Creating "Social Value" —Social—

The Chuo Shinkansen Project Using the Superconducting Maglev System ~Drastic enhancement of main transportation artery~

Operating speed **500**km/h

Travel time (maximum)

Tokyo (Shinagawa) - Nagoya	Tokyo (Shinagawa) - Osaka
40 minutes	**67** minutes

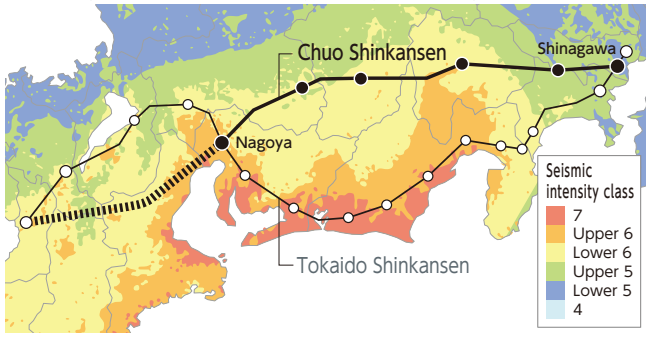
The Chuo Shinkansen Project using the Superconducting Maglev System is a project to duplicate our artery transportation system linking Tokyo, Nagoya and Osaka, which is the lifeline of our business, and drastically prepare for risks, such as aging in the future of and large-scale disasters affecting the Tokaido Shinkansen. This project will allow us to further reduce management risk and thus stabilize our management base and to continue to carry out our founding mission of undertaking high-speed, large-capacity passenger transport between Tokyo, Nagoya and Osaka. This project will also dramatically improve convenience by greatly reducing travel time due to its high-speed operations, bring significant benefits to and potential for development of the Japanese economy and society, and ensure the long-term interests of shareholders and all other stakeholders over a long period of time.

Outline and Significance of the Chuo Shinkansen

We are promoting the Chuo Shinkansen Project using the Superconducting Maglev System based on the Nationwide Shinkansen Railway Development Act (hereinafter, "the Act") to continually carry out our mission of operating a high-speed railway linking the Tokyo Metropolitan area and the Chuo and Kansai regions (from Tokyo through Nagoya to Osaka), which is the lifeline of our business, and to ensure the future foundation of the Company.

The Tokaido Shinkansen has been in operation for more than 60 years, and while we have been carrying out large-scale renovation, there is the risk of suspension of services due to major facility replacement caused by future aging. Furthermore, Japan is prone to earthquakes, and although we have taken earthquake resistance measures for the Tokaido Shinkansen, there is the risk of potential major disasters, including the undeniable possibility of long-term suspension due to a possible major earthquake. Therefore, as a drastic measure to prepare for these future management risks, we decided to complete the Chuo Shinkansen as quickly as possible, under the assumption that we bear the cost of its construction, utilizing the Superconducting Maglev System that we have developed. The Chuo Shinkansen will turn Japan's main transportation artery into a dual system, and JR Central will operate it in an integrated manner along with the Tokaido Shinkansen.

Distribution map of the estimated greatest seismic intensity of a Nankai Trough Large Earthquake



Source: Prepared by JR Central based on "Explanatory Report of the Working Group on Measures for the Nankai Trough Mega-Earthquake" by the Disaster Prevention Measures Implementation Committee of the Central Disaster Management Council (published March 31, 2025)

Chuo Shinkansen Project as a national project

The Chuo Shinkansen is being constructed in accordance with the Act, which is a legal system for developing infrastructure essential to the nation in order to contribute to the development of the national economy, the expansion of the area of Japanese people's lives, and the development of local communities. Based on the Act, we received designation as the operator and an order for construction from the Minister of Land, Infrastructure, Transport and Tourism in May 2011, and then the construction implementation plan was approved by the Minister of Land, Infrastructure, Transport and Tourism in October 2014. In the meantime, we have conducted environmental assessment procedures and published the final environmental impact assessment report between Tokyo and Nagoya, which is promoted as the first stage.

On the other hand, in order to confirm that the principles of a privately owned company, such as freedom of management and autonomy of capital investment, would not be hindered by application of the Act, we referred fundamental clauses regarding application of the Act to the Ministry of Land, Infrastructure, Transport and Tourism (hereinafter, "MLIT") and received a reply in January 2008 indicating that those principles would not be hindered.

In order to take steady steps towards the successful completion of this project, we will maintain sound management and stable dividends, sufficiently examine costs and demonstrate our flexibility, and make necessary investments to ensure safe and reliable transportation and to enhance the competitiveness of the Tokaido Shinkansen and conventional lines. We will first realize the project between Tokyo and Nagoya, where we have received approval for the construction plan, and strive to further extend the project to Osaka.

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Flow of work based on the Nationwide Shinkansen Railway Development Act

[Entities involved] ●:JR Central ▲:Minister of Land, Infrastructure, Transport and Tourism ■:Transport Policy Council ◆:Japan Railway Construction, Transport and Technology Agency

- Article 4 Basic Plan — Decided in November 1973▲
- Article 5 Research and Reports — Topological and geological surveys Ordered in February 1990▲ →Reported in October 2008●◆ / Research on the 4 residual items *Ordered in December 2008▲ →Reported in December 2009●◆
- Article 14-2 The Transport Policy Council — Consulted on February 24, 2010▲ →Replied on May 12, 2011■
- Article 6 Designation of Operator and Constructor — Consented on May 18, 2011● →Designated on May 20, 2011▲
- Article 7 Development Plan — Consented on May 23, 2011● →Decided on May 26, 2011▲
- Article 8 Instruction to Construct — Instructed on May 27, 2011▲
- Environmental Impact Assessment
- Article 9 Construction Implementation Plan — Construction Implementation Plan (Part 1):Submission on August 26, 2014● →Approved on October 17, 2014▲ / Construction Implementation Plan (Part 2):Submission on September 25, 2017● →Approved on March 2, 2018▲ / Construction Implementation Plan (Part3) and the Change to Approved Items: Submission on December 14, 2023● →Approved on December 28, 2023▲
- Start of Construction

* Research on the 4 residual items
  - Items related to transportation capacity in response to transportation demand
  - Items related to the development of facility and rolling stock technologies
  - Items related to construction costs
  - Other necessary items

Content of Development Plan

Construction line	Chuo Shinkansen	
Section	Tokyo - Osaka City	
Technology used for running	Superconducting magnetic levitation technology	
Maximum design speed	505 km/h	
Approximate amount necessary for the construction (including rolling stock costs)	9,030.0 billion yen	
Other necessary items	Main areas passed through	Kofu City area, south-central Akaishi Mountains (Southern Alps), Nagoya City area, Nara City area

* The approximate amount necessary for the construction does not include interest.

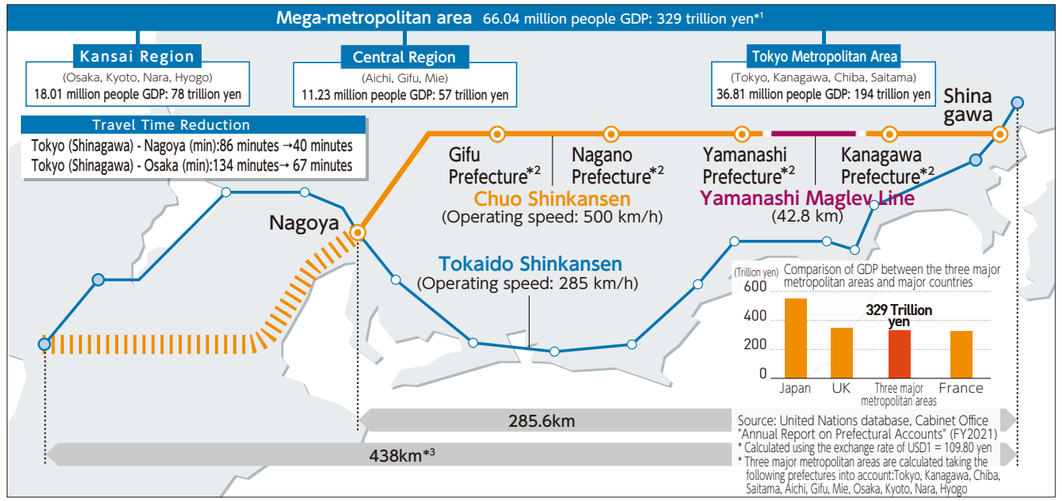
Outline of the Construction Implementation Plan between Shinagawa and Nagoya

Section	Between Shinagawa and Nagoya
Station	Shinagawa Station, Kanagawa Prefecture Station (tentative name), Yamanashi Prefecture Station (tentative name), Nagano Prefecture Station (tentative name), Gifu Prefecture Station (tentative name), Nagoya Station
Line extension	285.6km
Construction budget	7,048.2 billion yen
Estimated completion date of the construction	On or after 2027

*Reflecting the Construction Implementation Plan (Part 3) of the Chuo Shinkansen section between Shinagawa and Nagoya and approval of changes (December 2023)

New Value Provided by the Chuo Shinkansen

The realization of the Chuo Shinkansen using the superconducting maglev system will contribute to the vitalization of Japan's economic and social activities, turning Japan's main transportation artery between Tokyo, Nagoya and Osaka into a dual system and merging the three major conurbations into a single megalopolis, while it is also expected to affect our management in a positive and major way.

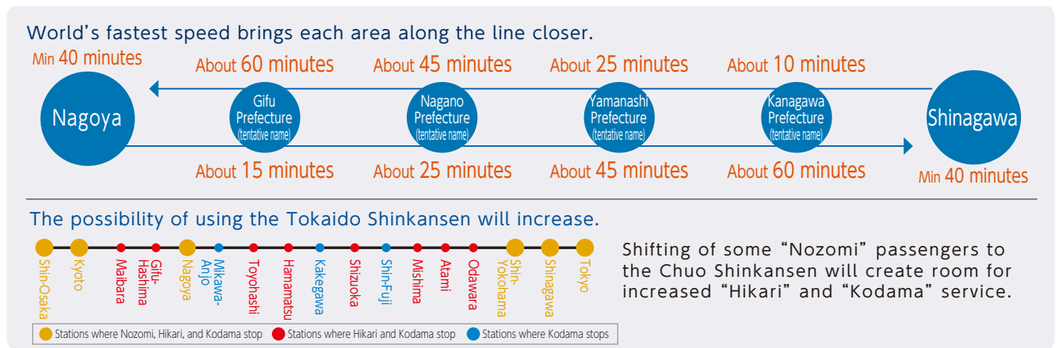


*1 Population: Ministry of Internal Affairs and Communications "Population, Demographics and Number of Households Derived from Basic Resident Registration" (January 1, 2024)
GDP: Cabinet Office "Annual Report on Prefectural Accounts" (FY2021)
*2 Intermediate station names are tentative.
*3 The Survey Report of the Chuo Shinkansen section between Tokyo and Osaka (December 2009)

❶ Creation of new demand

In the competition between the Shinkansen and air travel, the shorter the travel time of the Shinkansen, the greater its share. Demand is therefore expected to shift from air travel to the Chuo Shinkansen due to the time reduction effect of the Superconducting Maglev System. In addition, the dramatic time reduction will greatly stimulate the flow between metropolitan areas, which is highly expected to generate new demand.

Furthermore, in addition to the anticipated new use of intermediate stations in Kanagawa, Yamanashi, Nagano and Gifu Prefectures, the opening of the Chuo Shinkansen will shift some of the current "Nozomi" passengers on the Tokaido Shinkansen to the Chuo Shinkansen, creating room for additional "Hikari" and "Kodama" services when there is more room in the Tokaido Shinkansen schedule. This may improve travel times and frequencies between cities along the Tokaido Shinkansen line and each of the three major cities, thereby increasing the flow of people.



❷ Broad ripple effects on the economy and society

In the Third National Spatial Strategy, which was decided by the Cabinet in July 2023, the Chuo Shinkansen is positioned as a national project that will bring about major changes to the national spatial structure, such as shortening the travel time between the three major conurbations of Tokyo, Osaka, and Nagoya and forming the Japan Central Corridor, a single metropolitan area that will be an unparalleled, attractive economic agglomeration area in the world, thereby driving Japan's economic growth. Chuo Shinkansen is also expected to play a variety of roles, such as ensuring redundancy through a double network with the Tokaido Shinkansen, and offering options for diverse living and working styles, such as relocating without changing jobs by taking advantage of teleworking, and dual residence.

From the "National Spatial Strategy (National Plan)" (July 2023)

- **Creating innovation through dynamic interaction across wider areas**
  By forming a wide-area Shinkansen and high-standard road network centered around the Chuo Shinkansen stations, we aim to strengthen connections between each region and the Japan Central Corridor, formed by bringing together the three major conurbations of Japan, and to create innovation through further expansion and strengthening of people, corporate transactions, and logistics across regions.
- **Ensuring redundancy through a double network**
  The opening of the Linear Chuo Shinkansen, together with the Tokaido Shinkansen, will create a dual-system artery connecting Japan's three major conurbations. Furthermore, by seamlessly connecting it to high-standard road networks, etc., achieving duality and substitutability of high-speed transportation networks and helping to ensure redundancy against the risk of major disasters.
  By strengthening high-speed transportation networks including the Linear Chuo Shinkansen, the flow of people and goods will be ensured in multiple ways, which, combined with further strengthening of functional complementarity and cooperation between the Tokyo, Nagoya, and Osaka areas, will also contribute to strengthening the backup system for the central management functions concentrated in Tokyo.
- **Formation of a leading model for new ways of living and working**
  The reduction in travel time achieved by the Linear Chuo Shinkansen, combined with the use of digital technologies such as 5G, will enable a variety of options for living and working styles, such as relocating without changing jobs using teleworking, or living in two places, allowing people to take advantage of the appeals of both rural areas and major cities.
  In particular, we will aim to create a leading model for new ways of living and working by strengthening high-speed transportation networks centered on intermediate stations and promoting teleworking.
- **Business and tourism exchanges, expansion of trade areas and sales channels, etc., by taking advantage of the shortened travel time to various parts of the country**
  Taking advantage of the shortened travel time not only within the new exchange area but also to other parts of the country, we aim to further promote the flow of people for business, tourism, etc. By utilizing regional resources across the country to promote business and tourism exchanges as well as expanding trade areas and sales channels linked to the Japan Central Corridor, we hope to revitalize local regions throughout the country and strengthen the international competitiveness.

*Excerpt sourced from the "National Spatial Strategy (National Plan)" (July 2023)

The Chuo Shinkansen Project Using the Superconducting Maglev System ～Drastic enhancement of main transportation artery～

Promotion of Construction

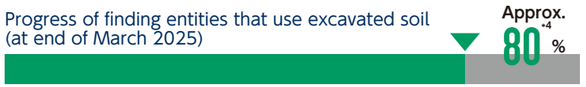
We are steadily carrying out the planned construction work in areas along the Shinagawa-Nagoya segment for which we obtained approval of the Construction Implementation Plan, placing priority on safety at work, environmental conservation, and cooperation with local communities and carefully examining costs. Capital investments have totaled 2,029.4 billion yen in the period from FY2014, when we obtained approval of the Construction Implementation Plan, to FY2024. The total length of construction areas that have already been contracted out reached about 90% of the Shinagawa-Nagoya segment, including the Yamanashi Maglev Line, totaling about 286 km, at the end of June 2025. In the Southern Alps Tunnel (Shizuoka section), on the other hand, we have been unable to begin tunnel excavation. In these circumstances, with regard to impacts on water resources of the Oi River and environmental conservation in the Southern Alps, we have held repeated discussions with Shizuoka Prefecture based on the report by the "Linear Chuo Shinkansen Shizuoka Construction Area Council of Experts" of MLIT. We have reported on the status of the discussions with Shizuoka Prefecture at the Monitoring Conference on the Linear Chuo Shinkansen Shizuoka Construction Section established by the MLIT. Regarding the "matters requiring dialogue" identified by Shizuoka Prefecture in February 2024, discussions on all water resource-related issues were completed in June 2025. We also held meetings to exchange opinions with the leaders of eight cities and two towns in the Oi River basin and gave briefings on initiatives to protect the water of the Oi River for local residents. We will remain committed to take measures in a sincere manner to win the understanding and cooperation of local communities while placing importance on two-way communication.

Progress of effort to acquire land (at end of March 2025)

Land acquisition rate*2= number of landowners from whom land is acquired*3/ total number of landowners

*1 The percentage figure is rounded down to be shown in increments of 5 percentage points.
*2 The figure may decrease due to a change in the number of landowners as a result of changes in the scope of land being acquired, inheritance, etc.
*3 The number of landowners from whom land is acquired represents the number of landowners with whom a contract has been signed.

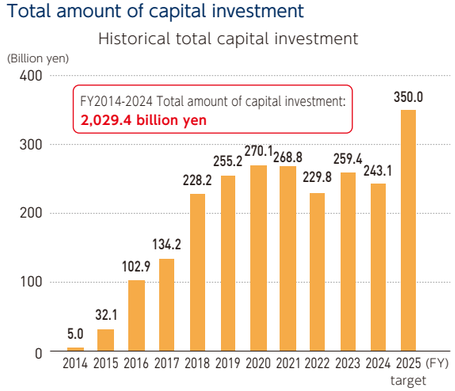
Progress of finding entities that use excavated soil (at end of March 2025)



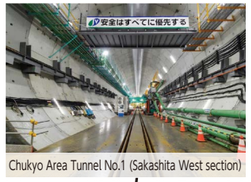
Progress of finding entities that use excavated soil*5: approx. 80% of the amount of excavated soil*6
In addition to the entities already enlisted to use about 80% of excavated soil, we are in negotiations with multiple candidates regarding acceptance of excavated soil.

*4 The percentage figure is rounded down to be shown in increments of 5 percentage points.
*5 The entities already enlisted to use excavated soil are entities, etc. with whom we have signed agreements, etc. on the acceptance of excavated soil.
*6 The amount of excavated soil is the target figure as of August 2014, the month in which we published a corrected environmental impact assessment report.

Total amount of capital investment



Locations of construction work

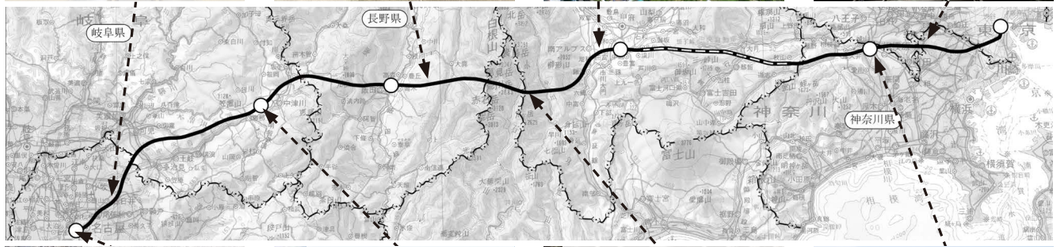


Chukyo Area Tunnel No.1 (Sakashita West section)


Progress of main shaft excavation for Inasanchi Tunnel (Tochu/Mibusawa section)


Bridge railing on the Kamanashi River


Chukyo Area Tunnel No.1 (East Yurigaoka section)




Nagoya Station (West section)


Gifu Prefecture Station (tentative name)


Southern Alps Tunnel (Yamanashi section)


Kanagawa Prefecture Station (tentative name)

* This map is copied from a Japanese map (with a scale of 1 to 1,000,000) published by the Geographical Survey Institute with their authorization. (Authorization number: H25 Jo Fuku, 310)
* See our website for the latest information on the progress of the construction work.
▶Publicly released materials regarding the Chuo Shinkansen Project (The progress of construction work in each prefecture can be viewed in "Construction safety, environmental preservation, and cooperation with local communities.") https://company.jr-central.co.jp/chuoshinkansen/
▶Summary of Consolidated Financial Report https://global.jr-central.co.jp/en/company/ir/brief-announcement/ ▶Investor Meeting Presentation Handout https://global.jr-central.co.jp/en/company/ir/investor-meeting/

Implementation of Environmentally Conscious Construction

Construction of the Chuo Shinkansen is proceeding, taking the surrounding environment into consideration. The main environmental conservation measures being implemented are as follows.

Atmospheric environment (air quality, noise and vibration)

The use of low-noise and low-vibration construction machinery with low exhaust emissions reduces the generation of nitrogen dioxide and suspended particulate matter, as well as noise and vibration.

Water environment (water quality, water resources and groundwater)

Wastewater and turbid water generated by construction work are discharged into public waters after measures are taken, such as treatment and neutralization to reduce turbidity as necessary, by means of turbid water treatment facilities, in accordance with wastewater standards, etc., based on laws and regulations, thereby reducing the impact on public waters.

Animals, plants, and ecosystems

In the detailed planning of construction, we avoid places where important plant species grow as far as possible, and if Construction in such places is unavoidable, we compensate for the influence on the growing environment of important species by transplanting and seeding in places with similar environments.

Reducing the impact of vehicles used to transport materials and machinery

We reduce the generation of dust by cleaning and watering the entrances, exits and surrounding roads for vehicles used to transport materials and machinery and by cleaning their tires. In addition, there is a construction area where we reduce the number of vehicles used in construction work by using freight trains to transport excavated soil.

Overview and Development History of Superconducting Maglev System Technology

The Superconducting Maglev System is an advanced technology unique to Japan. Instead of using the friction between wheels and rails like conventional railways, it runs in a non-contact manner due to the magnetic force between the Superconducting Magnet mounted on the vehicle and the coils mounted on the ground. In addition, to obtain the strong power of the magnets, the technology uses a superconducting magnet utilizing "the 'superconductivity' phenomenon, whereby electrical resistance vanishes when a particular substance is brought below a certain temperature," which enables the vehicle to levitate about 10 cm, making it possible to operate safely in earthquake-prone Japan. These features make it possible to travel at an ultra high speed of 500 km/h in a stable manner, unlike conventional railways.

The level of the Superconducting Maglev System Technology has been evaluated in multiple stages since running tests began on the Yamanashi Maglev Line in April 1997. In July 2009, the Superconducting Magnetic Levitation Technological Practicality Evaluation Committee of MLIT (hereinafter, "Evaluation Committee") confirmed that the Superconducting Maglev System Technology had already achieved levels sufficient for commercial operation, and the Minister of Land, Infrastructure, Transport and Tourism established technological standards for the Superconducting Maglev in December 2011. Subsequently, in February 2017, the Evaluation Committee confirmed its evaluation that the technology development required for commercial lines was completed, and in March 2023, the Evaluation Committee assessed that steady progress has been made in brushing up the technology.

We will continue to make efforts to reduce the cost of construction, operation, and maintenance of the commercial lines and further brush up Superconducting Maglev System Technology while conducting running tests using the Series L0 improved version and developing commercial vehicle specifications.

Progress on the Superconducting Maglev System Technology

Jun-90	JR Central applies to the Minister of Transport for approval of the construction plan of the Yamanashi Maglev Line and gains approval.
Apr-97	Running tests start on the Yamanashi Maglev Line.
Mar-00	The Superconducting Magnetic Levitation Technological Practicality Evaluation Committee of the Ministry of Transport (hereafter, the "Evaluation Committee") acknowledges that "there is potential from a technological standpoint that the technology could have practical applications."
Nov-04	JR Central performs exercises of trains passing each other at 1,026 km/h relative to one another.
Mar-05	The Evaluation Committee of MLIT acknowledges that "the core technologies for practical application have been established."
Jul-09	The Evaluation Committee of MLIT acknowledges that "the technologies required for commercial lines have been established from a comprehensive and systematic standpoint and it is possible to move forward with detailing the specifications for commercial lines and the technical standards."
Dec-11	The Minister establishes technical standards for Superconducting Maglev.
Aug-13	Work to extend the Yamanashi Maglev Line to 42.8 km and update facilities are completed.
Apr-15	JR Central records a travel distance of 4,064 km in one day. JR Central records the world speed record for a manned rail vehicle at 603 km/h.
Feb-17	The Evaluation Committee of MLIT acknowledges that "the technology development required for commercial lines has been completed."
Aug-20	Running tests start using the Series L0 improved version.
Mar-23	The Evaluation Committee of MLIT acknowledges that "steady progress has been made in brushing up the technology."
Jul-25	Running tests start using the new Series L0 improved version (middle car).

History of Maglev Vehicles


MLX01-1 MLX01-901 Series L0

In order to establish commercial vehicle specifications, in August 2020 we started running tests using the Series L0 improved version, which is further refined based on the results of the running tests. In July 2025, we started running tests using the new Series L0 improved version (middle car), which reflects development results related to reducing environmental impact, etc.


Series L0 improved version | New Series L0 improved version (middle car)

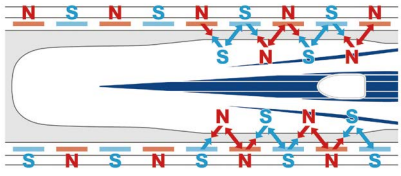
Superconducting Maglev test rides

While steadily conducting running tests, we have offered Superconducting Maglev test rides using the Series L0 improved version from 2022 in order to foster a sense of anticipation for the opening of the Chuo Shinkansen.

Principles of the Superconducting Maglev System

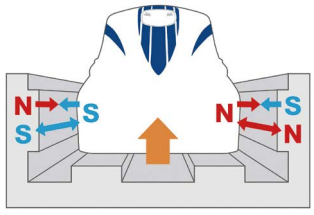
Propulsion System

By passing current through the Propulsion Coils on the ground, a magnetic field (north and south poles) is produced, and thus the vehicle is propelled forward by the attractive force and repulsive force of the opposite poles acting between the ground coils and the Superconducting Magnets built into the vehicles.



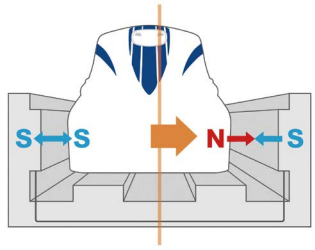
Levitation System

The Levitation and Guidance Coils are installed on both sides of the guideway (track). When the on-board Superconducting Magnets pass through at high speed, an electric current is induced in the Levitation and Guidance Coils, causing them to become electromagnets. This generates a force that both pushes and pulls up the vehicle.



Guidance System

The Levitation and Guidance Coils on both sides of the guideway keep the vehicle in the center of the guideway at all times by exerting an attractive force on the far side of the vehicle and a repulsive force on the near side when the vehicle moves off center to either side.



Total Construction Costs for Shinagawa-Nagoya Section

In the "Notice Concerning Total Construction Costs for the Chuo Shinkansen Section between Shinagawa and Nagoya" (April 2021), we announced that the total construction costs for the Shinagawa-Nagoya section are expected to increase from 5.52 trillion yen estimated at the time of the "Construction Implementation Plan (Part 2) of the Chuo Shinkansen Section between Shinagawa and Nagoya" (March 2018) to 7.04 trillion yen. In December 2023, we applied for approval for construction and installation work for stations and rail yards and rolling stock as the Construction Implementation Plan (Part 3) from the Minister of Land, Infrastructure, Transport and Tourism, and also applied to change the construction budget and the scheduled completion date for the previously approved items, based on deeper design consideration and surveys, discussions, and the progress of construction work. Subsequently, we received approval. With the approval of the Construction Implementation Plan (Part 3), all items required for construction between Shinagawa and Nagoya have been approved. We will continue to focus on construction safety, environmental protection, and coordination with local communities, and we will vigorously proceed with the various types of construction while thoroughly and carefully examining costs.

▶ The Notice Concerning Total Construction Costs for the Chuo Shinkansen Section between Shinagawa and Nagoya (April 2021) https://global.jr-central.co.jp/en/company/other_information/2022/_pdf/2022_01.pdf

Opening date for the section between Shinagawa and Nagoya

At the second meeting of the Monitoring Conference on the Linear Chuo Shinkansen Shizuoka Construction Section held in March 2024, it was explained that as of the time of the meeting, the Shizuoka Construction Section, for which six years and four months had already passed since the construction contract was signed, is directly causing the delay in the opening of the Shinagawa-Nagoya section, and that the planned opening in 2027 would not be possible.

As there is still no prospect of starting tunnel excavation work in the Shizuoka Section, currently we are unable to predict a new opening date. However, we will continue to work in an earnest manner, valuing two-way communication, to gain the understanding and cooperation of the local community and to work towards an early start on tunnel excavation work in the Shizuoka Section.

Sourced from the second meeting of the Monitoring Conference on the Linear Chuo Shinkansen Shizuoka Construction Section "Chuo Shinkansen Southern Alps Tunnel (Shizuoka Section) Construction Plan" (March 2024)