

# Utsunomiya LRT Project – Past, Present and Future

Hiroataka KOIKE

## Overview

The plan to introduce a new rail transportation system known as Light Rail Transit (hereafter referred to as LRT) began in Utsunomiya three decades ago. Since then, there have been many twists and turns toward realizing the plan until construction work started in 2018 on the city's east side. In the spring of 2023, Japan's first newly established LRT system is scheduled to open for operation. In this paper, the author looks back at the circumstances toward introducing the LRT in Utsunomiya and issues and directions for the future.

**Keywords:** urban transportation planning, LRT, networked compact city, transit-oriented development, citizen participation

## 1 Introduction

As the capital of Tochigi prefecture and a key city with a population of over half a million, Utsunomiya is located 100km north of Tokyo in the center of the three prefectures of the Northern Kanto area (Gunma to the west, Tochigi in the center, and Ibaraki to the east). It developed with its geographical advantage of 50 minutes by Shinkansen train from Tokyo, few natural disasters and abundant natural resources. Because of its location at the northern end of the Kanto Plain, it had ample space for urban development, and with motorization in the 1960s, suburban sprawl began. Along with the hollowing out of the traditional central business district, a decline in bus ridership continued.

The Utsunomiya Outer Ring Road (commonly known as Miyakan) was completed in 1996. At 34.4km, it was one of Japan's first complete four-lane loop highways. The expectation was that it would alleviate traffic congestion in downtown Utsunomiya. Instead, it resulted in the speed-up of the suburbanization of the commercial functions of the city center. In 2000, with the Large-Scale Retail Stores Location Law implementation, large retail stores opened in the suburbs. The sight of closed and vacant stores in the central business district became impossible to ignore. Among the five department stores in the city center, Tobu Department Store, a train terminal and department store, remained open, the rest being forced to close, pull out of the area or

relocate. By 2010, the number of pedestrians downtown had shrunk to a quarter of the peak attained in the 1980s.

Supporting the economic activities of Utsunomiya is one of the largest industrial complexes developed in Japan since the 1960s. In the Kiyohara area on the left bank of the Kinugawa River, which flows on the east side of the city, the largest inland industrial zone was built, covering 388 hectares. In 1983, the area was the only one in the Kanto area to receive a designation under the Law for Accelerating Regional Development Based upon High-Technology Industrial Complexes (commonly referred to as the Technopolis Law) established by the Ministry of International Trade and Industry at that time. After that, in the Kinugawa left bank area, Haga Industrial Park (248ha) and Haga-Takanezawa Industrial Park (226ha), where Honda R & D and related companies are located, have opened. Today, more than 30,000 employees commute to these industrial complexes.

Moreover, most of them commute by private automobile from their home city, Utsunomiya. As a result, chronic traffic congestion across the bridge over the Kinugawa River has been a significant problem for many years. In 1989, Honda R & D Company, which had the largest number of employees among the companies located in the area, introduced a flextime system and achieved some results in alleviating traffic congestion. However, traffic congestion has continued to worsen with increased tenants in the industrial park.

Fumio Watanabe, then Governor of Tochigi Prefecture, requested a study of the new transportation system that connects the Technopolis Center area and JR Utsunomiya Station. His announcement was at the All-Members Council of the Urban Development Association, which was created by Tochigi Prefecture and Utsunomiya City with a 50% stake each in the development of the Kiyohara Industrial Park.

As a result of the 2nd Utsunomiya Metropolitan Area Person Trip Survey conducted in 1992, Utsunomiya City has public rail transport in the north-south corridor in the Tohoku Shinkansen Line, the JR Utsunomiya Line, the Tobu Utsunomiya Line, and so on. However, the east-west corridor lacked rail transit, and JR lines separate the east and west sides of Utsunomiya Station. Also, because of the limited number of bridges crossing the Kinugawa River on the east side of the city, it was pointed out that the east-west traffic corridor is weak and that congestion from commuter traffic to the industrial complexes on the left bank of the Kinugawa River had intensified. Because of this, the need for a public east-west trunk-line transportation route was recommended, and new transportation systems such as monorails or automated guideway systems were raised as

subjects of consideration.

After this, the introduction of the main bus line and a new streetcar system was proposed in the "Utsunomiya Metropolitan Area Urban Transportation Master Plan" and the "Tochigi Prefecture Comprehensive Transportation System Development Basic Policy" formulated in response to the person trip survey. In addition, the prefecture and city set up the following committees: the New Transportation System Research Association in 1993, the New Urban Transportation Policy Committee in 1994, and the New Transportation Investigation Committee in 1997. Furthermore, in 2001, the New Transportation System Introduction Basic Plan Committee was established with economic groups and transportation operators who worked on building momentum toward the system's introduction and building broad consensus among city and prefecture residents. In those days, the mass media reporting was favorable towards constructing rail-based public transport systems.

The author, beginning with the 2003 Utsunomiya Person Trip Survey, was active in many committees, councils, and research committees related to urban planning and transportation systems in Tochigi Prefecture and Utsunomiya City. He has become deeply involved in introducing LRT in the Utsunomiya area as his life work. This paper will attempt to put together a historical look back at the events leading up to the introduction of the LRT in Utsunomiya and current issues and prospects.

## 2 New Transportation System Introduction Basic Plan Formulation Survey

Based on the background described above, for two years from 2001, Tochigi Prefecture and Utsunomiya City conducted the "New Transportation System Introduction Basic Plan Formulation Survey" with the author of this paper as its chairperson. Among its objectives for future consideration were the following three: the strengthening of downtown, the coordination of urban renewal and growth axis development, and the promotion of a lifestyle that does not depend excessively on automobiles. In the direction of urban development, three scenarios were created: (1) demand-correspondent road development, (2) the strengthening of existing public transportation, and (3) the development of a new trunk-line public transportation service. From the point of view of each of the following: revitalization of the urban core, improvement of transportation service, and support for the elderly and handicapped, and environmental improvement, it was concluded that after consideration of the above three scenarios, scenario (3) which integrates a new trunk-line public transportation

system with urban development and a comprehensive transportation policy was the most desirable solution. Behind this, successful cases of revitalizing the city center by restoring LRT began to appear in European cities. The people involved in the planning, including the author, visited Strasbourg, Orleans, the sister of Utsunomiya, and other European cities. These resulted in the careful consideration of what future urban transportation development should look like.

In the basic plan formulated in such a way, when the introduction of the trunk-line public transportation system along with urban development such as landscape and symbolism ensuring barrier-free mobility for the transportation-vulnerable: the elderly, the disabled or children, and from the possibility of mutual rail linkage with other local railways, the LRT was selected as the most suitable trunk-line transportation system. And with LRT as the central axis, creating a functionally and efficiently coordinated bus network, park-and-rides, cycle-and-rides, and transit centers will improve coordinated convenience. Again, the coordination with urban development, revitalization of central urban areas, and plans for the renewal of commerce are being given careful thought. Close coordination with development plans and the existing railway lines (e.g., the development around the east side of JR Utsunomiya Station, the Technopolis Center Area, etc.) is being sought. In the future, the concept of a car-free transit mall where usage is limited to pedestrians, bicycles, and LRT, which is widely used in the central areas of many European cities is also under consideration.

As a specific route to be introduced, a route with a total length of about 15 km was proposed, connecting the western part of Utsunomiya City to the industrial complex on the left bank of the Kinugawa River via the central city area and Utsunomiya Station. The initially planned section is about 12 km between the Utsunomiya Technopolis Center area and JR Utsunomiya Station. The extension planning section consists of about 3km between JR Station and Sakuradori Jumonji.

This report became the basis of the subsequent LRT introduction plan and was realized 15 years later. However, as will be described below, it is also a fact that this basic plan report has become a political issue since then and focal campaign point five times in the mayoral and gubernatorial elections.

### 3 LRT Project, Political Trends and Citizen Activities

In September of 2000, the Tochigi Prefecture gubernatorial election was held. Fumio Watanabe, who had served four terms of 16 years as governor, was defeated by Akio Fukuda, then the mayor of Imaichi city, by only 875 votes. The basic policy for

introducing the new transportation system was formulated by an agreement between Fumio Watanabe, the loser of the 2000 gubernatorial election, and Tomikazu Fukuda, who was elected mayor of Utsunomiya in 1999. Governor Akio Fukuda and Mayor Tomikazu Fukuda ran against each other in the gubernatorial election of 2004. One of the significant points of contention in the election was whether LRT should be built. Based on the basic action plan of Utsunomiya and Tochigi Prefecture, the previously stated objective had been adopted.

Nevertheless, Governor Akio Fukuda began to express negative views of the project, saying that the project cost was too high to secure business profitability. In 2003, Governor Akio Fukuda presented Utsunomiya City with two proposals and urged the city to choose. Plan A says, "We will freeze the LRT project for the next five years." Plan B says, "If the city wants to start promptly, the city will take the lead." In response, the Utsunomiya City side requested that the city and prefecture continue to work on the plan in an integrated manner.

Utsunomiya City recognized that the plan for the new transportation system was not limited to Utsunomiya City but was an issue that was broadly related to the entire central area of the prefecture. Therefore, a new regional council was established and aimed at introducing a public transportation system centered on a new transportation system based on the integrated cooperation of related municipalities in the central area of the prefecture. Initially, three cities and three towns (Utsunomiya City, Kanuma City, Moka City, Haga Town, Takanezawa Town, and Ichikai Town) participated in this council, then Motegi Town joined in 2003. The idea behind this was to expand the public transportation network system beyond Utsunomiya City, and cover the entire central area of the prefecture in the future. In other words, although there were few examples in Japan yet, to improve convenience by mutual access between urban LRT and intercity railroads, as started in Karlsruhe, Germany, the existing deficit rail lines became profitable. Therefore, LRT was intended to be used to develop a wide area of regional public transportation systems.

In May 2003, Professor Vukan R. Vuchic of the University of Pennsylvania in the United States, the world authority and godfather of LRT, visited Utsunomiya City Hall and paid a courtesy call on Mayor Tomikazu Fukuda. He gave a keynote address at a conference entitled "On Urban Development and Urban Transportation" hosted by the prefecture and city. He stressed the importance of coordination among public transportation systems such as LRT and buses.

In the Tochigi Prefecture gubernatorial election of November 2004, Mayor of

Utsunomiya and gubernatorial candidate Tomikazu Fukuda, a supporter of LRT, defeated the incumbent Governor Akio Fukuda, who had been negative about the introduction of LRT by a margin of 120,000 votes. In the Utsunomiya mayoral race, LRT advocate Eiichi Sato was elected as Tomikazu Fukuda's successor, and it appeared that the introduction of LRT would progress soon. However, many residents were skeptical of its construction, and the project was postponed. Negative opinions of the project were especially prominent among business owners in the central core, the industrial park on the east side of the city, and bus operators.

In response to this negativity, at the end of 2004, pro-LRT citizens formed a volunteer citizens group called "Light Rail Tochigi." Light Rail Tochigi has been active in promoting and studying light rail transit from a citizen's standpoint. The group's study resulted in the publication of a brochure, "Easy to Understand Urban Transportation Development." Furthermore, it promoted regular meetings and talks, exhibitions, and participation in events to educate the public about the necessity of LRT. On June 25, 2005, the group hosted the first "National Conference for People and Environment-friendly Transportation" at Utsunomiya University. In addition, a panel discussion was held on "The Citizen's Role in Supporting LRT." From that year forward, this national conference was held throughout the country.

On June 10, 2006, 2500 citizens participated in the "LRT Early Realization General Rally" called by Light Rail Tochigi, filling the large hall of the Utsunomiya City Cultural Center. Harutoshi Matsutani, who was the chief of the street section of the Ministry of Land, Infrastructure, Transport and Tourism ( MLIT) at that time, gave a keynote speech entitled "Necessity of introducing LRT and national support measures," and Eiichi Sato, Mayor of Utsunomiya, attended the subsequent panel discussion.

In addition, a social experiment of the transit mall was held on Ohdori Avenue, Utsunomiya City, for two days on Saturday, November 4 and Sunday, November 5, 2006, and 90,000 people visited in the two days. This first attempt at Utsunomiya was held by banning ordinary cars from 10 am to 4 pm, and only buses run during the annual events of "Miya Market," "Gyoza Festival," and "Jazz Festival". Since these festivals had been held simultaneously since the 1960s, it has become a lively event. The response to the questionnaire survey at the venue was also excellent, and it can be said that this success had the effect of changing the mindset of the shop owners in the central business district.

#### 4 Challenges for Introducing LRT

Based on this situation, the "New Transportation System Introduction Issues

Review Committee" was established in 2005, and over two years, the following four issues have been extensively examined. They include: (1) development of comprehensive transportation measures such as connected road networks, traffic regulations, and public transportation networks, (2) cooperation with urban development measures, (3) business and management methods, public involvement, utilization promotion measures, and profitability, and (4) providing information to citizens and companies and examining cooperation measures.

In October 2005, the "LRT Introduction Plan Guidance Integrated with Urban Development" was published by the Urban and Regional Development Bureau of the MLIT. It became an excellent reference for the subsequent process in Utsunomiya. We actively held discussion meetings with stakeholders in various fields in the evaluation process. In particular, the discussion meeting with the people involved in the shopping districts and large-scale stores along the railway line seems to have effectively promoted understanding toward the introduction of LRT. Using computer graphics, we presented realistic images of the LRT opening for each station site, transit centers, park-and-ride parking lots, and other facilities.

The most significant issue in the "New Transportation System Introduction Basic Plan Formulation Survey Report" was the profitability of the LRT project and, as stated before, its politicization. A significant difference between the national subsidy system of 2003 and 2007 was that the 2007 subsidy was greatly expanded. The introduction of a public-private system provided this framework. Namely, the importance of public transportation became apparent with the change in social and economic conditions in recent years. In public transportation projects, the national government established a new system to comprehensively assist the authorities attending to facility development and the private sector attending to its management. As a result, the maximum use of this system will reduce the burden on businesses and improve profitability.

However, in Utsunomiya, the preliminary estimate of the figures in the 2003 report took on a life of its own. It was impossible to escape the picture that "LRT means being in the red" for a long time. Citizen groups opposed to LRT gathered signatures for petitions and opposition rallies. Most of their arguments were that it was not profitable and a waste of tax money, that it is best not to leave a negative legacy for future generations, and that the funds should be used for welfare and education instead. The fate of the LRT was drawn into electoral politics and became a point of contention among political parties, further complicating the situation.

In the Utsunomiya mayoral election, which took place in November of 2008,

public transportation policy, including LRT, became the most significant point of political contention. As a result, three anti-LRT candidates ran for office, squaring off against the incumbent. At the candidate debate before the election, there were fierce arguments about the pros and cons of LRT. As a result of the election, the incumbent, Eiichi Sato, won the most votes. However, the incumbent's reelection did not translate directly into the introduction of the LRT. Part of the media's response was noticeable in its reporting, which raised LRT as a question at issue for the election, but was no better than election reporting that just listed the pro and con factions.

In March of 2008, Utsunomiya formulated the 5th Utsunomiya Comprehensive Plan in response to a declining birth rate, an increase in the elderly population, and the global environment. The basic concept of its urban structure is a network-type compact city that would increase social capital maintenance efficiency. From the perspective of the revitalization of the CBD, the main focus would aim for the coordination between the city and local areas around public transportation. In response to this, in April of 2010, the 2nd Utsunomiya Master Plan was announced, clarifying the role that east-west trunk-line public transportation should play and positioning LRT with that role.

Utsunomiya City set up "The Local Area Transportation Strategy Implementation Committee." which moved forward to shape the city's network-type compact city concept over two years from the end of 2007. Furthermore, in parallel with this committee, two other committees were established: "The New Transportation System Review Committee" and "The Bus System Review Committee." On April 30, 2009, reports from the three committees were presented to the mayor. The issue of what direction to proceed regarding Utsunomiya's transportation and urban development was made apparent. In response to these reports, the "Utsunomiya Urban Transportation Strategy" was announced in September 2009.

Utsunomiya City's urban transportation strategy sets three goals: "transportation infrastructure that moves everyone with ease," "transportation infrastructure that is instrumental to community development," and "transportation infrastructure that is friendly to people and the environment." In its realization of the networked compact city aimed for in the 5th Comprehensive Plan, the strategy was progressing toward the integration of transportation and urban development. Proactive disclosure of information was implemented to tie in an easily understood explanation to the citizens with consensus-building. First, in February 2011, the city distributed 200,000 copies of an 8-page color pamphlet entitled "Community Development and Public Transportation Network Aimed at by Utsunomiya" to each household in the city, and feedback was



sought. This pamphlet proposed a network-type compact city and emphasized the need for a public transportation network to solve Utsunomiya City's problems. LRT was positioned as one of the options for public transportation. The importance of coordinating various public transportation modes such as BRT ( Bus Rapid Transit) and regional transportation was shown. In addition, during the 67 days from August 22 to October 28, the city hall held open houses at 19 locations, such as district civic centers and large commercial facilities in the city, and 4,500 citizens visited to learn about LRT. In response to the results of these open houses, Mayor Sato expressed his firm intention to open LRT based on his assumed understanding of citizens' opinions (Shimotsuke Shinbun, 2011. 12. 21).

## 5 Movement Toward the Realization of LRT

On November 18, 2012, incumbent mayor Eiichi Sato, who ran on a campaign promise of developing LRT, was reelected to a third term, defeating his anti-LRT opponent by 70%. In a speech he gave at the Shimotsuke Shinbun-sponsored Shimotsuke 21 Forum, Mayor Sato clearly stated that "he wanted to complete the LRT in six years." The LRT Development Promotion Office was newly created in the city hall; the initial budget for 2013 is three times that of the budget for the previous year.

In March 2013, the city announced the "Basic Policy for Realizing East-West Axis Public Transportation." This was based on the Utsunomiya City Transportation Strategy formulated in 2009 toward creating a "network-type compact city" advocated in the 5th Utsunomiya City Comprehensive Plan and the 2nd Utsunomiya City Urban Planning Master Plan. It showed the basic idea for realizing east-west trunk-line transportation, which is the basis of public transit and embodies the "New Transportation System Introduction Basic Plan Formulation Survey Report" compiled by Tochigi Prefecture and Utsunomiya City in 2003. The basic policy is outlined in the following items: (1) the introduction of LRT as a new east-west trunk-line public transportation system, (2) of the total 15 km of the planned route, prioritizing the development of the 12 km on the east side of JR Utsunomiya Station, (3) employment of the following business model - the public will maintain and own and develop the LRT vehicles, rail line and the transit stations. At the same time, the private sector will carry out the operation and day-to-day maintenance and management (public-private separation of transportation infrastructure and operation model), (4) in addition to LRT development, the building of a functionally and effectively coordinated bus network, and (5) the development of a cooperative system of related organizations toward the further promotion of citizen understanding.

In April 2013, Tatsuo Arakawa was appointed as Deputy Mayor of Utsunomiya from the MLIT, and the movement toward the realization of LRT began to accelerate. The movement became more active among those involved in commerce, industry, and local government along the rail line. In September 2013, the Utsunomiya Chamber of Commerce submitted a written request to the city to promote the LRT on the west side of the JR Utsunomiya Station. In October of the same year, the mayor and the town council of Haga Town, neighboring Utsunomiya, sent a written request to the mayor of Utsunomiya asking that the line terminus be extended to the Haga Industrial Park. In the original plan of 2013, the planned section went only as far as the border of Utsunomiya and Haga; however, in response to their request, the section was extended 3 km to the north gate of the Honda R & D in Haga-Takanezawa Industrial Park. It is believed that Deputy Mayor Arakawa contributed significantly to this decision.

In response to this, on November 21, 2013, the "Haga-Utsunomiya Public Transportation Study Committee" was established, and Professor Akinori Morimoto of Waseda University was elected as the chairman. The members of this committee are Utsunomiya City, Haga Town, the MLIT, and Tochigi Prefecture as administrative advisors, and eight surrounding cities and towns such as Kanuma City and Moka City as observers, and stakeholders from the railway, bus, and taxi companies. Since then, 32 committee meetings have been held until February 2022, and the LRT project has gained forward momentum.

The Utsunomiya City Council has also begun to promote LRT in response to the mayor's intention. In 2014, a citizen group that opposed LRT, the "Association to Stop the Introduction of LRT Without the Will of People," collected the signatures of more than 30,000 people and requested the city council to call a referendum. The Utsunomiya City Council's General Affairs Standing Committee rejected the request. In addition, at the Utsunomiya City Council plenary session held on January 29, 2014, while 100 citizens observed the proposed enactment of the referendum ordinance concerning the introduction of LRT, nine city council members had heated discussions over its pros and cons. As a result, the referendum proposal was rejected, with the majority of 28 for and 15 opposed in the vote one hour later (Tokyo Shimbun 2014.1.30).

A nonprofit organization, "Utsunomiya Urban Development Promotion Organization," headed by Chairman Hideyuki Suka, submitted a written proposal to the city in February of 2014 entitled, "Proposals for Business Promotion of LRT and Early Extension to the Central City Area." The LRT will open to the west exit of JR Utsunomiya Station by 2019, and the connection between JR Utsunomiya Station and

Tobu Utsunomiya Station will be planned early. In the future, it will be connected to the Tobu Utsunomiya Line and further extended to Moka and Kanuma. The proposal sought the introduction and rapid development of LRT to improve convenience for the citizenry and revitalize the downtown core (Shimotsuke Shinbun, 2014.2.19).

In response to the requests of the city council, commercial and industrial groups and citizen groups, the introduction of LRT took on speed in earnest. In the 2014 Utsunomiya city budget, in addition to traffic condition surveys and environmental impact surveys, survey and design costs were figured for the first time. As a result, the allocated budget was close to eight times the previous year at 1.2 billion yen.

A change could be seen even among transportation operators who had been negative about the introduction of LRT. In April of 2014, Kanto Automotive, the largest bus operator in the prefecture, made clear its plan of action concerning the construction of LRT to the east of JR Utsunomiya Station. It said that if bus networks were continuously guaranteed for the whole region, "It would have no objections to the introduction of LRT." (Shimotsuke Shinbun, 2014.4.5).

## 6 The Start of the LRT Project

In 2015 an important decision was made that moved the LRT project forward. The fundamental principle was the public-private model of the separation of transportation infrastructure and operation of the LRT. As a result, the Utsunomiya Light Rail Company was established through public and private partnerships on November 6, 2015. The investment was 1.5 billion yen with 40.8% from Utsunomiya City, 10.2% from Haga Town, and 22.8% from the Tochigi Light Rail Support Shareholding Association, a consortium of 26 private companies. Worth special mention were three transportation operators: Kanto Automotive, Tobu Railroad, and Toya Transport, who together invested 15%. The board members are Toru Takai, Utsunomiya Deputy Mayor as chairman; Tetsuo Ueno, Haga Deputy Mayor as vice-chairman; and Masatoshi Nakao, the former Hiroshima Railroad Executive Director operating the new company as its safety manager.

Two essential administrative procedures were necessary to realize a whole LRT line, the first public transportation project of its kind in Japan. They are the city planning decision on the rail route and a rail transport upgrade plan to obtain special permission for the LRT.

In January of 2016, the city held an information session for the general public regarding a draft of the urban design to accompany the LRT project. The city officials

of the LRT Development Office attended to explain the 12km route from the east side of the station to the edge of the city, including the 15 stations, the particular street built to run the LRT vehicles, the widening of part of the section of the main route, and changes in the configuration of intersections called for in the design draft. There were 118 citizens in attendance, the information session lasting for 30 minutes followed by a question-and-answer session with 13 people participating. After conducting a general inspection of the city planning proposal, the city planning was decided at the 63rd Utsunomiya City Planning Council, held on May 26 and announced on May 31. Also, in Haga, under the same procedures, the urban design plan was passed and announced on the same day (Shimotsuke Shinbun, 2016.1.18).

Another crucial administrative procedure was the Rail Transport Upgrade Action Plan. This was based on the Regional Public Transportation Activation and Regeneration Act formulated in November 2015. Within the established project (The Haga-Utsunomiya Eastern Region Public Transportation Network Formation Plan), the Rail Transport Upgrade Project (the LRT project) was formulated to implement (the obtaining of special permission for the rail project) and was presented for approval to the MLIT. The MLIT minister, who received the approval request, consulted the Transportation Council, and on July 26, 2016, the Transportation Council held a public hearing at the Tochigi Prefecture Culture Center. Ten preselected speakers stated their opinion (six favored including the author, and four opposed). As a result, the Transportation Council approved the LRT project in September, and the MLIT Minister approved the special permit request. This was the first LRT project in Japan to establish an entirely new line and the project gained a great deal of momentum toward the opening in 2019.

Elections for the Tochigi Prefecture governor and mayor of Utsunomiya, which occur every four years, fell on the same day, November 20, 2016. The governor was reelected for the fourth time with 80% of the vote. On the other hand, the Utsunomiya mayoral election was a rare close battle. Opposition parties united to set up a candidate for the incumbent aiming for the fourth term, and a fierce election campaign was held. The single most prominent issue in this election was the pros and cons of LRT. Despite the patent approval of the LRT project from the government, LRT opponents put up a large number of fliers during the campaign insisting that "LRT Can Still Be Stopped!", "More Budget for Education, Welfare, and Medical Services Over LRT!" These fliers were distributed to every household. The election result was about 420,000 voters and a turnout of 41.53%. The incumbent Eiichi Sato got 89,840 votes, and the opposing candidate

Kaneko Tatsuo got 83,634 votes, a difference of only 3.6%. As a result, the LRT project was to be continued, but it revealed a big problem; a lack of understanding among the citizenry. According to an exit poll conducted by NHK, 49% of the 1,400 respondents supported the Liberal Democratic Party, 12% supported the Democratic Party, and the rest were nonpartisan; only 38% agreed to build LRT, and 62% of the voters were against LRT. By age group, the older the group, the more the opposition. In principle, the elderly who cannot drive would benefit most from improved public transportation such as LRT, but the older adults opposed LRT. It was probably because of the campaign by the opposition that the budget allocated to the LRT be used to enhance education, medical care, and welfare. However, while half of the total budget for LRT development comes from the national government, opponents failed to inform voters that subsidies from the government can be used only for LRT development.

The lesson learned from this election was that the ordinary citizen lacked an adequate understanding of LRT. Though the mayor held frequent information sessions for the citizens, the city published frequent LRT special editions in the city magazine and had open houses and public lectures; this information never reached many citizens. On the other hand, the opposition focused all their campaign attention on stopping LRT. This election campaign showed that adequate communication with its citizenry is essential for any city aiming to introduce LRT. At the July city council meeting, the city posted its future schedule for the LRT project. The city would begin construction in the spring of 2018 on the 14.6km section on the station's east side and open the line in March of 2022. Permission for the project was obtained from the MLIT in September of 2016 to open the line for business in 2019. However, due to its being the first of its kind in Japan, time was consumed for meetings, adjustments, the necessary design plans for construction, documentation for construction permits, three years to construct a large-scale bridge over the Kinugawa River during the dry season (November-May) and other factors. In August, the city applied to the national government for permission to begin construction (Tokyo Shinbun, 2017.7.12).

To support this movement, the "Citizens' Convention for the Early Construction of LRT" was held on September 2, 2017, centered around over 500 groups and businesses and over 3,000 participants that supported the LRT project.

The Transportation Council in MLIT, which received an application from the city, authorized the Rail Transportation Upgrade Plan (Utsunomiya LRT Project) in September 2017. And on March 20, 2018, construction work was approved by the MLIT.

On May 5, 2018, the opening ceremony for the initial development segment,

Utsunomiya Station's East Side, was attended by the mayors of Utsunomiya and Haga, the governor of Tochigi, Diet members from Tochigi, and related individuals totaling about 200 people. Fifteen years since the New Transportation System Fundamental Introduction Plan was formulated in 2003, construction began, and the project became a reality.

After the median on the prefectural road was removed, construction work began moving ahead concurrently in June with preparation for the LRT railyard, construction of the 643m exclusive LRT bridge crossing Kinugawa River, and transit centers. In addition, track laying work and station construction have begun along the entire route. Construction videos of these projects are available on the Utsunomiya city home page.

## 7 Towards Citizen Participation

The greatest interest among citizens is in designing the LRT vehicles that will run between Utsunomiya and Haga. Therefore, the Haga-Utsunomiya Public Transportation Study Committee set up an LRT Vehicle Subcommittee and an LRT Design Committee and have started studies from function and design.

The LRT Vehicle Subcommittee employed an open proposal system to make participation possible domestically and abroad for LRT manufacturers. In November of 2017, the proposal for tender was advertised, and three companies indicated their intent to participate. In February 2018, the Bid Participant Evaluation Committee contracted the Niigata Transys Company to design and manufacture the LRT vehicles. The same company has a track record of supplying LRT vehicles to Toyama Light Rail and the Fukui Railroad. Under the basic concept of the LRT "bringing Utsunomiya into the future," the design committee promoted a total design concept that coordinates all of the elements from the facilities and vehicle design down to the information signs. It was decided to implement a design poll mainly because of the great interest in the LRT vehicle design. A popular vote poll was implemented for three vehicle designs: Design A, yellow, to symbolize the color of lightning for which Utsunomiya is famous, Design B and Design C, yellow against a black background color both of which make the yellow stand out. The voting period was from May 20 to June 16, 2018. Of the 16,804 votes cast, Design A won with 7,449 votes. Compared to similar polls held elsewhere, the respondents to this poll were very high. It can be said that the poll's effect on citizen participation was significant.

Production of LRT vehicles was in progress, and delivery was set to begin in the spring of 2021. By February 2022, ten trains had arrived. In response to the success of

the design contest, a naming contest for the LRT was carried out, and the system was named "LIGHTLINE" in the spring of 2021.

While construction moved forward on the railroad and stations of the JR Utsunomiya Station east side priority areas of the Haga-Utsunomiya LRT, station names were temporary ones borrowed from the nearest bus stops. Official station names needed to be chosen for the line when it opened. The author was appointed to chair the "Haga-Utsunomiya LRT Station Naming Committee" set up in November 2019, comprised local area voters and local representatives. Items under consideration were: naming selection standards for the 19 stations of the LRT route, the selection procedure, and encouraging citizen participation. The essential criteria in the naming selection were: a clear, easy-to-understand name from passengers' standpoint, lack of bias or favoritism as a public facility, and permanence from the perspective of long-term use. Controversy over the handling of well-known names of private commercial facilities and private educational facilities arose. It was decided to avoid the names of specific individuals or companies. However, both Haga and Utsunomiya considered a naming right scheme for station names. The committee then decided to use the primary station names that matched the original naming criteria and secondary station names introduced through naming rights. The station signage would look like this - besides the primary station name, the secondary name would be displayed in parentheses.

Because LRT stations were public facilities that would be used permanently and the residents would have feelings of affection for, local participation in deciding station names was emphasized to bring about a sense of ownership for the line. Committee members were consulted, and two to three name candidates were selected for each station, then survey sheets were distributed to residents along the line. A poll was carried out over one month in December 2020 by residents along the line. As a result, around 4,500 responses were obtained, and from each station's naming candidates, the ones with the most votes were selected as the primary station name.

## 8 JR Utsunomiya Station East Area Development and the Extension of LRT to the West Side

The LRT starts from the east side of the JR Station, the gateway to the prefecture's capital. In 1987 with the privatization of the Japan National Railway, the 7.3 hectare railyard came under the jurisdiction and ownership of the National Railway's Debt Liquidation Agency and Japan Railroad East. The author has been involved in several committees and discussion groups engaged in the area since 1988. Among them



was the "JR Utsunomiya Station East Side Development Proposal Competition" held 2003-2004, in which the author served as chairman of the selection committee judging six company proposals. The one chosen, Shimizu Construction's "Group Seven-Seven-Eight" proposal, was a new facility complex centered around convention functions. However, because of the Global Financial Crisis in 2008, the plan failed to materialize, and the prime station-front property remained vacant for a long time.

In 2009, the JR Utsunomiya Station East District Development Promotion Council was organized. In 2012, a proposal entitled "Development Policy in the JR Utsunomiya Station East District" was submitted to the mayor. Based on this recommendation, the city conducted an "interactive market research" in 2013 for private companies willing to participate in the project. There were applications from four groups. As a result of the evaluation process by the selection committee chaired by the author, "Utsunomiya Symphony," represented by Nomura Real Estate Company, was selected as the primary negotiation right holder. Their proposal consists of two hotels, an advanced medical facility, commercial and business facilities, etc., centering on a convention center comprised of a large 2000 person capacity hall and a medium 700 person hall. Convenience and symbolism are directly connected to the Shinkansen station, and above all, TOD (Transit-Oriented Development) through LRT integration are significant features. Construction of the facility has already begun and is scheduled to open in late 2022.

Utsunomiya's LRT plan aims to realize east-west trunk-line public transportation. Therefore, in addition to the east side of JR Utsunomiya Station, which is currently under construction, it is essential to cross the JR line and extend LRT to the west side. As for the crossing points of the JR station, it was a realistic option to go through the second floor between the Shinkansen and the conventional railroad. Five places were candidates as openings through the Shinkansen piers for the LRT to pass. The Infrastructure Development Subcommittee for LRT Station Crossings was established within the Haga-Utsunomiya Public Transportation Study Committee, which conducted technical studies. Based on the examination up to 2018, the route that passes through the north side of the station building commercial facility was decided as the optimal station crossing route. The tram stop at the east exit of the JR station will be on the ground, but from there, it will go up to the second floor along the JR line, cross the northernmost part of the station, go west, and head south toward Ohdori Avenue.

Since July of 2019, a newly formed Transportation Node Development Subcommittee has proposed two routes for the LRT west side. One to lower the line



to ground level immediately after coming out to the west side. The other to pass over the Miyanohashi Bridge over the Tagawa River on an overhead and gradually descend to ground level at the Kamigawara intersection. Upon reviewing both proposals, it was announced in December 2020 that the proposal to physically separate LRT from bus and car traffic at the station plaza with an overhead structure had been selected.

It is stated in the basic policy that the extension on the west side will pass along the main street, but it is undecided how far it will extend. The basic plan of 2003 was about 3 km up to Sakuradori Jumonji. At the 17th Review Committee (held on May 11, 2018), five possible candidates of extension to the west considering the effect of introducing LRT for each maintenance section, the number of users, was announced as follows: (1) Sakuradori Jumonji, (2) Gokoku Shrine, (3) near the Utsunomiya Ring Road, (4) the intelligent interchange of the Tohoku Expressway, and (5) the Oya District sightseeing spot. Furthermore, the results of examining each extension's project cost and profitability were announced. In addition, the need for expansion was illustrated by showing an image of the existing road width and the cross-sectional structure of each section.

The most important west side extension project to consider first is the section of about 3 km from JR Utsunomiya Station to Sakuradori Jumonji through the center of Utsunomiya. In the city center, which was dense with commercial functions for four and a half centuries, the central city area lost activity due to the subsequent progress of motorization and urban sprawl. Merchants in the city center who were skeptical of the LRT project began to feel a sense of crisis when the construction of the LRT started on the east side. The municipal government will also coordinate with existing plans such as the 2017 Utsunomiya City Location Optimization Plan, the 2019 3rd Utsunomiya City Master Plan, and the 2nd Utsunomiya City Transportation Strategy. The "Central City Area Revitalization Basic Plan" was formulated. Among them, in anticipation of the extension of LRT to the west side of the station, we are advocating inner-city development that integrates people and LRT. In response to this trend, the Review Committee established the LRT Inner-City Subcommittee in September 2019. Local representatives from the shopping district and the community development council participate in this subcommittee. Then, in August 2020, "LRT Inner City Development Vision" was announced. The overall policy of LRT inner-city development is (1) walkable neighborhood that makes use of LRT, (2) inner-city development that utilizes new technologies such as low carbon and smart cities, and (3) inner-city development in which various stakeholders cooperate. The policy is also a reflection of recent social trends. For

example, regarding walkable inner-city, the MLIT is promoting a walkable downtown promotion project aiming at "a downtown that makes you want to walk comfortably" by citing the cases of Times Square in New York, Himeji City, Matsuyama City, and Marunouchi District in Tokyo. Reallocation of the road space from the main street centered on automobile traffic to pedestrians, bicycles, LRT, etc., which is consistent with the inner-city development policy of the central city area, will be a significant issue. The success or failure of this vision depends on whether or not the government and the private sectors can cooperate to achieve this goal.

## 9 Concerning Opening Delays and Cost Overruns

At the end of January of 2021, there was shocking news. In short, it was announced that the LRT opening would be delayed by about one year and that there would be a 22.6-billion-yen cost overrun. On January 22, the mayor of Haga and on January 25, the mayor of Utsunomiya made this news public to their city and town councils, called press conferences, and apologized to their constituents. The city of Utsunomiya acquired 95% of all the land for the project at the end of December 2020. However, negotiations with some landowners delayed the completion by one year from March 2022. On the other hand, project costs had increased by about 50% from 45.8 billion yen at the beginning of the project to 68.4 billion yen. The itemized results of a geological survey showed that the following sizable increases in construction costs in the entire primary development area were deemed necessary: responding to on-site work conditions, the deepening of subgrade improvements, and modifications to basic specifications for supporting structures (11.7 billion yen), responding to changes such as increased construction demand (3.9 billion yen), safety and convenience improvements (4.8 billion yen), and the removal of buried objects (4.6 billion yen). The only cost decrease was 280 million yen for revising the rail track structure. Public work construction, especially new rail construction, can only be offered for use after completing the entire line. For this reason, a delay in securing even one location on a project can impact the whole construction schedule, and a delay in the construction schedule means an increase in project costs. Furthermore, in many cases, geological substructures and buried objects are often unknown until actual construction begins. As a result, issues of cost overruns, both domestic and abroad, are frequent in number. In the case of the Haga-Utsunomiya LRT, this was the first new construction of an LRT line in Japan. Therefore, there were many factors of uncertainty and technical inexperience. However, clear accountability for these cost overruns is necessary if the public's taxes are used.

## 10 Conclusion

Thirty years since its conception, fifteen years since its basic introduction, and four years since the beginning of the Utsunomiya LRT, the first newly constructed LRT line in Japan, is scheduled to open in the spring of 2023.

In the midst of globally advancing motorization, trying to introduce the LRT, a new form of transportation into a conspicuously car-dependent Utsunomiya, where most people were unfamiliar with LRT, may have been a reckless challenge. However, to address a myriad of problems in Japan, such as an aging population, population decline, climate change, and the hollowing out of our city center, the author believes choosing to move forward with an environmentally friendly, sustainable urban development was the correct choice. The problem is how to get more people to understand this way of thinking. As described in this paper, this project has been influenced by various political trends to become a reality. In the past twenty years, over five gubernatorial and mayoral races, the LRT has been a point of contention in each election.

On November 11, 2020, the Tochigi gubernatorial and Utsunomiya mayoral races were held, with the incumbent Tomikazu Fukuda winning his fifth term with 67%. In the mayoral race, the opponent who ran on demand of a temporary freeze of LRT construction amid the pandemic was defeated by the incumbent, Eiichi Sato, who won his fifth term with a wide margin of 66% of the vote. When one looks at the results, voters' understanding of the project has increased. The recently announced delay of the LRT opening and the significant increase in project costs may be a temporary opportunity to breathe a bit of life into the opposition; however, once the LRT is finished and under operation, the author believes this will have been just an unfounded worry.

Amid a decreasing population and heated intercity competition, the newly operational Haga-Utsunomiya LRT and its starting point, the JR Utsunomiya Station East District Development Project, will gain national prominence as the showcase of city brands and is anticipated to attract increasing numbers of visitors. The introduction of LRT will improve punctuality, speed, and convenience and improve accessibility due to coordination with secondary transportation modes to transit centers and stations. As a result, the expansion of businesses in the industrial park currently under construction will continue, and there is the potential for an increase in the resident population. Also, urban development, which integrates LRT and an extension on the west side downtown core, will move forward, hoping that speeding up its realization will help it become a national model. Furthermore, it is necessary to address the potential for linking JR Utsunomiya

Station with Tobu Utsunomiya Station and connecting the LRT line with the Tobu Utsunomiya line, a long-held dream of the citizens of Utsunomiya. In the future, the LRT line will directly link to the Moka Railway in the east and to the Nikko Line in the west to form an area-wide public transportation network for the entire central prefecture area.

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