1. Introduction

Japan invested heavily in road construction after World War II. After the war, Japan embarked on a project to build toll expressways all over the country, spending a large proportion of its GDP to do so. Automobiles became more popular as the standard of living increased (Feldhoff 2007, p. 103). In 1956 the Japan Highway Public Corporation was founded, and this began the development of toll roads – mostly expressways – across Japan (Road Bureau 2014). In the Tokyo area, the Metropolitan Expressway Corporation was established in June 1959 in preparation for the 1964 Tokyo Olympics (Sorensen 2002, p. 192).

After the bombings of World War II the road net-work in the Tokyo area still existed, so roads were initially rebuilt to follow this prewar pattern (Ichikawa 2003). Roads were then gradually widened and straightened. Often existing roads were widened during post-war land readjustment projects (Sorensen 2002, p. 160). In Tokyo, Aoyama Street and Roppongi Street were widened when Japan hosted the Olympics in 1964 (Ichikawa 2003). Across Japan boulevards were built over 50 metres wide in large-sized cities and over 35 metres wide in medium sized towns (Koshizawa 1991, pp. 200-201, and Nakamura 1986, p. 20, cited in Sorensen 2002, p. 159). These boulevards became fire breaks in addition to satisfying the demand for future automobile growth. The traffic conditions were bad along the narrow streets of small and medium-sized cities, so post-World War II reconstruction enabled these road systems to modernize (Sorensen 2002, p. 159).

Wide arterial roads were also laid out (Sorensen 2002). An arterial road network developed in the form of ring and radial roads around Tokyo with some roads as wide as 100m (Ichikawa 2003, p.53). Several arterial roads were constructed in the urban fringe of Tokyo after World War II; however, there was often no money to build them (Sorensen 2002, p. 195). In suburban Saitama Prefecture near Tokyo, urban development along narrow roads has been a hindrance for the implementation of arterial roads due to cost of expropriating land and tearing down buildings (Sorensen 2002, p. 328).

Sorensen (2002, p. 195) also mentions that the road network in Tokyo had its origins in the feudal era. Secondary roads throughout Japan were historically 5.5 m wide (Road Bureau 2014). Sorensen (2002, p. 160) states that this modernization often involved widening some roads and straightening others. Often the building of these roads has been associated with land readjustment (Sorensen 2002, p. 195).

The lack of control over planning roads started in 1950 when a regulation known as the Building Line System’ was replaced with a regulation that just stipulated minimum road widths (Sorensen 2002, p. 264). Up until 1950, the Building Line System allowed the planning of local roads along straight lines (Ishida 2003). But after 1950 planners only had control over larger arte-

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2 There is a paucity of literature in English on roads in Japan. I often refer to Sorensen (2002) who has written on Japan’s urban environment, including the development of roads and the transportation system in general.

3 The building line system, which was adopted from Germany, lined up the fronts of buildings along roadways, so buildings were located in a line along a street (Sorensen 2002). This system helped prevent sprawl in rural-urban fringe areas.
rial roads that were designated under the City Planning Law (Sorensen 2002, pp. 264-265). Thus, the 1968 City Planning system was weak in terms of regulations (Sorensen 2002, p. 264): planners could not control the design of new local roads, except that they were at least four metres wide, and in the rural-urban fringe planners could not control private roads in new developments. Sorensen states that the District Planning System, introduced in 1980, was supposed to make regulations regarding road design more enforceable (p. 265).

Road transportation in Japan grew from 1950 to 1995, and then it started to level off from 1995 to 2001 (Feldhoff 2007, p. 103). Feldhoff states that road improvements were a priority in the government’s infrastructure development plans (p. 103). Between 1954 and 2002, there were 12 national five year road improvement programs (dōro seibi gonenkan keikaku) (Kokudōkōtsūshō Dōrokyoku: 20 (Dōro pokettobukku, 2002, cited in Feldhoff 2007, p.103). At a more macro level, there was much transport infrastructure investment in comparison to Japan’s GDP up until the 1990s. Then there were budget cuts, and investing in transport infrastructure, including roads, started to decline (OECD June 2012, p. 1).

Japan had the highest investment in inland transport infrastructure from 1995 to 2004 (which would include roads) in the world (OECD June 2012, figure 2, p. 4). According to Feldhoff (2007), in 1970, 44% of public infrastructure investment was allocated to road construction, but that declined to 30% in 2002 (p. 105). In 1995 inland transportation investment was over 3% of GDP, but it fell to about 1.6% in 2008 (OECD June 2012, fig.2, p.4). Similarly, the volume of investment in inland transport infrastructure also declined the most overall in Japan from 1995 to 2010 compared to other parts of the world (OECD June 2012, figure 4, p. 5). This decline may also be due to the near completion of the expressway system (OECD July 2011, p. 3). In 2005, after this post-growth phase, the Koizumi government privatized the toll expressways in an attempt to save money, as the four national highway-related public corporations had gone into debt after over-estimating toll revenues (Feldhoff 2007, p. 104). This process took time, and there was much opposition among the ruling Liberal Democratic Party and some public officials (Asia: Highways to Hell; Japan 2003).

Whereas new roads and highways are often built to alleviate traffic congestion, their justification can also be to promote regional economic development. Feldhoff (2007) illustrates this with an example from Shikoku where an expressway was proposed in part to provide jobs for road construction workers who would not otherwise have work in this region, which is far from any major urban centre. Whereas the central government was promoting large scale roads and jobs for road construction workers, it was likely that this led to a need for larger capacity roads near interchanges to cope with the increase in traffic.

The construction of roads in Japan has had a major impact on the design of the landscape in both urban and rural landscapes. This is evident at both large and small scales as Japan has developed an interconnected network of roads, highways, and toll expressways since ancient times. Thirty roads, totaling 138 km in length, were built for the 1964 Tokyo Olympics (Sorensen 2002, p. 191). Sorensen also states that inner-city elevated expressways were built for the Olympics. He says that they have dominated down-town Tokyo and destroyed some of the canals (Jinnai 2000, p. 85, and Seidensticker 1990, p. 229, cited in Sorensen, 2002, p. 192). Sorensen comments that Nihonbashi bridge, which is the starting point of many roads in Japan, is now dwarfed by elevated expressways, which total 263.4 km (Sorensen 2002, p. 193) (Figure 1).1

As local governments have increasingly become involved in land-use planning (Sorensen 2002; Watanabe 2007), they must compromise between local landscape preservation efforts and regional development, which may involve adjacent municipalities and prefectures. This is an issue in the rural-urban fringe of Tokyo where there are urban development pressures on landscapes which are deemed worthy of preserving by local communities.

2. New roads and the growth of Metropolitan Tokyo near Tsukuba City

Japan, in spite of its slowing economy, continues to build large roads, albeit at a slower pace, for both alleviating traffic problems and for regional economic development. One example is the Tokyo Intercity Metropolitan Expressway or Ken-Ō-Dō. It is a ring road around Tokyo that had its first section completed in 1996 (Haruyama, Teramoto and Taira 2005), and as of 2015, still has sections to be finished. The justification for the Ken-Ō-Dō’s construction has been that a world class city like Tokyo needs a ring road, which would actually be the third ring road as there is already the Chūō Kanjō route and the route (OECD n.d.). The Chūō Kanjō route is the most inner ring, the Gaikan route is the middle ring, and the Ken-Ō-Dō is the outer ring (Kokudō Kōtsūshō 2015a). With Japan hosting the 2020 Summer Olympics, there will be more road traffic, so another ring road is needed (Chūō Kanjōsen… 2013). A further justification of the Ken-Ō-Dō is the need for an evacuation road when there is a disaster (OECD n.d.; Chūō Kanjōsen… 2013). The two outer ring roads still are unfinished and the inner ring – Chuokanjō route – just had its last section completed in 2015.

These roads are part of a long-term plan to relieve traffic congestion in Tokyo and are probably budget-ed for the long term. They also exemplify the incre-mental nature of highway construction. The building of the Ken-Ō-Dō is also indicative of the growth of the metropolitan Tokyo area. In about 2007, one section of the Ken-Ō-Dō was built through Ushiku City, Ibaraki Prefecture (Kokudō Kōtsūshō 2015b), which is about 50 km north-east of Ueno train station in To-kyo. More recently – around 2010 – the Ken-Ō-Dō was built through the southern part of Tsukuba City, which is adjacent to, and north of, Ushiku (figure 2). There has been an increase in traffic around the Tsu-kuba-Ushiku interchange of the Ken-Ō-Dō and some new urban development.

But the increase in traffic can also be attributed to the steady growth of Tsukuba City since the Tsukuba Express train line was

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1 The elevated expressway above Nihonbashi in central Tokyo exemplifies the post-World War II growth of highways and toll expressways starting in the 1950s and extending into the 1990s bubble period.
established in 2005 (Development along Tsukuba line …2015). Up until 2013, Saitama and Kanagawa Prefectures, which adjoin Tokyo Prefecture, continued to grow (Japan Statistical Yearbook 2015; Waldichuk 2015). Interestingly, the population of Tsukuba City in southern Ibaraki Prefecture near Tokyo increased from 200,528 in 2005 to 218,864 in 2014 (Japan Statistics Bureau Homepage, Japan Statistical Yearbook 2015).

This rapid growth was due mostly to the new Tsukuba Express train line that opened in 2005 and carries passengers from Tsukuba to Akihabara, Tokyo in less than one hour (figure 3). The Tsukuba Express line has three stations in Tsukuba, two of which were built in largely rural areas, and since that time, many condominium complexes have sprung up around these two stations. This, in part, accounts for the rapid rise in population. Toward Tokyo, more urban growth has sprung up along the line. The JR Jōban Line to the east and south is an older rail line, and the only recent urban development to occur along the Jōban line is near Hitachino-Ushiku Station in the northern part of Ushiku, which I will talk more about later. A few minutes northeast of Hitachino-Ushiku station is Arakawaoki Station and then Tsuchiura Station in the centre of Tsuchiura City. The population of Tsuchiura actually declined slightly from 2010 when it was 143,023, to 2012, when the popu-lation was 142,993, but then it increased to 145,532 in 2014 (Japan Statistical Yearbook 2012, 2014, and 2015).

Ushiku’s population grew slightly over the same period, from 81,684 in 2010 to 81,909 in 2012 and 83,990 in 2014. Tsukuba, Tsuchiura, and Ushiku are all close to each other, which results in more traffic flow among the three places. Because of the proximity to Tokyo, where one can commute to work, and because of the new Tsukuba Express train line, which has led to regional developments in the surrounding area (Miura 2012), it is likely that the overall area will grow in population, with most of the growth in Tsukuba and the northern part of Ushiku along Nishi Ōdori road toward the Jōban expressway.

This paper focuses in part on the planning process involved with a highway bypass in Ushiku city that will connect up with the Ken-Ō-Dō. How are the decisions to create such roads made and do residents have a say in how a road is constructed, where its route will follow, and what modifications to the route are possible by residents? Transportation has generally been planned by the central and prefectural governments (Sorensen 2002, p. 303). Similarly, city planning in Japan, referred to as toshikeikaku in Japanese, is based on regulations developed by the central government (see Watanabe 2007). Watanabe says that this top-down planning system has ensured that local plans fit in with regional and national plans, and it was an efficient system when planning transportation, such as expressways in the 1960s and 1970s. Up until recently, referring to Arnstein’s ladder of public participation6, city planning has only involved token participation of the public: showing the public the best plan and asking for the public’s support (Watanabe 2007, p. 49). Thus, there was no or little input from local residents affected by planning decisions.

Throughout Japan, residents have been wanting to become involved in community planning, including those dealing with transportation issues. Yet commu-nity involvement has sometimes led to protests as was the case in planning the Ken-Ō-Dō through the eastern part of Tokyo near Mt. Takao; there are many blog entries on the internet about the Mt. Takao pro-tests from about 2006 to 2010. Sorensen (2002, p. 346) also mentions that residents are often highly opposed to highway construction -- for example, the Ken-Ō-Dō and the other ring roads around Tokyo, which pass through densely built up urban areas in western Tokyo. Sorensen also states that in spite of strong opposition, most projects have proceeded. Clearly, these protests are related to the planning process.

The transportation ministry, which is part of MLIT (Ministry of Land, Infrastructure, Transport, and Tourism), has recently included public participation in its policy6 (Road Bureau 2014). Feldoff (2007) also states that recently the government has started to increase public involvement in transportation planning at the central government level. He states that MLIT has come up with “Guidelines on Public Involvement Procedures in the Planning Phase of Public Works Projects under MLIT Jurisdiction.” p.102. In general, the central government has been trying to ease people’s opposition to unwanted public works projects through the creation of new institutions and has been trying to increase public participation in the policy formulation of all public works projects (Feldhoff 2007). However, Feldoff is still skeptical about public participation, stating that “a true consultation mechanism empowering citizens to substantively influence all the processes from proposal formulation and planning to the implementation of public works projects is still lacking – and, of course, is an ideal very difficult to attain.” (2007, p.102).

In 2003, a Priority Plan Act for Social Infrastructure Development came into being, which was based on public input (MLIT n.d.). General guidelines have been developed for the inclusion of citizen input into road planning with the objectives of having a planning process that is more transparent, objective, rational, and just (Kokudō Kōtsūshō 2005). The guidelines refer to listening to citizens’ opinions and in-formation and providing them with information. The guidelines also elaborate on who should be involved in the road planning process and which organizations, including levels of government and adjacent municipalities, should be involved. In its strategic plan for the period from 2007 to 2012, MLIT’s third objective was “To improve life and environment from citizens’ viewpoint” (OECD n.d., p. 10).

Cities have also been involved in planning their own communities – including the implementation of roads – as the central government has gradually devolved some of the responsibility of planning onto local governments (Sorensen 2002). The master plan system was part of the changes to the City Planning Law in 1992, and local governments had to develop overall plans for their communities that involved public input (Sorensen 2002; Watanabe 2007). However, many of the proposals in master plans did not become reality due to the inability of municipal governments to enforce the changes (Sorensen 2002, p. 303). Moreover, land-use decisions by higher levels of government do not take the master plan vision into consideration (Sorensen 2002, 304).

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6 Arnstein (1967) created a ranking system or ladder of public participation, where rung No.1 involved no public input whereas rung No.12 refers to total public control.

6 See Appendix 2 for details of public participation policies of MLIT.
Since about 1960, local residents have become involved in machizukuri (literally “town making”) at the municipal level (Watanabe 2007). Through machizukuri, locally acceptable plans have been produced. This approach often involves incremental landscape change (Sorensen, 2002, p. 314; Watanabe 2007, p. 43). Watanabe (2007) mentions that change should be more like rehabilitation than clearance and redevelopment (p. 46). Sorensen (2002) mentions that since the 1990s, more people have been involved in the planning process and in machizukuri activities and that there has been a growing desire for historical preservation (p. 332), but local governments have continued to have weak finances.

Local involvement in planning has involved the opposition to new road proposals (see Feldhoff 2007 or Funck 2007, e.g., local opposition to arterial roads in the Osaka area). Feldhoff (2007, p.102) mentions that MLIT has recently increased public involvement in road building decision making, e.g., “Guidelines on Public Involvement Procedures in the Planning Phase of Public Works Projects under MLIT Jurisdiction.” I will explore machizukuri in terms of the public’s involvement in road building in Ushiku City.

The negative social and environmental impact of building roads on local communities cannot be overlooked. In terms of public works projects, the government has made environmental impact assessment requirements stricter and has introduced a new public works evaluation system (Feldhoff 2007, p. 102). More specifically, the transportation ministry examines the environmental impacts of proposed roads (Road Bureau, 2014, p. 16). Probably the biggest impact is on people whose homes and or properties are expropriated to make room for roads. Other social impacts can be more traffic and noise. Further impacts can be seen on the natural landscape when trees and other green spaces have to be removed, resulting in flooding or erosion, and there can be an impact on landscape aesthetics.

In sum, I will examine the planning and implementation challenges of a proposed road bypass linking Ushiku, Tsukuba, and Tsuchiura cities, and the Ken-Ô-Dô. I will first introduce Ushiku and then examine the justification for this highway bypass, which in addition to alleviating traffic, will also spur regional economic development. I will also describe the bypass and look at how it has been built incrementally owing to budget cuts and how its route has changed, involving municipal and national roads. In the second part of the paper, I will examine how Ushiku is portrayed in its 2011 master plan, and then I will look at the public participation process involved in implementing the proposed bypass. Third and finally, I will examine the impacts of the proposed bypass on Ushiku City, focusing on Shimo Machi and Jōchū wards, both of which have heritage value according to the 2011 Ushiku master plan.

1 I have chosen to use the word “ward” (meaning “ku” in Japanese) to identify Shimo Machi and Jochu because they are part of the modern-day ward system in Ushiku. Literally translated Shimo Machi is Shimo Town (machi means town), but because its population is so small (around 1,000 people), I have chosen to call it the Japanese name (Shimo Machi) with the addition of ward at the end.

3. Background on Ushiku and the history of the proposed Ushiku-Tsuchiura bypass

As mentioned previously, in 2014, Ushiku had a population of 83,990 (Japan Statistical Yearbook 2015; Waldichuk 2015) -- the city’s population has been growing slowly. Ushiku has long established itself as a commuter city. National highway Route 6 runs from Tokyo through Ushiku, and it terminates in Sendai city in Miyagi Prefecture. It is 375 km long. Route 6 is a main corridor with only two lanes, many traffic lights, and it is often plagued with daily traffic jams (Waldichuk 2015). Figure 4 shows the downtown core of Ushiku, and the JR Jōban train line that parallels Route 6. Figure 5 shows heavy traffic along Route 6 in the downtown area.

The proposed bypass is 15.3 km long from Ushiku to Tsuchiura, and 3.9 km of it has already been completed northeast of Ushiku. The bypass crosses the Ken-Ô-Dô in Tsukuba between Ushiku and Tsuchiura (figure 2). The criteria to plan the bypass route had to consider land-use conditions, terrain, geology, public facilities, shrines and temples, historic ruins, the clustering of homes (Ushiku Shi planning section n.d.). There was also an environmental impact assessment done in 1991, which considered seven categories: 1. Atmosphere, 2. Noise, 3. Vibration, 4. Subsidence, 5. Terrain-geology, 6. Animals and plants, and 7. Landscape; the impact of traffic volume on the environment was also considered (Ushiku Shi planning section n.d.). The decision makers did not want the road to pass through areas where protected species exist. When building the bypass those in charge planned to green embankments along the route. The design and construction phases of the bypass bridge that crosses the Inari River has had to minimize the negative effects on the environment (Ushiku Shi planning section n.d.). Due to environmental concerns, the location of the proposed bypass has changed. There was an earlier proposal that the bypass follow the shores of Ushiku Lake, but according to a city politician this route was abandoned due to the potential for environmental damage to the lake (pers. comm., May 2014). The builders of the bypass have tried to preserve the area surrounding the route (Ushiku Shi planning section n.d.). The focus of this paper is the southern 1.3 km section of the bypass between Jōchū and Shimo Machi wards in Ushiku, known as the Tōyama-Jōchū road. I will also focus on a second adjacent section known as the Jōchū-Tagu road, which has become a shorter alternative route to the proposed 15.3 km bypass and runs parallel to it but further east toward Route 6 and relies on linking up with existing roads to bypass Route 6. Please see Appendix 1 which gives a time line of events related to the construction of the Ushiku-Tsuchiura bypass.

3.1 Reasons to establish a bypass

The reasons to establish a bypass and change its route are as follows. First, the number of traffic accidents will decrease (Miura 2012). Second, the bypass will help with regional revitalization (Miura 2012). A new Aeon shopping mall has already been built between Tsukuba and Ushiku, opening in March 2013, and a bypass would allow people to go there more quickly from the Ushiku area. Convenient access to the Ken-Ô-Dô expressway is another reason to build the bypass.

1 This paragraph is based on Waldichuk (2015).
3.2 Budget problems to build the bypass and subsequent changes to its route

Sorensen (2002) talks about the small budget that municipalities have for urban infrastructure, even though they have been given more planning responsibilities from the central government for urban planning. One can relate this problem to what has happened in Ushiku -- there has been a reduction in money from the central government to complete the entire 15.3 km bypass as a four lane road. So the alternative Jōchū-Tagu bypass, as explained above, is being built sooner along city roads; the 1.3km Tōyama-Jōchū section -- a national road -- will also be built and will connect with the Jōchū-Tagu bypass, which is part of Ushiku’s city plan -- this is termed “bubuntekina seibi” or partial servicing (Ushiku Shi planning section n.d., p.2) (see Waldichuk 2015) (figure 6). To reduce costs the Tōyama-Jōchū national road section is initially being built with two lanes, rather than four (Takehi, n.d. p. 2); (see Waldichuk 2015).

This two lane option was decided sometime during or before 2010. In June 2011, I received printouts of bypass information from Ushiku City Hall, written for the residents in the affected areas and which only had four lane road options. One of those options was an elevated road, with a single 5 metre wide sidewalk on one side at ground level. However, recently I acquired a PDF from the internet that seems to be a 2013 version of the printout with a new two lane option. This information is from the transportation office in Tsuchiura (Kokudō Kōtsūshō, 2014a). The two lane option has a narrow median between the two lanes containing greenery; the lanes are the same width as in the four lane option – there are just two of them. The sidewalk is the same width as the four lane option (3.5 metres), but the trees are removed so cyclists are included on the diagram with pedestrians. On the PDF this is labelled as a temporary adjustment, meaning that there may be four lanes built in the future.

The alternative bypass, the Jōchū-Tagu Road, will link up with the 3.9 km section of the bypass that has already been completed where it crosses the Ken-Ō-Dō in Ushiku. This Jōchū-Tagu road is listed as a toshikeikaku dorō (city planning road) in the 2011 master plan (Ushiku Shi, 2011, p. 59). The plan mentions that this area is important but does not specify why. The Jōchū-Tagu road illustrates incremental change to the road network in Ushiku. Sorensen (2002) mentions that machizukuri activities commonly take place incrementally. The section of the Jōchū-Tagu road near Ushiku elementary school was paved in the winter of 2006 (figure 7). In 2013, I observed that the road extended past Kariya Danchi and into Tagu Ward. As of May 2014, it had reached the Ushiku produce market (figure 8). The road is two lanes wide with wide sidewalks on both sides. According to Takehi (n.d), p. 3, the rationale for the two lane road connecting Tōyama and Jōchū is that it is cheaper, and it can be built sooner than the four lane option.9

3.3 The effects of the routing of the Tōyama-Jōchū bypass

The Tōyama-Jōchū bypass road will be built through the lowlands of Jōchū ward, then through the uplands of Shimo ward, and it will have an impact on the landscape of both towns. It is important to think about the effects of the bypass project in the early stages when talking about connecting the 1.3 km Tōyama-Jōchū bypass to the Jōchū-Tagu road (Ushiku Shi planning section n.d.). As mentioned above, there was an environmental assessment of the routing in 1991.10 I will examine what historic and cultural landscapes currently exist in Shimo machi and Jōchū wards, before moving on to talk about the impacts of the bypass on this landscape.

This bypass will split Jochu ward from southeast to northwest with historic Jōchū hamlet located on the south side (figure 6). According to one of the ward leaders, there was talk about the bypass being a high speed route. One proposal was to dig the bypass into the ground, and then have a bridge over it to allow traffic to pass; another proposal was an elevated route. Based on a conversation with a School Board official in May 2015, and Waldichuk (2015), from 2014 to 2015 there has been an archeological study conducted along the proposed route in Jōchū. This archeological investigation process is also outlined by Kokudō Kōtsūshō (Kokudō Kōtsūshō, 2014a), and is also mentioned on p. 19 of Roads in Japan (Road Bureau 2014). On an older city planning map, the bypass curves differently as it enters Jōchū from Route 6 in Tōyama to the south (see Waldichuk 1995, p. 173). This was a city bypass proposal from Tōyama to Jōchū that was changed to the current central government’s bypass proposal. According to Sorensen and Funck (2007, p.273-274), these roads and bypasses have been approved legally. If the government cancelled these plans, landowners might seek compensation for having unnecessary development restrictions placed on their land.

4. Land-use planning in Ushiku according to the 2011 master plan: Machizukuri (town making), Netowaku-zukuri (network making), Keikan-zukuri (landscape making) etc.

The following is a summary of the 2011 Ushiku master plan.

Questions to keep in mind while summarizing the plan include: are the Tōyama-Jōchū and Jōchū-Tagu bypasses compatible with this plan? Is the Ushiku-Tsuchiura bypass in its original form compatible with the plan? The 2011 Ushiku master plan promotes community development by focusing on cultural and historic tourism and some landscape preservation. To support more interaction among visitors and residents, the plan advises improving tourist information and the continuation of machizukuri activities related to tourism (Ushiku Shi, 2011, p. 32). The plan talks about preserving areas in and around satoyama11 (traditional farm hamlet (shūraku) landscapes for tourism purposes and making use of existing, or creating more, tourism resources in places throughout Ushiku (Ushiku Shi, 2011, p.32). According to the plan, tour-

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9 According to an Ushiku City planning section document, the reduction in the budget allocated for the bypass may be due to a change in the central government, but I have not seen this rationale for the reduced budget elsewhere.

10 I have only been able to access partial results on the internet of this 1991 impact study of the bypass.

11 A satoyama is a traditional farm village made up of farm households, rice paddies, dry fields, and wooded areas (see Kobori and Primack, 2003)
ist information posts and signs should be set up and promoted.

Next, the plan talks about making landscapes (keikan keisei) and networks (nettowakuzukuri) involving history, culture, and green space (Ushiku Shi, p. 32). There is further talk about preserving the components of satoyama landscapes, including the wooded slopes between the lowlands and the uplands, the woods on the flat uplands and the settlements there. The satoyama are called “the special landscapes of Ushiku” (Ushiku Shi no tokuchoteki na keikan de aru satoyama, p. 32).

The city has been trying to promote the preservation of green space and traditional landscapes, such as the satoyama. It has also been promoting the creation of green space corridors. Much of this preservation and landscape enhancement has been promoted in order to bring tourists to Ushiku. Another of the city’s goals – as exemplified in the master plan – is community development in terms of increasing social and economic activity in Ushiku. How can new roads, such as the Route 6 Ushiku-Tsuchiura bypass, be integrated into such a landscape plan that involves green space and historic landscape preservation?

In the plan there is mention of designating areas with important characteristics according to citizen input as an ongoing process (Ushiku Shi 2011, p. 37). The plan refers to the public input as part of the landscape (keikan) machizukuri network activities. But are citizens’ opinions considered when planning new roads?

Shimo Machi and Jōchū Wards: their history, culture, and natural landscape and what the 2011 master plan says about them:

Before outlining the impacts of the proposed Tōyama-Jōchū bypass, I will give some background to Shimo Machi and Jōchū wards including their history and contemporary characteristics. I will talk about how they are zoned, and about the future for these two wards according to the 2011 Ushiku master plan. I will also comment on how compatible these plans are in relation to the proposed bypass and the recently constructed Ken-Ō-Dō.

4.1 Background on Shimo Machi and Jōchū:

Both wards are connected to each other and are located in the southwestern part of present-day Ushiku City (figure 6). As can be seen on the figure, the proposed Tōyama-Jōchū bypass will separate the two wards. The wards are part of the old Ushiku machi (town), which later amalgamated with two other communities to form Ushiku City. Shimo Machi ward, which is closer to downtown, is in an urbanization promotion zone. Jōchū ward is further from the downtown core near Ushiku railway station and is in an urbanization control zone, where most urban development is prohibited.

4.2 Historical and contemporary characteristics:

Shimo Machi ward was a “post station town”, or a shukuba machi (also known as Ushiku juku), along with adjacent Kami machi ward, and together they were located along the ancient road from Tokyo (then Edo) to Mito Castle; this road has been superseded by Route 6, and the ancient road is now called old Route 6. The landowners during the Edo era lived in long lots facing the street next to inns and shops. There are no more inns, but the old residences remain as do some shops.

Jōchū Ward borders Shimo Machi ward on the south side and is located along the shores of Ushiku Lake. The historic Jōchū hamlet in Jōchū ward is a good example of a satoyama (discussed previously). In this case, lowland rice paddies surround the hamlet to the lake, with forested slopes leading to the uplands (Ushiku Shi, 2011, p. 32), and farmhouses are located along with dry field vegetable crops and in some cases orchards. The landscape of Jōchū also has many cultural and tourist landscapes (Ushiku Shi, 2011). In Jōchū hamlet there are the ruins of Ushiku Castle, including the dry moat. Jōchū is also known to be the home of the kappa, the water creature that is thought to come from Ushiku Lake, which borders Jōchū. Ogawa Usen was an artist who lived in Jōchū during the second half of the 1800s and painted water colour images of kappa. A museum of his work is located in the town on land where his descendants live, and there is an iris garden (ayame en) (Ushiku Shi, 2011, p. 68) surrounding a sculpture of kappa along the shore of Ushiku Lake in Jōchū. Kappa has also been adopted by the city as a mascot, and there is even an annual kappa festival. A more contemporary famous person, Sumi Sue, who wrote Hashi no Nai Kawa (“River without a bridge”) also lived in Jōchū, where her house still stands.

4.3 How Shimo Machi and Jōchū Wards are described and categorized in the master plan:

4.3.1. Shimo Machi Ward:

Shimo Machi ward is in the suburban western area (shigaichi nishi chi’iki) of the plan (pp. 55-60), which includes the west side of Ushiku train station and an area northwest of the station (Ushiku Shi, 2011, p. 55). Also, the Shigaichi Nishi area includes the vestiges of the old Ushiku juku, which consists of the old Shimo and Kami Machi areas, which, as mentioned previously, are joined together. The Ken-Ō-Dō and the Jōchū-Tagu road pass through this area (Ushiku Shi, 2011, p. 59), so there has been and continues to be much landscape change occurring.

Part of the basic policy of this area refers to old Ushiku post station town and similar places, and revitalizing their historical charm. More specifically on p. 57 of the plan, there is mention of upgrading the landscape of old Ushiku post station town, but no details are given. On the map on p. 59 of the master plan there is a text box devoted to the historic land preservation of old Ushiku (Kyūushiku). There is a focus on upgrading the historical town view (machinami), so that through machizukuri, Shimo and Kami Machi take on the special characteristics of the former post station towns. In addition, green space preservation is advocated but with a focus on Kariya and Tsutsujigaoka wards.

When I spoke to a former leader of Shimo Machi ward in 2013, he was very interested in the historic preservation of Shimo
Machi; for example, the landscape along old Route 6 – the Mito-kaido – although there had not been any action taken toward its historic preservation. Such post town preservation has occurred in Tsumago, Nagano Prefecture (Siegenthaler, 2003).

Thus, historic and green space preservation of nishi chi’iki – with a focus on historic preservation in Shimo (and Kami) Machi wards – are promoted in the plan, in spite of the new Ken-Ô-Dô and Jōchû-Tagû road running through this area, which also has implications for the safety of seniors. I think the greenery policy will be a challenge to maintain once the bypass is put through Shimo Machi as there will be a reduction in farmland and forest in Shimo (and Kami) Machi.

### 4.3.2. Jōchû

In the 2011 master plan, Jōchû is located in the southern area (Nanbu Chi’iki) (p. 67). In the southern area the focus is on the landscape of Ushiku Lake and the abundance of green space (Ushiku Shi, 2011, p. 67). Highlighted points about the Nanbu area include the water’s edge around Ushiku Lake, the forest, and the history of the remains of Ushiku castle. There is also concern about the narrow roads and some of the intersections. In terms of the objective of “area making” (Ch’i’ikizukuri), the future image of Nanbu involves valuing the nature, history, and culture of the area and upgrading the quality of living and tourism (Ushiku Shi 2011, p. 68). Thus, I think this level of desired preservation poses a challenge when implementing a bypass road between Jōchû and Shimo Machi wards.

### 4.4 Landscapes in the master plan

The landscapes of Jōchû feature highly in the 2011 master plan. They are talked about in the first half of the plan (pp. 31-32 and 36) when describing in general terms city-wide community development, and more specifically when promoting tourism. Jōchû is also highlighted when the plan mentions the creation of landscape and green space networks across Ushiku. As mentioned previously, much of tourism promotion in the city involves historic preservation of satoyama landscapes, such as the satoyama landscape of the traditional Jōchû hamlet. For example, p. 36 in the main part of the plan explicitly talks about preserving the satoyama landscape in Jōchû, including the forests, and on p. 32 in the main part of the plan, there is mention of the historic landscapes associated with Ogawa Usen, the painter who lived in Jōchû and was the creator of the kappa water colour images. There is also mention of the Tokugetsu Buddhist Temple, and the remains of Ushiku Castle. Most of the landscapes in this main section of the plan are in Jōchû – none are in Shimo Machi).

Further along, on p. 37 in the main part of the plan, there is a section that focuses on maintaining pleasant landscapes and the continuation of environmental upgrades to do so. In this section, Negoya Creek in Jōchû is highlighted. It runs parallel to Route 6 and is in the lowland paddy area next to the forested slopes of Jōchû hamlet. The proposed bypass will run across it. Yet the plan mentions that this is a model creek and that its water quality is being improved along with the water surrounding it. Later on p. 44 of the plan there are more references to the model creek status of Negoya Creek. This is referred to in the context of improving water quality in the large area around Kasumigaura (the second largest lake in Japan, located near Tsuchiura City) and the Ushiku Lake areas. There is no mention of any environmental issues with the bypass running through this area. Later on p. 69, when describing the southern area (Nanbu Chi’iki), there is mention of continuing to improve the water quality and upgrading the water environment around Negoya Creek (Ushiku Shi, 2011, p. 69).

In sum, the 2011 Ushiku master plan advocates for the preservation of several historic landscapes, mostly Jōchû’s satoyama landscape with the remains of Ushiku Castle at the centre, but also the old stopover town in Shimo Machi. Yet the master plan also mentions the bypass, which will go between these two wards. The bypass is promoted as a necessary project primarily to relieve traffic congestion. The potential negative impacts of the bypass on the two towns are not mentioned.

### 5. Public participation and the proposed bypass

In 1990 information meetings were held in communities along the proposed Ushiku-Tsuchiura Bypass (Kokudôkôtsûshô Kanto Chiho Josokyoku Jimushô, pers. comm., 29 May 2015). In 2001 there were meetings for landowners in the affected areas of Ushiku by the proposed bypass (Ushiku Shi 2004). According to local transportation ministry officials there have also been one-on-one consultations with the landowners along the route. There were also four other meetings, in 2008, 2009, 2010, and 2011, regarding the Ushiku section of the bypass (Takehi, n.d. p. 1&3; Ushiku Shi planning section n.d., p.2; Ko-kudô Kôtsûshô (2014b), p.17) (see Appendix).

In terms of attitudes toward the proposed bypass, some residents at the two meetings in 2010 and 2011 worried that a reduced budget would result in construction delays (Takehi, n.d.; Waldichuk 2015). According to one Ushiku city planning official in 2011, residents wanted to know when the bypass will be built, so that they could prepare accordingly and get on with their lives (Waldichuk 2015). In a 2012 satisfaction survey (Ushiku Shi 2012) sent out to Ushiku residents from the city hall, implementing the Route 6 bypass and the related upgrading of Route 408 overall was ranked as number 32 on a list of 170 policies and projects. Related to that, residents ranked having a safe road environment and creating a safe road environment as numbers 12 and 13 respectively. According to the Ushiku City planning section, there has never been a city-wide public information session about the Route 6 bypass that is hosted by the city. Nor have there been city-run information sessions about the Tôyama-Jōchû bypass or the Jōchû-Tagû road. But there have been one on one consultations with landowners when it is necessary to buy up their land. According to interviews with ward leaders, there has not been much consultation with Jōchû residents, just explanations from the transportation ministry about what will be done; it has been a top-down form of communication. This can be related to Arne

stein’s ladder (1969) of public participation.
6. The impact of the bypass on Jōchū and Shimo Wards

The most notable impact of the proposed bypass is the increase in abandoned rice paddies along Route 6 in Jōchū. These paddies never went through readjustment to make them larger and more rectangular, unlike the rice paddies on the east side of Jōchū ward. These paddies started to be abandoned when I first went to the area in 1992. Most of the people living and working in the Jōchū-Shimo Machi area knew about the proposed bypass in the early 1990s when I was interviewing people for my PhD dissertation. One of the farmers who spoke to me in 2013 said it would be his last year growing rice in his paddy right along Route 6 because he knew that the bypass was coming (Waldichuk 2015) (figure 9). Sure enough, in May 2014, I noticed that his rice paddy was not being cultivated. One early morning that I did visit the area in May 2014 I saw one farmer tending his rice pad-dies; this is one of the few remaining areas of culti-vated paddies in this large section of rice paddies next to Route 6. Moreover, since about 2013, I have noticed a real estate sign along Route 6 in the area of these abandoned paddies. The sign is in front of the site of an abandoned spa that was built during the Bubble Era of the 1990s after the rice paddies were filled in.

As mentioned previously, the bypass will go northwest from Route 6 through the upland forest of Jōchū hamlet (figure 10). Figure 11 shows surveyors taking measurements for the bypass along the abandoned rice paddies on the left-hand side of Route 6. Figure 12 is a photo of the upland field between Jōchū and Shimo Machi close to where the bypass will be located. A number of houses will have to be expropriated if the original bypass route that appears on planning maps is ever implemented across these upland fields. However, in May 2015 I noticed that the construction on the modified bypass connecting Jōchū with Tagu road has recently (winter 2015) begun and appears not to have involved knocking down any homes in the Jōchū area.

The character of the traditional Jōchū and Shimo Machi hamlets will change with the completion of the bypass. According to the 2011 master plan, the Jōchū area in particular is an area characterized by nature, culture, and history (Ushiku Shi 2011, p. 68). Shimo Machi ward as well as Jōchū ward are within an agricultural activity zone according to a machizukuri map on p. 59 of the master plan (Ushiku Shi 2011, p. 59). In the map on p. 59, there is a green space area that encompasses the south end of the Jōchū-Tagu Road near Ushiku Elementary School, on the border of Shimo and Kami Machi and Jōchū wards (figure 6). This forest seems threatened by the bypass; however, its preservation is promoted in the master plan. As mentioned previously, the tourist facilities are almost all in Jōchū according to the master plan, e.g., Kappo no Hi (Ushiku Shi 2011, p. 32). This was pointed out to me when talking to ward officials in 2013 (Waldichuk 2015). From my talk with these officials, I also learned that the bypass cannot have pedestrian crossings in Jōchū because they slow down traffic. Thus, people in Jōchū hamlet, especially those who do not drive, will be cut off from services in Shimo Machi, such as the post office or the convenience store. This really affects the elderly and children from Jōchū attending the elementary school in Kami Machi. A goal of the master plan is to improve the walkability of the city for seniors. However, the implementation of a bypass seems to go against this goal. Moreover, these historic and cultural designations in master plans cannot be enforced (Sorensen 2002, p. 303, 323). Yet as mentioned previously, the bypass and other road proposals that have been approved legally cannot be erased from a city’s plan (Sorensen and Funck 2007, p.273-274). Thus, such a bypass does not seem to fit with the master plan vision (See Sorensen 2002 and Watanabe 2007 for more information about master plans).

7. Compatibility of the bypass with the master plan and other challenges

It is a challenge when working with different land-use planning objectives and different levels of government. Some residents and government officials want the Ushiku and surrounding region to grow. Some residents want local culture preserved, e.g., the Jōchū Ward leader. How much participation do local people have in land-use decisions that affect them? The transportation ministry hosted information meetings in 2010 and 2011. One can still argue that machizukuri in the 2011 master plan is still just top-down toshikeikaku (city planning) (see Watanabe 2007 p. 47, 48), meaning that authorities in the central government have approved these bypass routes, and there is little the local residents can do to modify or change them. Thus, the bypass becomes reality, although the process happens over a long term and is incremental.

8. Summary and conclusions

Japan has a hierarchical organization of roads with the central government controlling the toll expressways and the national highways, whereas the prefectural and municipal governments are responsible for local roads. The population of the Metropolitan Tokyo area continues to grow, so more roads are being built, e.g., the Metropolitan Intercity Expressway (Ken-Ō-Dō). The Ushiku-Tsukuba area has seen more urban growth, which is exemplified by the recent construction of a large shopping centre between Tsukuba and Ushiku. The new justification for building roads that were proposed years ago and appear on planning maps is regional development, in addition to relieving automobile traffic. The Ushiku-Tsukiura bypass is one such road. Once this road is built through the southern end of Ushiku, it will have impacts on Shimo and Jōchū wards - two wards with valued cultural and natural landscapes.

The Ushiku-Tsukiura bypass has been built incrementally along a different route from the proposed one owing to budget cuts. The bypass is noted in the 2011 master plan, but it is unclear how it can be built while minimizing damage to the natural and cultural landscape that the plan advocates preserving. Most of the prime natural and culturally historic landscapes are in old Jōchū hamlet according to the plan. Yet the proposed bypass will cut across the northern section of Jōchū, dividing Jōchū from adjacent Shimo Machi ward. The construction will have an impact on both Jōchū and Shimo Machi wards - the road will form a wedge between the two wards. It will be more difficult for pedestrians from Jōchū hamlet to travel to shops and the school in Shimo Machi ward due to the increased traffic and the possibility that there will
be few pedestrian crossings over the bypass. This is a safety issue with the elderly and young children who may make up most of the pedestrian population.

Also, the character of the hamlets within the wards will change. Jōchū ward in particular is promoted for historic and cultural preservation according to the 2011 master plan. Jōchū’s satoyama landscape will be altered with a bypass traversing its lowland paddies and forested slopes. This is problematic as the bypass will probably negatively alter the appearance of historic sites, such as the Ushiku Castle remains, or at the very least it will negatively impact the experiences of the tourists and local residents who enjoy walking around the castle remains and the trails and roads in the area due to the appearance of the bypass and possibly the increased noise from bypass traffic. As well, accessing Jōchū will involve dealing with more traffic, which will take away from the experience of visiting these historic sites. In Shimo Machi ward, adding a bypass will detract from the historic landscape of the post town, and the potential to formally preserve this history with historic site designations.

8.1 Public participation and implications for land-use planning in a multi-level government process:

A major issue is public participation in planning decision making. Over the past 25 years public participation in the case of the bypass proposal through Jōchū hamlet has consisted of six information sessions—the first one in 1990. How much say have the residents had in planning for a bypass since it was first proposed as a city road in 1968 and later as part of a bigger national road bypass in 1990? What about the details of the bypass, e.g., the number of lanes, the speed limit, whether it is elevated or buried—how much say have local residents had? These are questions that I have been interested in, but so far have fully failed to answer. More generally, in Japan can residents have an impact on the routing of a by-pass in Japan? Does local machizukuri activity give residents enough say in altering or stopping unwanted roads? How much say do residents have when the roads are national highways proposed by the central government? The 2011 master plan calls for citizen input into planning new developments, but road building is not specified. This may be a minor point as proposals in master plans are difficult to implement both legally and financially.

9. Acknowledgements

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10. References


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Kokudō Kōtsūshō. (January 2011). Yutori aru chi’iki wo tsukuru, ippan kokudō 6 go, Ushiku Tsuchiura baipasu (Making an area with room, Regular national road 6, Ushiku Tsuchiura bypass). Tsuchiura City, Ibaraki: Kantōchihō Seibikyoku Jōsōkokudō Jimusho. 4 pages of A3 size paper received from the city planning division of Ushiku City hall.


Ushiku Shi (Ushiku City) planning section (n.d.). *Kokudō 6 Go Ushiku-Tsuchiura Baipasu ikisatsu* (National Route 6 Ushiku-Tsuchiura Bypass Details), 2 pages.


Figure 1
Photo of Nihonbashi: Where all roads start in Japan

Source: T. Waldichuk (May 12, 2012)
Figure 2
Map of Kanto and Tsukuba-Ushiku region with Ken-Ō-Dō passing through

Base map source:
Microsoft

Base map source:
Kokudō Kötsūshō Kantō Chiho
Seibikyoku, 2010, 2011, p.1
Modified from Waldichuk 2015, p.41

Base map source:
Takehi, n.d., p.1
Modified from Waldichuk 2015, p.41
The photo of Tsukuba City looking west toward parking lots and new construction around the Kenkyū Gakuen train station illustrates the urban growth that has occurred on former rural land since the train line was established in 2005.

Source: T. Waldichuk (May 14, 2010)
Figure 4
Looking south toward Ushiku train station

Source: T. Waldichuk (May 2003)
Figure 5
On Route 6 looking south toward Ushiku train station

Source: T. Waldichuk (May 2003)
Figure 4
Map of Shimo Machi, Kami machi and Jōchū wards with the Ushiku-Tsuchiura bypass and the alternative Jōchū-Tagu bypass road

Not to Scale
Sources:
Ushiku City (n.d.). Chōkai chōmei chiban seiri kihon kelkaku zu.
Base map source: Kokudō Chiriin Ushiku 1:25,000
Figure 7
The alternate Route 6 bypass. Jōchū-Tagu road was paved past Ushiku elementary school in the winter of 2006

Figure 8
Jōchū-Tagu road with the city-run produce market on the right

Source: T. Waldichuk (May 2014)
Figure 9
One of the last rice harvests along Route 6

Source: T. Waldichuk (2013)
Figure 10
View from a Route 6 on-ramp looking toward adjacent wooded Jōchū hamlet in the top centre, where the bypass will enter from the right

Source: T. Waldichuk (May 2006)
Figure 11
Surveyors taking measurements for the bypass along the abandoned rice paddies on the west side of Route 6

Source: T. Waldichuk (June 2011)
Figure 12
Proposed Ushiku-Tsuchiura bypass route across upland fields, Jōchū ward

Source: T. Waldichuk (June 2012)
**Figure 11**
Surveyors taking measurements for the bypass along the abandoned rice paddies on the west side of Route 6

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Notes and/or Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>Toyama-Tagu road (currently known as Jōchū-Tagu road) became part of Ushiku city plan</td>
<td>Ushiku Shi planning section (n.d.)</td>
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<tr>
<td>1975</td>
<td>Whether Toyama-Tagu road became part of Kokudō Route 6 Bypass was local election issue in Ushiku</td>
<td>Ushiku Shi planning section (n.d.)</td>
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<tr>
<td></td>
<td>Mayoral candidate who was opposed won election, and for 16 years while mayor was in office nothing was done about bypass</td>
<td></td>
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<tr>
<td>1990</td>
<td>From about 1990 onward national Route 6 bypass plan was examined</td>
<td>Ushiku Shi planning section (n.d.), p.2</td>
</tr>
<tr>
<td></td>
<td>Information meetings (setsumeikai) held in communities along the proposed Ushiku - Tsuchiura bypass route</td>
<td>Kokudōkōtsushō Kanto Chiho Josokyo Jimusho (29 May 2015 interview)</td>
</tr>
<tr>
<td>July 1991</td>
<td>An environmental impact assessment completed on Route 6 bypass, and report was produced</td>
<td>Ushiku Shi planning section (n.d.), p.1, 2</td>
</tr>
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<td></td>
<td></td>
<td>(Kokudō Kōtsushō, 2014b), p.8</td>
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<tr>
<td>1992</td>
<td>Project commences to construct 3.9km section of Route 6 bypass between Tsukuba Shi Nishiooi (near Route 408) to Tsuchiura Shi Nakamura Nishine (near Higashi Odori street) as an access road for the Ken-Ō-Dō to Ken-Ō-Dō</td>
<td>Ushiku Shi planning section (n.d.), p.1, 2</td>
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<tr>
<td>1994, April 21</td>
<td>City planning decision (toshi keikaku kettei) to approve the 15.3 km Ushiku-Tsuchiura bypass</td>
<td>Miura (2012), p.1, 6</td>
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<td></td>
<td></td>
<td>Kokudō Kōtsushō (2014a), p.2</td>
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<td>Kokudō Kōtsushō (2014b), p.8</td>
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<td></td>
<td></td>
<td>Kokudō Kōtsushō (2014b), p.8</td>
</tr>
<tr>
<td>1999</td>
<td>Start work on construction of bypass</td>
<td>Miura (2012), p. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kokudō Kōtsushō (2014b), p.8</td>
</tr>
<tr>
<td>2001</td>
<td>Consultation with landowners in Tōyama and Jōchū about proposed bypass</td>
<td></td>
</tr>
<tr>
<td>2003, March 29</td>
<td>2.3km bypass section opened between Route 408 and Nishiodori Street (Tsukuba Shi Nishi Ooii to Tsukuba Shi Ineoka) with two lanes Ken-Ō-Dō opened between Tsukuba junction and Tsukuba-Ushiku Interchange</td>
<td>Kokudō Kōtsushō (n.d.2), p.2</td>
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<td></td>
<td>2.3km bypass section provides access to Ken-Ō-Dō from Ken-Ō-Dō to Joban Expressway</td>
<td>Kokudō Kōtsushō (January 2011), p.6.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ushiku Shi planning section (n.d.), p.1, 2</td>
</tr>
<tr>
<td>2006</td>
<td>Jōchū-Tagu road paved near Ushiku elementary school</td>
<td></td>
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<tr>
<td>2008</td>
<td>Kokudō Kotsushō began preparing the 1.3 km section of Ushiku-Tsuchiura bypass from Tōyama to Jōchū</td>
<td>Print out of bypass information from Ministry of Transportation, Josokyo for January 2011 setsumeikai; Ushiku Shi planning section (n.d.), p.1, 2</td>
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<tr>
<td>2008, October</td>
<td>Information meeting for local residents to learn about road surveying and geology study regarding the 1.3km section between Tōyama and Jōchū</td>
<td>Print out of bypass information from Ministry of Transportation, Josokyo for January 2011 setsumeikai; Ushiku Shi planning section (n.d.), p.1, 2</td>
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<td>2009</td>
<td>Site planning explanatory meeting (Sekkei-yochi setsu-meikai) for Tōyama-Jouchu road</td>
<td>Kokudō Kōtsushō (2014b), p.17</td>
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<tr>
<td>March 2010 at Mikazukibashi Shogaigakushu Centre</td>
<td>Design information session in Ushiku: proposal for initially bypass with 2 lanes and surveyed room for 4 lanes along Jōchū-Tagu section</td>
<td>Takehi, (n.d.), p.1</td>
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<tr>
<td>24 April 2010</td>
<td>Ken-Ō-Dō opened between Tsukuba Chuo Interchange and Tsukuba Junction</td>
<td>Kokudō Kōtsushō (13 January 2015a)</td>
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<td>January 2011 (H.23) at Mikazukibashi Shogaigakushu Centre</td>
<td>Design information session in Ushiku: explained details of surveying two lane bypass, including the width and place-ment of survey sticks</td>
<td>Takehi, (n.d.), p.1, 3</td>
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Figure 12

Proposed Ushiku-Tsuchiura bypass route across upland fields, Jōchū ward

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<tr>
<th>Date</th>
<th>Event</th>
<th>Notes and/or Sources</th>
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<td>End of March 2011</td>
<td>80% of land has been acquired along a 3.9km section between Tsukuba Shi Nishi Ooi (near Route 408) and Tsuchiura Shi Nakamura Nishine (near Higashi Odori Street)</td>
<td>Miura (2012), p.1</td>
</tr>
<tr>
<td>November 2011 (H.23)</td>
<td>1.6 km section opened between Tsukuba shi Ineoka (Nishi Odori Street) and Tsuchiura Shi Nakamura Nishine (Higashi Odori Street); temporarily 2 lanes opened Thus, 3.9km section of bypass in operation between Route 408 and Higashiodori (2.3 km section from Route 408 to Nishiodori was built in 2003)</td>
<td>Kokudō Kōtsūshō (2014a), p.2; Kokudō Kōtsūshō (2014b), p.8, 9, 18, 19; Kokudō Kōtsūshō (n.d.), p. 1 &amp; 7</td>
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<tr>
<td>2011 (H.23)</td>
<td>Land acquisition rate is 100% for 2.3km section from Route 408 to Nishi Odori Street Land acquisition rate is 98% for 1.6 km section from Nishi Odori Street to Higashi Odori Street Land acquisition rate is 1% for section 3, 1.3km from Tōyama to Jōchū</td>
<td>Kokudō Kōtsūshō (2014b), p. 10</td>
</tr>
<tr>
<td>Spring 2013 (H.25)</td>
<td>Jōchū-Tagu road passes Kariya into Tagu Ward</td>
<td>Author’s landscape observations</td>
</tr>
<tr>
<td>2013 (H.25)</td>
<td>Land acquisition rate is 100% for the 2.3km section from Route 408 to Nishi Odori Land acquisition rate is 98% for 1.6km section from Nishi Odori Street to Higashi Odori Street Land acquisition rate is 64% for 1.3km section from Ushiku-Tōyama to Ushiku Jōchū</td>
<td>Kokudō Kōtsūshō (2014b), p. 17</td>
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<td>Spring 2014</td>
<td>Jōchū-Tagu road reaches Ushiku City produce market</td>
<td>Author’s landscape observations</td>
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<td>Spring 2014</td>
<td>Jōchū-Tagu road used by automobiles from Shimo Machi to Kariya Road section from Kariya to Ushiku produce market is used by pedestrians</td>
<td>Author’s landscape observations</td>
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<td>2014-2015</td>
<td>Toyama-Jōchū section – excavation for artifacts</td>
<td>Interview with official in the Board of Education section, Ushika City Hall, May 2014; Kokudō Kōtsūshō (October 2014a). Kokudō Kōtsūshō (print out of bypass information by ministry of transportation provided by city planning section of Ushika City Hall, June 2011)</td>
</tr>
<tr>
<td>May 2015</td>
<td>Jōchū-Tagu road section from Kariya to produce market is used by automobiles</td>
<td>Author’s landscape observations</td>
</tr>
<tr>
<td>May 2015</td>
<td>Construction of bypass through uplands of Jōchū-Shimo Machi starts</td>
<td>Author’s landscape observations; interview with local resident, May 2015</td>
</tr>
<tr>
<td>2015</td>
<td>Construction of bypass through uplands of Jōchū-Shimo Machi is halted due to discovery of buried artifacts – investigation of artifacts ongoing</td>
<td>Interview with local resident; Ushika Board of Education, May 2015</td>
</tr>
<tr>
<td>2016</td>
<td>Estimated starting year for use of two lane Jōchū-Tagu road (to function as a Route 6 Bypass)</td>
<td>Kokudō Kōtsūshō (2014b), p.19</td>
</tr>
<tr>
<td>2018</td>
<td>Estimated year of completion for the 2 lane Tōyama- Jōchū road (may change into a 4 lane bypass if conditions change in the future)</td>
<td>Kokudō Kōtsūshō (2014b), p.17</td>
</tr>
</tbody>
</table>
Appendix 2

Public participation in Ministry of Land, Infrastructure, Transport and Tourism policy

According to the Japanese Road Bureau (Road Bureau 2014), public participation occurs throughout the planning process (p. 15) during the following steps (pp. 16 and 19) when, for example, constructing a new road. N.B., I have re-numbered the steps for explanation purposes:

1. “Act for Assessment of Environmental Impacts” (before decision of City Plan, p16)
2. “Decision of city plan”, which begins the development (with input from an explanatory meeting and relevant municipalities) (p.16)
3. “Commencement of development” (p.16)
4. “Explanatory meeting”, for the “parties” involved (p. 19)
5. “In-situ Survey” (p.16)
6. “Detail design”, e.g., the width of the road determined by city plan (p. 16)
7. “Consultation with the local”(p. 16 &19): explanation to the people involved, show the design, go over indemnity for land loss (p. 19)
8. “Pile installation for right of way”(p. 16 &19)
9. “Measurement of lands” (p.16), measuring properties: lands and buildings, owners should be present to verify measurements
10. “Land acquisition negotiation” (p.19): Negotiations then take place with land owners to determine compensation (p. 19)
11. “Purchase of land” (p.16) Land owners are then paid for land loss due to the road project (p. 19)
12. “Explanation of construction plan” (p.19), “Explanation of construction methods and safety to the “parties” involved” (p. 19)
13. “Negotiation of construction with the local” (p.16)
14. If necessary a “survey of buried cultural properties” takes place. Survey of buried cultural properties to be conducted as necessary (p. 19)
15. Construction (p. 16 & 19)
16. Completion/open to public (p.16 & 19)

The Road Bureau (2014) mentions policy goal assessments for road projects (p. 17):

“To enhance the transparency and efficiency of road projects, reviews have been introduced into the planning stage of the bypass, road widening and other projects, and ‘results-oriented management’ practices that are based on data have been introduced for local projects”, p. 17. Local projects are such things as traffic safety and disaster preparedness. I am not sure what “reviews” means in the term “planning review” (p.17) in terms of the planning stage of the bypass and road widening.

Thus, there are two categories of road projects: “1. Projects that seriously impact traffic flow”, e.g., bypasses and road widening, and “2. Local projects”, e.g., traffic safety (p.17). Both categories involve public input.

For the first category of projects (“1. Projects that seriously impact traffic flow”), residents’ opinions are considered at the beginning of the process when identifying urban and regional issues (p. 17). When proposed measures are compared and assessed the opinions of local government and a third party panel are considered. If the proposals are projects such as a bypass
or road widening, but involves other projects such as intersection improvement, then the project fall under the second category titled “local projects”. The proposals are then dealt with under the sub-category “analysis of causes, measures proposal” (p.17). In this sub-category the urgency of the project is determined in part by resident opinions. Once the progress of other projects and the feasibility of measures (p.17) are considered, measures are selected.

As mentioned above “Local Projects” involve “Results Oriented Management” (p. 17). This involves the identification of local issues, which involves residents’ opinions. When a list of areas that require attention are identified and announced, the opinions of local government and a third party panel are considered. As mentioned above in the step “Analysis of causes, measures proposal” residents’ opinions are also considered. This then leads to the step “Selection of measures to implement”, e.g., a bypass proposal.

On average it takes 10 years for a typical expressway project to be completed (p. 16).

Communication occurs between the public and the decision-makers throughout the entire planning process from the road network plan stage (dōro ami keikaku) to the final stage of public use and management (kyōyō-kanri) (Kokudō Kōtsūshō 2005, p.1). The objectives of the public participation guidelines were developed in 2002 and 2003. An example of public participation in road building is in Yokohama, which follows the City Planning Law (Kokudō Kōtsūshō n.d.1).