on TSE 2004)
 - JR Shikoku
 - JR Kyushu (listed on TSE 2016)

The three-Island companies

- When JR was privatized, the 3 JRs in Hokkaido, Shikoku, and Kyushu, were projected to suffer deficits, due to low local demands for train transportation.
- Then the government founded the Stabilizing Management Fund (SMF), a special fund to financially support the three companies.
- Among the three island companies, the shares of JR Kyushu were listed on TSE in 2016, which means that the company was fully privatized.

Shinkansen under privatization

- Right after the privatization of JRs, Shinkansen was held by the Shinkansen-owning Organization, which leases the shinkansen to each area company.
- The initial rents (1987) were set as 416 (billion yen) for Tokaido, 94 for Sanyo, 134 for Tohoku, and 64 for Johetsu.
- However in 1991, they were sold to each company at a price 5.1 (trillion yen)for Tokaido, 1 for Sanyo, 3.1 for Johetsu and Tohoku, reflecting the profitability of each shinkansen line.

How to finance construction

- Originally, all the shinkansen were built as public investments, financed by issuing debts and being paid back from their operation revenues.
 - For the original Tokaido shinkansen, the construction was largely financed by the borrowing from IMF.
- Today, Shinkansens are built partly at the expense by the local governments.



JR Kyushu

- Today, JR Kyushu is quite steadily managed.
- Kyushu shinkansen is a quite successful investment, because the population along the shinkansen is large enough not to separate local lines.
- The company was renowned for its sight-seeing train services, symbolized by the success of the *Seven Stars in Kyushu*.
- However, its benefit/cost margin is still low, reflecting the deficits of most of the local lines.
- The company's equity ratio is around 70%, while it is accounted by the value of the Stabilizing Management Fund (SMF) by 40%.
- The average annual rate of return of the SMF is 3%, higher than the JGBs, meaning that the company is subsidized by the government.

Shinkansen in the Future

- The following shinkansens are now under construction.
 - Hokuriku (Tsuruga Osaka) not yet
 - Kyushu West (Tosu Takeo)
- These Shinkansens are expected to yield limited gains for the company and the local people.

Some Shinkansen plans are strongly opposed by local people

- High construction costs
 - local governments need to pay 1/3 of the construction costs.
- Separation of local lines from JR
 - After shinkansen is built, local alternative trains will be separated from the area JR company and be operated by 3rd sector companies sponsored by the local government.
 - In most cases, the new company charges higher fees for the commuters.

Costs and Benefits of building a new Shinkansen

- A new shinkansen creates gains for passengers (traveling faster and quicker).
- Then JR can charge higher prices for Shinkansen passengers to acquire higher profits.
- However, shinkansen often deprives local trains and flights of their customers.
- Construction itself creates a huge profit for developers and construction companies, which may not be balanced with the loss associated by demand shifts.

Case 1: Kyushu West shinkansen

- Kyushu shinkansen is scheduled to be extended to cover service for Nagasaki in the next few decades.
- The extension is expected to bring a large gain for people and companies located in Nagasaki prefecture, while it benefits Saga prefecture a little.
- However, the extension runs more through Saga than through Nagasaki, and the construction costs will be charged more to Saga than to Nagasaki prefectures.
- Therefore, people in Saga are reluctant to approve the plan.

Case 2: Hokkaido Shinkansen

- In March 2016, JR Hokkaido started the Shinkansen service for passengers between Aomori and Hakodate.
- The service will be extended to Sapporo in 20 years.
- The Hokkaido Shinkansen is expected to yield deficits because the expected number of passengers are too small to cover its operation costs.
 - Other shinkansens create substantial surplus to offset the deficits run by the existing local services.
 - Tokaido and Sanyo shinkansens create large surplus for JR Tokai and JR West.
 - Visitors to Kanazawa and Toyama have shifted from flights to shinkansens, while visitors to Hokkaido won't.
 - The situation is expected to be only slightly improved by the extension to Sapporo.

The Linear Chuo Shinkansen

- JR Tokai has developed a new technology to let shinkansen run faster than 500km/h.
- The company has been testing it in the test course built in Yamanashi prefecture.
- The service is scheduled to start in 2025.
- It connects Nagoya to Tokyo only for 40 minutes!
- It will be extended to Osaka in 2045.

Why Linear?

- Economic impacts of the linear Chuo shinkansen are huge.
 - Wealthy people can live in Nagoya and commute to Tokyo to work.
 - The cities along the Chuo shinkansen will be developed as residential and commercial areas, comparable to major Tokyo cities.
 - For example, Kofu of Yamanashi prefecture can be reached in 15 minutes from Shinagawa, although it takes more than 90 minutes from Shinjuku now.
- This is the reason why JR Tokai has decided to pay all the construction costs expected to reach 10 trillion yen by itself, while a part of the construction costs will be subsidized by the government.