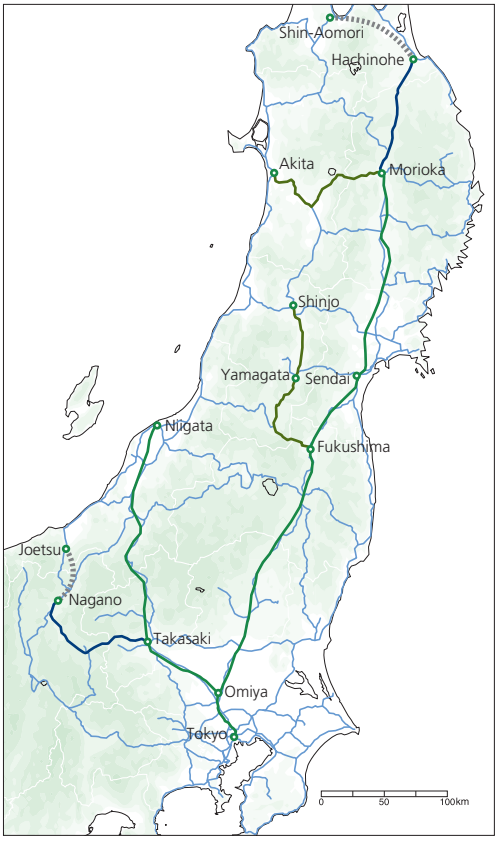
Shinkansen Network

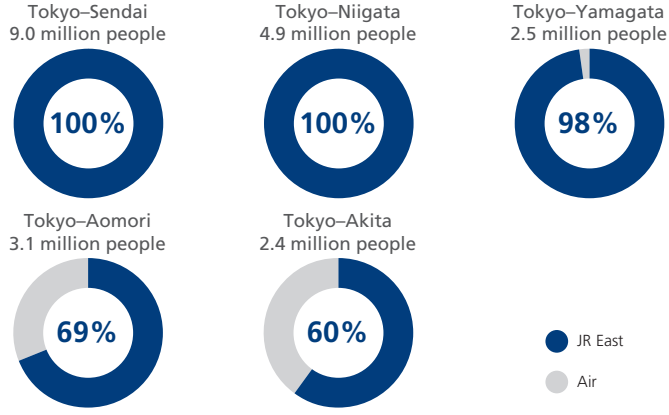


Competition with Airlines

Destination	Time Required	Frequency
Aomori	**3:59**	**15**
by Aircraft	2:58	6
Akita	**3:49**	**15**
by Aircraft	2:53	7
Yamagata	**2:30**	**16**
by Aircraft	3:08	1

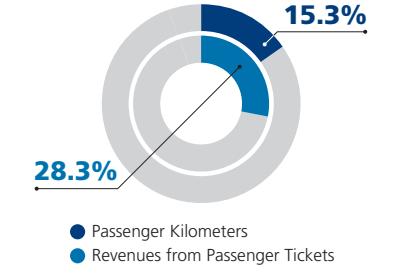
Note:
This information is from the May 2008 JR timetable. "Time Required" is based on the time it takes for a regular train operating at maximum speed to reach the given destination.
Aircraft times include the 53 minutes it takes to travel from Tokyo Station to Haneda Airport using JR lines and the Tokyo Monorail as well as the time it takes upon arrival for airport buses to reach their destinations.
Number of flight and train is based on daily operation.

Share of Passengers



OVERVIEW

Composition of Railway Operations in JR East

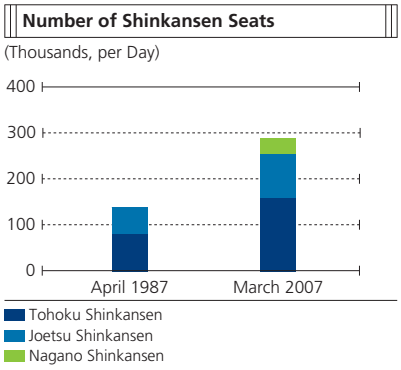


Shinkansen trains

For JR East, its Shinkansen services rank alongside its transportation services in the Kanto area as a mainstay business. JR East operates a five-route Shinkansen network that links Tokyo with five regions: Tohoku, Joetsu, Nagano, Yamagata, and Akita. Specially designed hybrid Shinkansen trains, capable of running on Shinkansen and conventional railway lines, serve the Yamagata and Akita regions. Approximately 250,000 passengers use JR East's Shinkansen network daily. In Japan, rail travel has an advantage over air travel for medium-to-long-distance transportation, in other words overland journeys that are within 750 kilometers. Because the distances from Tokyo to the main cities within JR East's service area are within that distance, JR East has a competitive advantage over domestic airlines. As a result of measures to increase revenues, including such regional tourism campaigns as the *North Tohoku Destination Campaign,* in fiscal 2008 revenues from passenger tickets increased 2.4% year on year, to ¥491.0 billion, accounting for 28.3% of overall revenues from passenger tickets.

Further, JR East has consistently done and continues to do its utmost to ensure safe, reliable transportation services for customers. The average schedule delay per train on the Shinkansen network since JR East's establishment is 26 seconds.

TOPICS



New electronic schedule board installed at Tokyo Station to augment capabilities for flexibly responding to the addition of Shinkansen trains

Increasing Train Services to Reflect Seasonal Demand Fluctuations

The passenger volumes of JR East's Shinkansen services change markedly during such periods as the Golden Week (spring holiday) period, the *Bon* Festival (the August holiday period), around the New Year, three-day weekends, and weekends. During such busy periods, passenger volumes increase between 40% and 80% above capacity. One of the missions of Shinkansen services is to provide as many train services as possible during those busy periods and ensure that as many passengers as possible are seated.

Shortening Journey Times between Tokyo and Morioka

Automatic train control (ATC) systems are some of the most important systems that underpin the safety of Shinkansen services. When Shinkansen services began, ATC systems for Shinkansen trains used analog signals. However, as those ATC systems age, JR East is replacing them with newly developed DS-ATC (Digital communication & control for Shinkansen-ATC) systems. On the Tohoku Shinkansen Line, JR East had completed the introduction of DS-ATC on all line segments by the end of March 2008. The resulting reduction of traveling times and train waiting times has shortened average journey times by three to four minutes between Tokyo and Sendai and by four to six minutes between Tokyo and Morioka.

OUTLOOK

FASTECH 360Z & *360S* prototype high-speed test railcars

Expanding the Shinkansen Network*, Strengthening Profitability

To accompany the launch of operations on the Hachinohe–Shin-Aomori segment of the Tohoku Shinkansen Line slated for fiscal 2011, JR East will introduce new-type railcars (E5 series), based on results from the *FASTECH 360* high-speed test railcar, that will achieve an operational speed of 300 km/h. Consequently, JR East plans to shorten the journey time between Tokyo and Shin-Aomori to a minimum of approximately 3 hours and 10 minutes. After this, in fiscal 2013, based on consideration of environmental conditions, we will begin the fastest operations in Japan at 320 km/h, which will link Tokyo and Shin-Aomori in approximately as little as 3 hours and 5 minutes.

Also, JR East has slated fiscal 2015 for the commencement of services on the Nagano–Kanazawa segment of the Hokuriku Shinkansen and fiscal 2016 for the commencement of services on the Shin-Aomori–Shin-Hakodate segment of the Hokkaido Shinkansen.

* Those expansions are planned by the Japan Railway Construction, Transport and Technology Agency (JRTT).

Image of *Super Green Car*

Introducing World-Class *Super Green Cars* (high-grade first-class cars)

To coincide with the introduction of new-type railcars (E5 series) with higher operational speeds, JR East will introduce *Super Green Cars* (provisional name) featuring an interior design, quietness, lighting, and seating that reflect painstaking attention to detail and commitment to providing premium-quality services.

Kanto Area Network

Enhanced Services on Conventional Lines in the Tokyo Metropolitan Area

Through Services

1. Shonan-Shinjuku Line
2. Through Operations with Tobu Railway Co., Ltd.
3. Tohoku Through Line (Plan)
4. Through Operations with Sagami Railway Co., Ltd. (Plan)

Seating Services

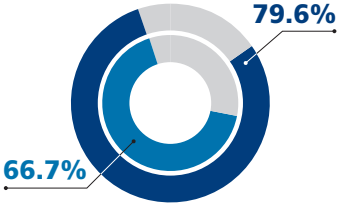
5. *Green Cars* on Utsunomiya / Takasaki and Shonan-Shinjuku Lines
6. *Green Cars* on Joban Line

Tokyo Mega Loop

Stations under Construction

OVERVIEW

Composition of Railway Operations in JR East



The Kanto area network comprises railway lines in central Tokyo and railway lines connecting Tokyo with nearby suburban cities and represents 2,536 operating kilometers. JR East accounts for almost half of the Kanto area's huge, highly profitable rail transportation market in terms of passenger kilometers and operating revenues (see page 94 for details). Further, revenues from passenger tickets in the Kanto area were up 1.6% year on year, to ¥1,155.4 billion, representing 66.7% of overall revenues from passenger tickets.

Also, JR East has heightened capacity by increasing through services on the Shonan-Shinjuku Line and other railway lines, increasing train services, and increasing the number of railcars comprising individual trains. In the 20 years since its establishment, JR East has increased its capacity by an amount roughly three times the average capacity of major competitors. In these ways, JR East has competed favorably with the developing subway network in the Tokyo metropolitan area and other railway operators without raising fares or undertaking large-scale construction of new railway lines.

TOPICS

Catering to Customer Seating Preferences by Increasing *Green Cars*

JR East is catering to customer seating preferences. From fiscal 2005, JR East introduced *Green Cars* (first-class cars), which provide seating services, to local train services on the Shonan-Shinjuku Line, the Utsunomiya Line, and the Takasaki Line. In 2007, JR East also began providing such services on the Joban Line. JR East estimates that initiative resulted in a ¥3.3 billion year-on-year increase in revenues in fiscal 2008.

Inside *Green Cars*

E233 series railcars

Introducing New-Type Railcars

JR East's development concept seeks accident prevention, passenger friendliness, and improvement of information for passengers and railcar functionality. JR East has realized that concept by steadily introducing wider-body railcars that ease crowding to the Chuo, Ome, Itsukaichi, and Keihin-Tohoku and Negishi lines since December 2006. Those new-type railcars feature backups for the main railcar systems to reduce service disruptions. Further, their design accommodates the needs of seniors, women, and the physically challenged. Also, displays above each door provide passengers with updates on the train's progress, news, and other information.

In addition, JR East plans to introduce the new-type railcars to the Joban Local Line in the summer of 2009.

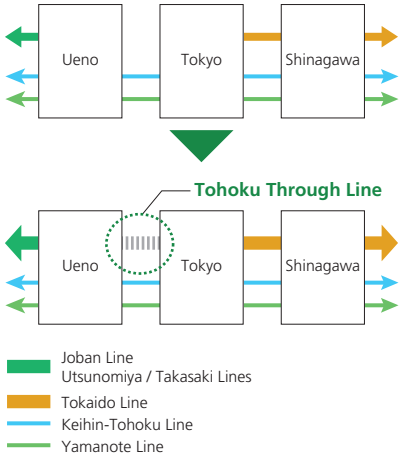
OUTLOOK

Expanding the Through-Service Network in the Tokyo Metropolitan Area

JR East is steadily catering to demand from customers who want direct services to their destinations through initiatives that exploit existing lines, such as the Shonan-Shinjuku Line. Development of the Shonan-Shinjuku Line resulted in an approximately ¥5.3 billion rise in revenues in fiscal 2008 compared with the period before operations began in December 2001.

Besides this, JR East is presently carrying out a plan to realize through services by laying additional tracks between Ueno Station, the terminus of medium-distance trains arriving from the north, and Tokyo Station, the terminus of medium-distance trains arriving from the south. JR East aims to begin operations in fiscal 2014, and the project is expected to cost about ¥40 billion. In addition, fiscal 2015 will see JR East begin mutual through services with Sagami Railway Co., Ltd., (commonly known as Sotetsu) based in Kanagawa Prefecture, to realize faster, seamless services. That initiative will strengthen JR East's railway network, increase revenues, and tap latent demand.

Concept of the Tohoku Through Line



Creating Attractive Railway Lines

JR East will focus on improving the convenience and comfort of transportation services and on improving railway station facilities and the life-style services of lines that loop the Tokyo metropolitan area (the Musashino Line, the Keiyo Line, the Nambu Line, and the Yokohama Line). Sometimes called the "Tokyo mega loop," these lines include many hub railway stations shared with other railway companies and will likely see increasing usage.

Also, JR East will enhance the line-side area of the Chuo Line by completing the construction of a continuous series of level-crossing overpasses between Mitaka and Tachikawa, completing the introduction of new railcars for rapid-service, and implementing development plans for the entire area under elevated railway tracks.

Concept illustration of the Tohoku Through Line

Introducing New-Type Railcars to the Narita Express

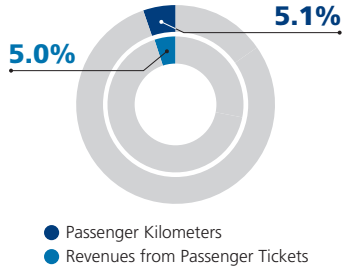
The Narita Express is a limited express that provides rapid direct services linking Narita Airport with major stations in the Tokyo metropolitan area. From fiscal 2010, JR East will introduce to those services new-type railcars that feature better overall comfort thanks to improved riding comfort and interior facilities.

Image of New E259 Narita Express railcar

Intercity and Regional Networks

OVERVIEW

Composition of Railway Operations in JR East



Intercity and regional networks cover approximately 4,000 kilometers, accounting for more than 50% of JR East's total network. Those networks provide non-Shinkansen intercity services and regional services not covered by the Kanto area network. For intercity networks, which mainly comprises limited express services, JR East will continue to increase revenues through the introduction of new-type railcars, the improvement of service schedules, and other measures. For regional networks, JR East will increase efficiency by establishing service schedules that reflect customer trends, introducing trains operable by one crew member, reducing maintenance costs, and increasing the number of energy-saving railcars.

TOPICS

Hybrid railcars

Adapting to a Car-Oriented Society

Particularly in rural areas, the advantages of automobiles are increasing due to new highway construction and improvements in local road networks. JR East is adapting to this changing environment, coexisting with automobiles, and creating new earning opportunities by offering services that include park and ride, bus, and rent-a-car services.

Operating the World's First Commercial Hybrid Railcars

From July 2007, the world's first hybrid railcars, powered by diesel engines and storage batteries, began operating on the Koumi Line. As well as being more fuel efficient and quieter than diesel railcars currently in service, the new hybrid railcars are expected to curb emissions of such particulate matter as nitrogen oxide and graphite by approximately 60%.

OUTLOOK

Tourist trains near the scenic Shirakami-Sanchi mountain region

Reassessing Regional Networks, Heightening Efficiency

JR East will renew facilities and railcars on intercity networks. At the same time, JR East will reassess and improve complex, large facilities and equipment—established before extensions and improvements to the road network—to reflect current conditions and to enable the continuation of railway lines.

Further, JR East will continue efforts aimed at increasing the usage of regional networks and improving rigorously the efficiency of operational management. After full examinations of usage have concluded that for certain line segments it will be extremely difficult to maintain railways as a mode of transportation, JR East will change over to and operate non-railway transportation in order to maintain and improve service levels.

Travel Agency Services

OVERVIEW

View Plaza travel counter

For travel agency services, JR East increases usage of its railway network and invigorates regional economies by identifying regional tourism assets and promoting them through travel packages. JR East capitalizes on its unique travel agency business model to differentiate mainstay *View Travel Products* travel packages from those of other travel agencies. In fiscal 2008, revenues of *View Travel Products* were up 12.7% year on year, to ¥64.2 billion, as a result of increasing sales through other travel agencies and the Internet, which supplemented sales through *View Plaza* travel agencies in JR East railway stations.

TOPICS AND OUTLOOK

Otona no Kyujitsu Club poster

Targeting Seniors through *Otona no Kyujitsu Club*

As an aged society approaches, JR East aims to earn the early endorsement of seniors in a broad sense that includes the baby boomer generation and encourage higher usage of railways. To those ends, JR East launched *Otona no Kyujitsu Club: Zipangu,* targeting men aged 65 and above and women aged 60 and above, and *Otona no Kyujitsu Club: Middle,* targeting the baby boomer generation, those aged 50 and above. JR East stimulates railway usage within its service area by offering discounts and undertaking a wide variety of sales promotions through club magazines and other media. At the end of March 2008, the two clubs had approximately 820,000 members. By the end of March 2011, JR East aims to increase membership to 1.3 million.

Originally designed *Suica* IC Card for *Suica & N'EX*

Creating and Selling Travel Packages that Draw on Tourism Assets

JR East's service area has an abundance of tourism assets related to history, culture, townscapes, and festivals, including the Shirakami-Sanchi mountain range and the shrines and temples of Nikko, which are designated UNESCO World Heritage Sites. JR East spurs tourist demand by working in partnership with local communities to develop tourism areas and by creating and marketing *View Travel Products*. In fiscal 2008, over 3 million customers used *View Travel Products,* up 14.9% year on year.

Promoting Usage by Customers from Overseas

Increasing every year, visitors to Japan from overseas reached more than 8.3 million in 2007. JR East continues to generate overseas tourist demand for its services through initiatives that included the marketing of such passenger tickets as *JR EAST PASS* and *Suica & N'EX* and launching a service enabling customers to reserve seats from overseas through the Internet from March 2008. Further, JR East will continue promotional activities in collaboration with the Visit Japan Campaign.