Case Study
Tokyu Corporation[357]

1 Introduction
Rail lines beginning in the central city can create value in the areas immediately surrounding the rail lines, by improving accessibility and facilitating agglomeration economies. Such value can be greatly enhanced through effective land use planning and development of diverse real estate development around stations, closely aligned with market demand. Integrated land use planning can thus both increase the land value and generate substantial additional rail traffic.

Tokyo's railway companies have historically leveraged real estate to pay for infrastructure development while producing a profit for shareholders. Tokyu Corporation, one of Japan's major private railway operators, is well known for its development-based land value capture practices and was among the first to advance the business model of railway and new-town co-development.

This Futako-tamagawa Station redevelopment project in Japan illustrates the use of land value capture with transit-oriented development employed by Tokyu Corporation, increasing ridership on the Den-en-toshi line, generating steady cash flows, and recouping investment costs.

The case study first provides the overview of Tokyu Corporation and Futako-tamagawa Station. This is followed by a description of the Futako-tamagawa Station redevelopment project, the institutional and regulatory framework, within which the land value capture approach was undertaken, and the key mechanisms used in the redevelopment project. This case study finally presents the impacts of the redevelopment project and concludes with a summary of the lessons to be drawn from Tokyu Corporation's approach.

2 Tokyu Corporation
The Tokyu Corporation is Tokyo's largest private railway company and a major private railway operator (with eight railway lines), as well as being a land developer in the Greater Tokyo Area of Japan. The Corporation was established in 1922 as both a railway operator and a property developer. Its current business portfolio includes railways, urban real estate development (development of houses, apartments, buildings and commercial facilities, property lease, management and investment for office buildings), lifestyle services (retail services, cultural facilities,

[357] This case study is largely based on Lawrence, Martha; Ollivier, Gerald. 2015. *Attracting Capital for Railway Development in China*. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/23800 License: CC BY 3.0 IGO. URI: http://hdl.handle.net/10986/23800

cinemas, sporting facilities, travel agencies, cultural schools and other daily living services), and hotels and resorts. Property development around transit stations has become a major source of income for the company.

Between FY2004 and FY2016, real estate accounted for about 36 percent of Tokyu Corporation's operating profit (about ￥321 billion, US$ 2.7 billion equivalent[358]), and transport (railway and feeder bus services) about 40 percent. It secures about 24 percent of its operating profit from retail, leisure and hotel services, which indicates the growing importance of providing multiple services along with railway investment and real estate development, to support the railway's long-term operation and maintenance costs.

Tokyu Corporation's market includes about 490 square kilometers across the 17 jurisdictions, with now some 5 million residents in 2.5 million households, whose income is 50 percent higher than the national average.

3 Futako-tamagawa Station

The Futako-tamagawa train station is located in the southwestern suburbs of Tokyo, on the Den-en-toshi[359] Line, a major artery providing access to central Tokyo and one of Tokyu's most crowded commuter lines (see Figure 1). The Den-en-toshi line has an underground section that starts in Shibuya and ends at Futako-tamagawa (9.4 km away), and an above-ground section, which passes through many suburbs of Tokyo and Yokohama.

More than 95,000 passengers use the Futako-tamagawa Station every day[360], riding on two suburban rail lines, the Tokyu Oimachi and Tokyu Den-en-toshi, which connect the suburb to the urban core in less than thirty minutes.

The Den-en-toshi line was developed in the 1940s-1980s[361], which coincided with the rapid urbanization of Tokyo, generating strong demand for both new housing and public transport to the center of Tokyo.

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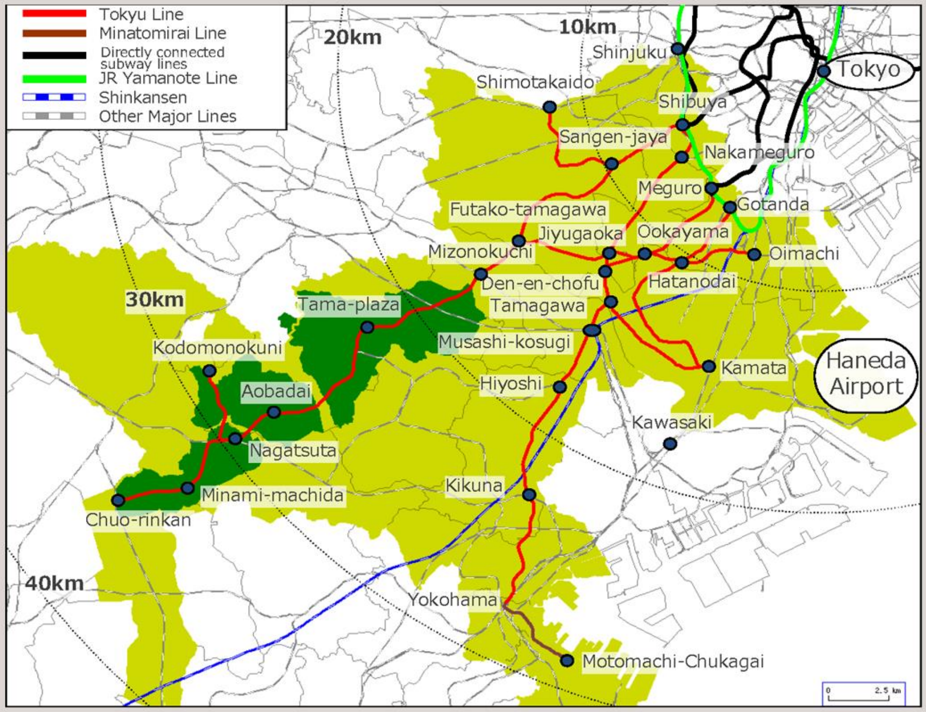
[358] All conversions from JPY to USD in this section are based on an exchange rate of 1 USD = 121.04 JPY. See http://data.worldbank.org/indicator/PA.NUS.FCRF?end=2015&locations=IN&start=2004&view=chart&year_high_desc=false for more information.
[359] Literally means "garden city" in Japanese.
[360] Average for 2015. Tokyu Corporation website (as of January 19, 2017): http://www.tokyu.co.jp/railway/data/passengers/
[361] Tokyu Corporation website(as of January 19, 2017): http://www.tokyu.co.jp/railway/data/train_line/dt.html

Figure 1 Regional Map of Tokyo Area



Source: Tokyu Corporation, Fact Book 2014

Garden city concept

Tokyu Corporation's garden city concept, launched in 1953, included provision of larger, clean houses for commuters living in Tokyo. The garden city aimed to attract many white collar workers to the new towns along the line.

Tokyu Corporation practiced this garden city concept for property development along its Den-en-toshi Line extensions between 1966 and 1984. The garden city development is high-quality and self-sufficient and supports a well-mixed variety of businesses within a suburban setting: offices, banks, universities and private schools, medical and community centers, public service branches, department stores and supermarkets, hotels, and recreational facilities. The garden city districts account for about 50 square kilometers with 600,000 residents along the Den-en-toshi Line[362].

4 The Redevelopment Project

4.1 The Project

In 2000, Tokyu Corporation launched the Futako-tamagawa Station redevelopment project (Figure 2), one of the largest redevelopment projects in Tokyo, on an 11.2-hectare block at the site of the former Futako-tamagawa Amusement Park. The project, completed in 2015[363], forms a new center for commercial, residential,

[362] As of 2012. Tokyu Corporation website (as of January 19, 2017): http://www.tokyu.co.jp/company/business/urban_development/denentoshi/

[363] The grand opening of the Futako-Tamagwa Rise Phase 2 in 2015 marked the completion of the Futako-tamagawa Station Area Redevelopment Project. Tokyu Corporation

and leisure activities, with urban accessibility around Tokyu's railway station by the Tama River.

The project is designed in part to reflect demographic changes in Japan and Tokyo and the need for strategic and well-designed cities to attract workers and population, by including a number of unconventional service facilities. This is in line with the company's development strategy in recent years, which has evolved to tackle the major demographic and business changes along the railway corridors.

Figure 2 Futako-tamagawa Station

Source: Financing Transit-Oriented Development with Land Values (World Bank 2015)

4.2 *Institutional and Regulatory Framework*

Japan has employed a number of regulatory instruments that have facilitated transit-oriented development. These include land readjustment and air rights sale. They are described below.

Land readjustment

Land readjustment, allowed under the 1989 Housing and Railway Act, has been one of the most significant instruments, through which government entities, private railway corporations and private developers have been able to channel the earnings from land value capture to finance transit-oriented developments. It is done in close cooperation with the planning authorities, from which approval is needed to decide future station locations.[364]

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website (as of January 19, 2017): http://www.tokyu.co.jp/company/business/urban_development/work/

[364] For a detailed coverage of land readjustment in Japan, see the case study on "Land Readjustment in Japan" produced by the Transit Oriented Development Community of Practice. Available at: https://collaboration.worldbank.org/servlet/JiveServlet/downloadBody/23643-102-1-30762/Land_Readjustment_Japan.pdf

Using the land readjustment approach, multiple landowners organize a cooperative body that pools their land parcels together into fully serviced and regularly shaped residential and commercial parcels with higher property values. A private rail company can take a leading role in administrating such a cooperative entity. To capture the likely accessibility options of transit stations, the local government converts zoning codes to allow both high-rise and mixed use buildings.[365]

Land readjustment is often administered alongside the national government's Road Program or Urban Street Program. These programs effectively subsidize transit-oriented infrastructure and facilities, including bus lanes, station plazas and transport terminuses, pedestrian access and circulation systems, bicycle parking, urban green space, and street amenities.

Air right sale

This regulatory instrument involves giving landowners permission to transfer part of their unused air development rights, such as surplus Floor Area Ratio, permitting another landowner to construct a taller building in a designated project area.[366]

4.3 Key Mechanisms

The key mechanisms used for the redevelopment of the areas surrounding the Den-en-toshi Line and the Futako-tamagawa Station are described below.

Internalization of accessibility and agglomeration benefits by rail company

Tokyu Corporation bought large tracts of agricultural land prior to building the Den-en-toshi rail line. The Corporation then developed rail-integrated communities along the line over time, with massive housing construction supporting Tokyo's middle class suburbanization. This allowed the company to capitalize on the land appreciation from its investment made between the 1960s and the early 1980s.

In other cases, private railway agencies collectively carried out land readjustment projects or proactively purchased land parcels around stations (under the market freehold system in Japan) and internalized the capital gains from real estate businesses and development opportunities.

Market-driven redevelopment strategy

The redevelopment strategy for the redevelopment around Futako-tamagawa Station is market-driven. It targets well-defined groups. The inner-city office space included in this mixed-use development targets innovative industries and creative workers, distinguishing itself from other office buildings for conventional white-collar businesses in Tokyo's central areas.

[365] Murakami, J. (2012). *Value Capture and Land Policies. Lincoln Institute of Land Policies.*
[366] Ibid.

The corporation has also differentiated the new shopping facilities for younger consumers from existing retail stores for elderly residents around the station. This includes, for example, the opening of the Futako-tamagawa Rise Shopping Center in March 2011, a center expected to house about 150 specialty shops targeting young women in their 20s and 30s. Such an approach is in strong contrast with developments undertaken in the 1970s and 1980s.

Integration of transport and commercial hub with high-quality livable environment

The Futako-tamagawa Station redevelopment took a high-quality integrated approach in attracting its target groups. It aimed to achieve urban development where everyone could live in comfort, making use of the site's inherent natural resources, geographical location as a gateway to West Tokyo, and an established commercial hub.

Specifically, the area has been revitalized by reinforcing commercial and business functions around the station while developing the water and green space in harmony with the surrounding rich natural environment. This includes major public subsidies (￥36.6 billion / US$ 302 million) for the development of public facilities, such as a transit plaza, local roads, and parks.

This uncommon combination of urban and natural environments allowed the rapid sale of new apartment like the Futako-tamagawa Rise Tower & Residence apartments completed in May 2010.

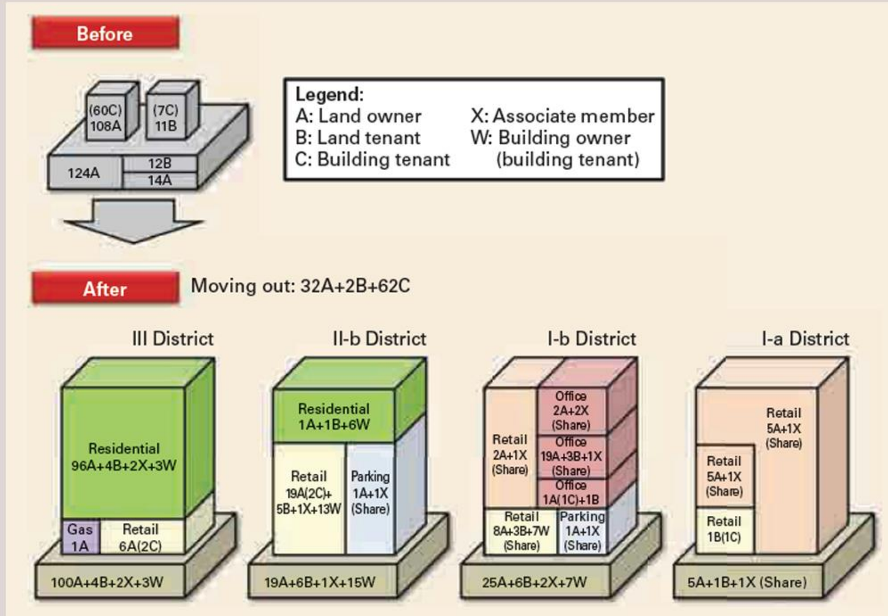
Inclusive and long-term redevelopment scheme

The Futako-tamagawa redevelopment involved more than 200 landowners and tenants in inclusive and complex floor area reallocation procedures. Figure 3 illustrates the number of land owners, land tenants, and building tenants before and after the redevelopment. Owning more than 95 percent of the property rights around the station, Tokyu Corporation made a real effort to integrate multiple objectives and functions into one redevelopment, to generate recurrent benefits through synergistic area management activities rather than temporary profits from speculation.[367]

Nonetheless, considering the high cost of such redevelopment, substantial public subsidies were also required to develop accompanying public facilities through an urban redevelopment scheme that raised public subsidies (￥36.6 billion / US$302 million) to supplement the substantial floor area sales (￥100.1 billion / US$827 million) used to fund the redevelopment. This overall process has taken nearly 15 years.

[367] Ibid.

Figure 3 Futako-tamagawa Redevelopment Floor Area Reallocation, Phase 1



Source: Financing Transit-Oriented Development with Land Values (World Bank 2015)

5 Results

Financial impact on Tokyu Corporation

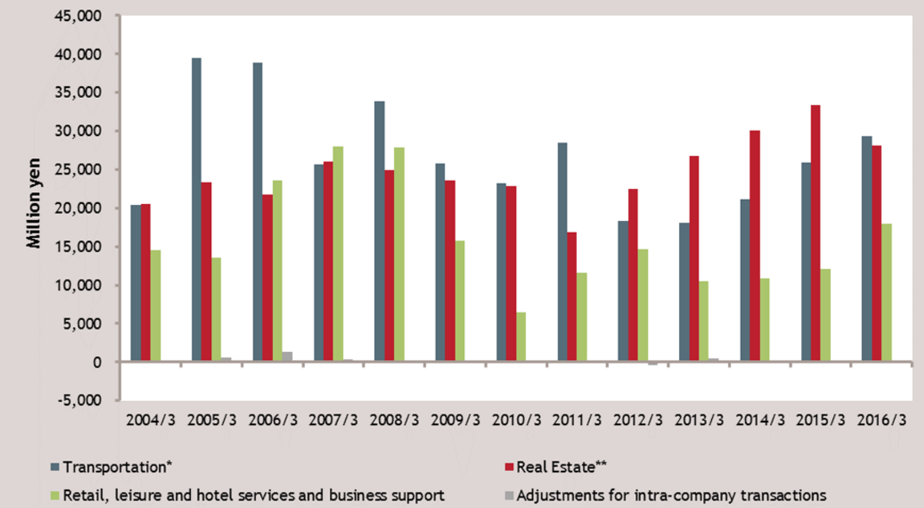
Transport, property development and retail and other business and lifestyle services have been major income sources for Tokyu Corporation, as evidenced by the company's operating profit shares from multiple business practices for FY2004-16 (shown in Figure 4). Through the redevelopment, Tokyu Corporation has created a transit-supportive environment, which further increases its ridership and recurrent profits.

The first phase of the Futako-tamagawa redevelopment project completed in March 2011, added two new shopping malls, a 16-storey office building, and five residential buildings, providing 1,033 new apartments to the east of the station.

The apartments, ranging in price from ￥46 million to ￥220 million (equivalent to around US$380,000 to US$1.8 million) for a 140-squaremeter apartment, went on sale in 2008. In spite of the economic slump and the prospect of more construction work during the second phase of the building, all but 12 units at the higher end of the price range were sold by 2012[368]. Tokyu Corporation is funding the cost of redevelopment to a large extent by direct sales (￥120 billion, or US$ 991 million equivalent), while keeping part of the newly developed property for long-term income generation.

[368] Nakamoto, M. (2012, February 17). "East Side Story", *Financial Times*. http://www.ft.com/cms/s/2/81aefc64-5310-11e1-950d-00144feabdc0.html

Figure 4 Operating Sources of Tokyu Corporation



Source: Tokyu Corporation annual reports.
* A portion of the business was changed to the Hotel and Resort business in FY2012
** A portion of the business was changed to the Lifestyle Service business and the Hotel and Resort business in FY2012;
In FY2016, operations formerly categorized in the Business Support segment were transferred to other business segments

Impact on ridership

The redevelopments around the Futako-tamagawa Station have also increased the ridership for the Den-en-toshi Line owned and operated by Tokyu Corporation, which drives traffic to retail shops and other lifestyle services provided by the company in the area.

Impact on local landholders and tenants

Local landowners provided their land parcels for the new buildings, and in return got joint ownership of land for new buildings with higher access and better public infrastructure and service provision, such as pedestrian access, street amenities, and bus lanes.

Impact on national government

The public facilities developed by Tokyu Corporation under Futako-tamagawa redevelopment project reduced the national government's costs for road and other public infrastructure construction.

Impact on local authorities

Mixed use developments such as those under the Futako-tamagawa redevelopment project yielded higher property taxes, promote local economic development and build townships resilient to natural disasters.

6 Conclusion

Given the high cost of developing new rail lines in major cities, investors need to maximize related income that they can derive to make such lines financially attractive. The transit-oriented development with land value capture illustrated in this case study is one of the effective ways to finance costly rail infrastructure by:

- Ensuring that enough people and activities are gathered around stations; and

- Creating stable cash flow and recouping some of the investment costs through real estate development income and appreciation.

The example of Futako-tamagawa Station redevelopment project on the Den-en-toshi Line in Japan highlights the following concepts required for successful land value capture practices:

- Accessibility and agglomeration benefits from railway investments can be internalized by a rail company by securing land around stations through purchase or land readjustment at the time of developing a line, and by developing such land over time;
- The most appropriate type of property development around rail stations is highly market dependent;
- Quality of life including development of appropriate public space, combined with accessibility and agglomeration economies, are driving forces for value creation; and
- Redevelopment is a mechanism requiring time, an active partnership between public-private stakeholders, and public sector funding.

Tokyu Corporation has successfully combined land value capture with rail development to increase ridership across new lines, generate steady cash flows and recoup investment costs. The land value capture approach has also allowed the company to adjust the development model around rail stations for sustainability as the market demand shifts over time.

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