

Auditory Urbanism: How Train Melodies Influence Transit Space Perception in Japan

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Abstract

Japanese trains are world-renowned for their extensive network, efficiency, and heavy usage. Because of how omnipresent trains are in Japanese life, the design of stations, trains, and other supporting infrastructure has a huge impact on how people experience a large portion of their lifestyles. While sounds are present in every train network, Japan presents a unique case because many stations have incorporated music into the train soundscape to signal arrivals, departures, and more. While research on soundscapes has been done extensively, there is relatively little research on how music affects users of public transit infrastructure. This study investigates how the use of music for signalling trains' arrival and departure affects the commuter experience. Audio of train melodies were sampled in stations throughout Kansai and Kanto, and 18 interviews were conducted with a variety of Japanese train users. This study analyzes the spatial presence of train melodies in Kansai and Kanto and how they impact the passenger experience.

Introduction

Each day, millions of people move through Japanese train stations. Within the span of just one minute, trains arrive, commuters flood the platforms and trains, announcements are blasted, and trains leave. Along with announcements, short melodies play from station speakers to signal the arrival and departures of trains. These melodies are unique to Japanese train networks and are an important component of the atmosphere of train stations that commuters experience daily.

Although urban soundscapes have been widely studied, existing research has focused on urban noise pollution, adverse health impacts from prolonged sound exposure, and mechanical sounds in transit systems. Along with noise pollution, the use of sonic branding in products to affect emotional responses and recognition in users has also been extensively researched. However, the effects and role of intentionally curated music used in urban spaces have been relatively understudied. This raises the question: **How do Japanese train companies use music to influence how passengers perceive their surroundings and wayfind through train systems?**

Research on urban soundscapes, sonic branding, and transit space has shown that sounds can influence perception and behavior in public spaces. However, the role of intentionally designed train melodies in transit systems has received little attention. **This study investigates how train melodies shape commuter experiences in Japanese train systems. I propose that train melodies are a form of multiscale audible wayfinding, that train melodies regulate the efficiency of movement, and create a sense of place for passengers.**

This study first reviews existing research on soundscapes in the urban environment and sonic branding, then explains the methods used to record sounds and conduct interviews. Finally, train melodies are analyzed to see how they function as wayfinders, supporters of efficiency, and placemakers.

Background

To understand the background of Japanese trains, it is important to understand the role that trains play in Japanese daily life. Trains are the main mode of transportation in Japan, moving millions of people

throughout the country every day. Unlike rail transit in America which is underused and limited, Japanese trains are fast, frequent, clean, and relied upon by the majority of the population (JR East Railway Corporation). As a result of their ubiquity, Japanese train stations are often dense environments where passengers must navigate large crowds and a complex web of corridors. 46 of the world's 50 busiest stations are all in Japan, showing the extraordinary reliance of rail transport in the country (日本と世界の統計データ). In this overwhelming environment, it quickly becomes very challenging to navigate the many corridors, shops, and platforms in addition to the huge amount of people. One distinctive feature of many Japanese train stations is the use of short melodies that signal the arrival and departure of trains.

Train melodies are short, musical jingles that play on train platforms to signal a train's arrival or departure. There are two main types of melodies: arrival melody and departure melody. Arrival (接近メロディ “sekkin merodi”) melodies are music that plays to signal a train arriving, and are typically played after a verbal announcement. Departure (発車メロディ “hassha merodi”) melodies signal a train departing, and in some regions are followed by a verbal “the doors are now closing” announcement. A full list of recordings, both by station name and by location, is linked in Appendix part B.

Japan's train network is operated by many public and private companies, such as JR East, JR West, Kintetsu, Odakyu, and more (Kanemura). Since each company manages its own infrastructure, these short melodies come in many varieties and spatial distributions. In many JR stations in Tokyo and Kanagawa, each platform within the same station will play a unique departure melody depending on which train line and direction a train is heading. However, some private companies in Tokyo along with many stations in Kansai will play arrival melodies. Some train companies may also use one sound for

their entire network, while others may use none at all. All of these melodies are very short, typically no longer than 5-10 seconds, and are designed to be easily recognizable within an already noisy environment of the train station.

There is also a wide range of what these melodies actually sound like. Each company has its own varying musical style implemented across its system, resulting in distinct patterns in instrumentation, songs, and tone. For example, JR East, which operates in Tokyo, uses a mix of old pop songs and its own melodies created specifically for train usage. Most of JR East's short melodies have an electronic, metallic sound meant to pierce through train mechanical sounds, people talking, and the other noises in train stations. In contrast, Keikyu, which connects Tokyo and Yokohama with Yokosuka, uses lengthy electronic covers of pop songs ranging from the 1960s to present. Keikyu's covers typically contain both the main melody and a counter melody.

Literature review

Importance of Sound in Urban Spaces

Sound is an important part of how public spaces are designed. Jian Kang's book *Urban Sound Environment* (2007) shows that people prefer lower sound ranges, and people felt unpleasant in places where sounds exceeded 76db. Natural sounds and ambient background noise were pleasant, while construction and traffic were considered annoying. In every space with traffic, its presence was always noticed regardless of loudness. This conclusion carries implications for how transportation infrastructure is placed relative to green space. The implications of sounds extend beyond comfort. In their book, *Soundscape ecology : principles, patterns, methods and applications* (2014), Alma Farina suggests that

urban sound has health implications, specifically blood pressure, hormonal levels, and ear health. The health impacts warrant a study on urban soundscapes because urban planners are responsible for creating spaces that encourage well-being. This includes curating sound to reduce negative health impacts on all populations, including those of lower social status. Previous research portrays urban noise as a nuisance from side effects of activity, such as car engines, trains screeching, or construction, but it rarely considers that urban sounds can be intentionally curated to have meaningful purpose or even improve wellbeing. My study suggests that the impact of curated public sounds can positively affect how people experience and navigate through space.

Study Methods when Surveying Sounds

The main debates in soundscapes are surveying methods and the extent to which sound is actually important in placemaking. An issue raised in Jian Kang et. al's book on Soundscape in the Built Environment (2016) is experimenter bias. This is when attention is drawn to the topic of study. The authors found this concerning because sound perception is usually not one's first thought when in public spaces. Actively bringing respondents' minds to the topic of study during a survey or interview removes the ability to understand what these subconscious thoughts are. Instead, Kang asked respondents about all aspects of the space interspersed with sound questions. This also shows who actively thought about sound in their responses, but processing excessive data uses unnecessary resources. My study takes a different approach by directly asking participants about their experiences with sounds in trains. Because the goal of my project is to understand how train melodies are perceived, it was necessary to bring direct attention to them rather than treat them as a background element of the transit environment. Unlike noise pollution, train melodies are intentionally designed features of train stations. Evaluating their

effectiveness and overall purpose requires participants to actively consider how they hear and interpret them.

Sonic Branding

Sonic branding is a technique where companies and manufacturers strategically leverage sound in their branding and product experience. Sonic branding is well documented, especially with the startup sounds of cars and household appliances. Ken McLeod explains that car companies make conscious decisions to have their startup tones, ringtones, and engine sounds match with the overall theme of the car in his book *The Oxford Handbook of Music and Advertising- Designing Identities: Sound and Music in Automotive and Appliance Branding* (2021). One important point he makes is that higher end products tend to have more elegant music while lower end products have more casual sounding music, using a GE stove as an example. While McLeod asserts that jingles have a large role in creating emotional attachment, studies such as *Sonic Branding in Video Advertising: A study of the sound in YouTube Ads* (2024) conducted by Sam Nydelius-Larsson argues that spoken voice is the most important factor in sonic branding in the context of Youtube Ads. This study had participants listen to audio only, and then added visuals to gauge the role of sound on brand recognition. Larsson acknowledges that Youtube ads tend to not have sonic branding elements, which makes their recognition by participants more challenging. In a similar way to companies using sounds to associate their product with a song, train melodies become associated with particular lines and stations. Rather than advertising a product, these sounds create recognizable identities for places. My project evaluates the extent to which train departure melodies are effective in sonic branding for both a train company and for the station it is played in.

Japanese Trains, Specifically

Trains play a huge role in Japanese society. Izumi Tsuji's article, *Railway as the Media for Imagination: Historical Changes of Boys Cultures and Rail-fans in Japan* (2016), shows trains are linked to Japan's national pride because they represent postwar recovery and modernization. Trains were a positive influence because they symbolized innovating into uncharted territory. The excitement that trains gave to young boys made them enjoy their commutes and other trips. As for sounds in trains, Mari Ueda's study, *Auditory Evaluation of Very-High-Frequency Sounds Radiated from the Japanese Trains Part 2* (2019), investigates the impact of mechanical sounds on passengers. By playing mechanical train sounds in a room and then riding through a train that goes through a bend in Atsugi, they were able to confirm that high frequency sounds made participants feel uncomfortable. The study does not offer a solution to alleviating the impacts of these noises. This research demonstrates that train noise can negatively affect passengers, but it does not examine the role that train melodies have in the transit soundscape.

Together, these studies show that sounds play an important role in how people experience urban environments. However, existing research generally focuses on unwanted noise pollution, commercial design, and trains in general, without examining how designed sounds impact the soundscape. This study addresses this gap by analyzing train melodies as curated sounds that can influence how people navigate and placemake. By combining sound surveys and interviews, this study evaluates how train melodies contribute to wayfinding, efficiency, and sense of place within the Japanese train network.

Methodology and Research Setting

Research Setting

In order to study urban sounds and music in public transit, a location in which music is prevalent in a communal space is necessary. The prevalence of music in various public spaces, including trains, shops, and street crossings in Japan makes it a prime example of how music can be used to improve the experience of getting from one place to another. Within Japan, I chose to investigate Kanto and Kansai because each region has variations in how train melodies are used. In Kanto, there are many more large interchange stations across lines from different companies and a denser population, leading to more people using these shared spaces at any given time. As a result, many stations in Kanto have one melody per platform in each station, which leads to a singular station having upwards of 10 melodies being played within it.



Figure 1. Map of Kansai and Kanto Regions within Japan. Kanto includes Tokyo, Yokohama, Kanagawa, and Saitama, and Kansai includes Osaka, Kyoto, Nara, and Kobe.

While Kanto has many train companies within the region, JR tends to be the most dominant in terms of widespreadness, while private companies tend to focus on smaller regions. Examples of this include Keio connecting Hachioji and Shinjuku, and Odakyu only operating in the Shonan area. While JR has a wide presence in Kansai, it also has a much more widespread privatized network. Some companies dominate entire regions (Kintetsu in Nara), while other companies like Hanshin and Hankyu add additional channels to JR on highly trafficked corridors like from Kobe to Osaka. In both regions, each major city (Tokyo, Yokohama, Osaka, Kyoto, and Kobe) has its own subway network with varying levels of music use.

Train melodies are used in some countries other than Japan, though none of them compare in the level of cultural depth and complexity as Japan. Within East Asia. Train melodies are also common in Taiwan and South Korea, but these are limited to within specific sections of the Taipei MRT and the Seoul Subway, respectively.

Methods: Sound Survey and Interviews

In order to get holistic data on train melodies in Japan, I conducted both a survey of train melodies in Kansai and Tokyo, along with interviewing 18 users of Japanese trains in order to understand how the presence of train melodies impacted their commuting experience.

In order to collect data on all of the stations, I created route plans to be able to cover as many stations as possible in as little time. In order to plan my specific route, I created a spreadsheet of each of the train lines I needed to cover, including information on train companies, times, platform numbers, and the

spatiality of the melodies. This spreadsheet is linked in Appendix part B. In order to decide which lines to ride through, I sourced existing sound profiles from Youtube video compilations of train melodies recorded in 2023 and 2024 (武蔵野快速, しまにしき, 八川ゆき, かんてつ_Kantetsu). While Kansai maintained consistency with these online recordings when I conducted my survey in summer 2025, many sounds in Kanto had changed many of its melodies from being unique to each station to being the same for each entire line, with slight differences in instrumentation to differentiate direction of travel. After some revisions upon this realization, my study area was set to the following bounds in each region, which include the major city centers and suburbs of each region:

Kanto - North: Omiya - East: Chiba - South: Odawara - West: Hachioji	Kansai - North: Kusatsu - East: Sakurai/Tenri - South: Izumisano - West: Suma
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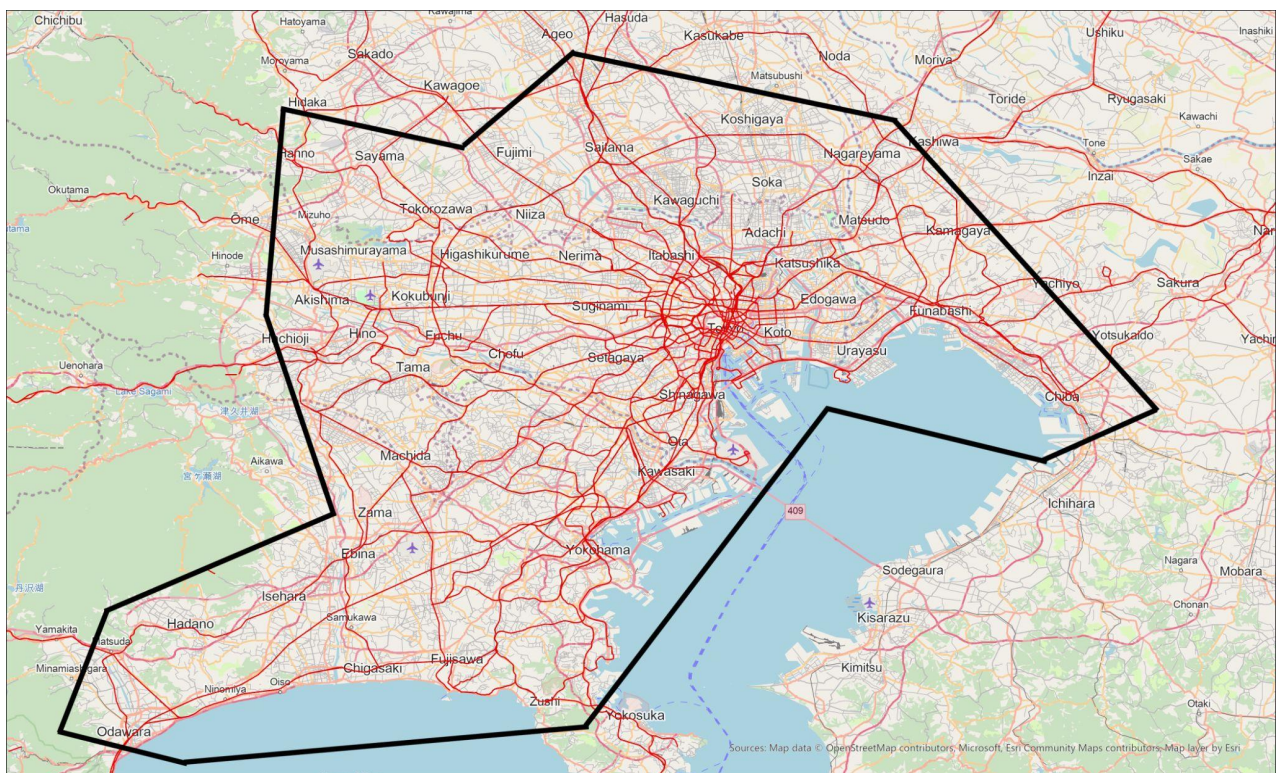


Figure 2. Study Area in Kanto. Bright red lines show train lines.

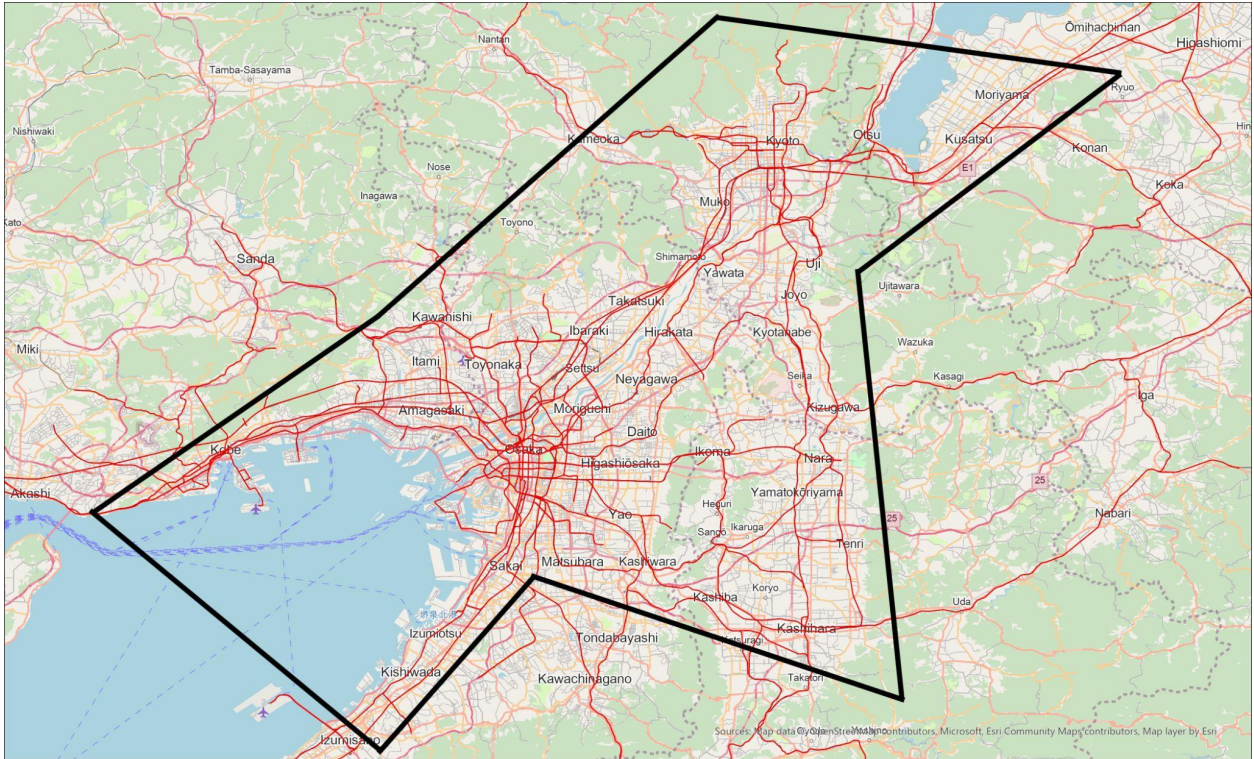


Figure 3. Study Area in Kansai. Bright red lines show train lines.

In terms of actually recording the melodies, I used the iPhone Voice Memos app to collect my data. Recording data for stations with only departure melodies proved to be much more efficient, since I was able to record audio with a phone by holding it near the train doors without getting off. Collecting recordings of arrival melodies was much more time consuming, as to record an arriving train, I had to get off the train I was on and record the next one as it came. For example, while it only takes 40 minutes to go from Shinjuku to Machida stations on the Odakyu Line directly, having to stop at each station lengthened out this trip from 40 minutes to 3 hours because Odakyu only uses arrival melodies. In total, 1110 recordings were made at 400 stations. The full list of stations and recordings are listed in Appendix part B.

I also interviewed 18 users of Japanese trains about how sounds impact their experiences travelling on Japan's trains. Participants included individuals with many ranges of familiarity with Japanese trains, ranging from tourists to daily commuters to self-proclaimed train nerds. The interview questions were designed to encourage participants to reflect on their past sensory experiences involving trains. The goal of these interviews was to better understand how riders interpret and notice train sounds in their riding experiences.

The interview guide I created included questions about commuting routines, sounds they recall hearing, and memories of previous train trips. Participants also listened to 10 recordings of train melodies from various parts of Japan and were asked to describe their reactions and recognition. Lastly, participants ranked their level of comfort or stress for each recording on a scale of 1 (complete comfort) to 5 (extreme stress). The specific recordings and their average stress ratings from participants are shown in Appendix part A. The questions asked in the interview are shown in Appendix part C. These prompts allowed participants to directly reflect on their experiences with sounds as opposed to other aspects of a train ride and articulate their levels of awareness and comfort with the sounds.

I conducted interviews with a semistructured format that allowed for flexibility for participants to share their unique perspectives while still maintaining consistency in the questions that were asked to all participants. I also used follow up questions to encourage participants to elaborate on their answers beyond a yes or a no. Depending on the participant's preference, interviews were conducted in either Japanese or English. The interview template I made was designed to have answers to responses to be written directly under each question, which allowed for summaries to be written on the spot.

Transcription services were also used after the interview to convert the interview into a full script. Through the analysis process, I searched for patterns in how participants described the role of train melodies in helping them understand their surroundings, recall specific locations, and navigate train stations.

Because the study relied on a limited number of interview participants and recordings from only two regions in Japan, the findings might not be completely generalizable to the entirety of Japan because people from rural areas might experience sound differently. However, combining interviews with the sound survey allowed for detailed comparisons between participant experiences and the soundscape itself.

Analysis

The following sections have hyperlinks embedded in them. They link to original songs and recordings of train melodies. Hyperlinks on train station names or names of lines generally lead to recordings of the melodies themselves. Hyperlinks on song titles generally lead to original songs that inspired train melodies. A full list of all the recordings from the sound survey is listed in the appendix. Unless otherwise noted, all recordings and photos have been made by myself.

Multiscalar Wayfinding

One role of train melodies is to provide multiscalar wayfinding. Because Japanese rail systems operate across many levels of space, train melodies can help passengers navigate at the scale of the individual station, the greater transit system, and by the surrounding neighborhoods. Interview responses and recorded train melodies showed that wayfinding occurs at these three scales.

At the station level, melodies signal the arrival and departure of trains and help passengers identify platforms. In the case of arrival melodies, there are many distinct examples in Kansai that help people navigate individual platforms in large stations. One example of this is at [JR Osaka Station](#), which has 27 unique routes departing from 15 platforms (JR Odekake Net). The station layout includes multiple overhead footbridges and tunnels which are connected to platforms by multiple sets of escalators. One minute before trains arrive, both verbal and musical broadcasts are made on the platform in which the same tune repeats until the train pulls in and comes to a complete stop. While the speakers playing the music are on the platform, the looping soundtrack spreads through the escalator corridor and into the passageways. This way, people are able to change their pace of walking when they know their train is arriving. One interview participant described using the arrival melodies to adjust their movement through a station, saying that hearing the arrival melody from the concourse caused her to start running up the escalator to catch her train. This suggests that melodies also serve to inform passengers to make quick decisions about their pace and direction of movement when in the station. Even when multiple arrival melodies play at the same time, the stark differences in melodies between each station means that they are easily distinguishable in a chaotic audio environment. Some examples of the different melodies that play at JR Osaka Station include that of the Osaka Loop Line, Kobe Line, and Hanwa Line. In busy stations where conversations, train noises, and more overlap, these melodies provide clear audio cues that help passengers quickly decide where to go.

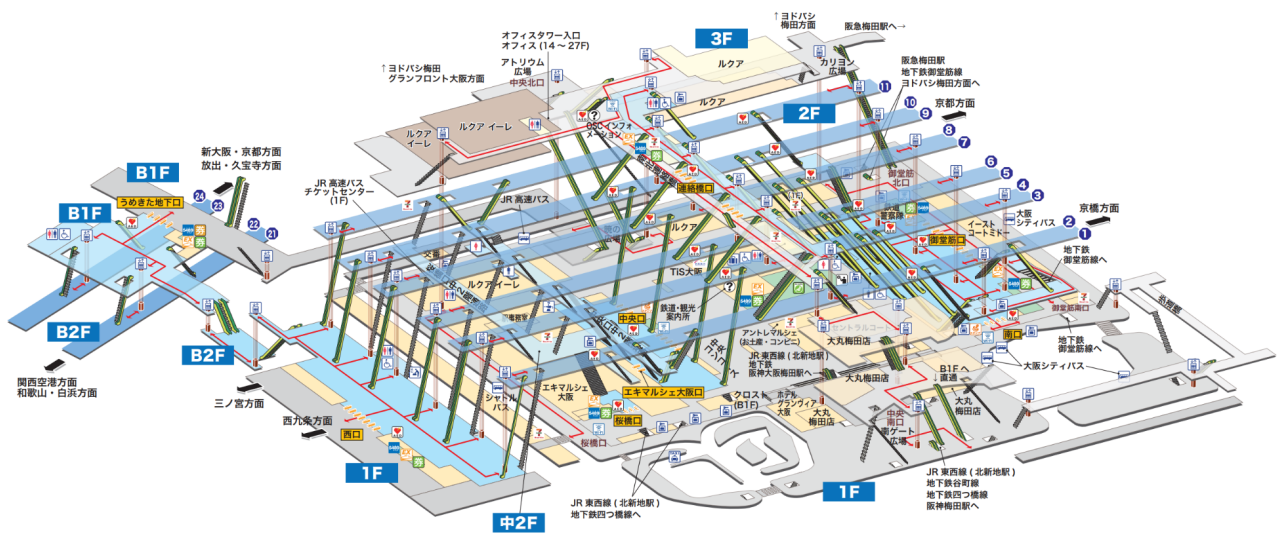


Figure 4. JR Osaka Station Layout. This map does not include the Osaka Metro Station, Hankyu Station, Hanshin Station, Kitashinchi Station, or adjacent malls. Map made by JR Odekake Net.

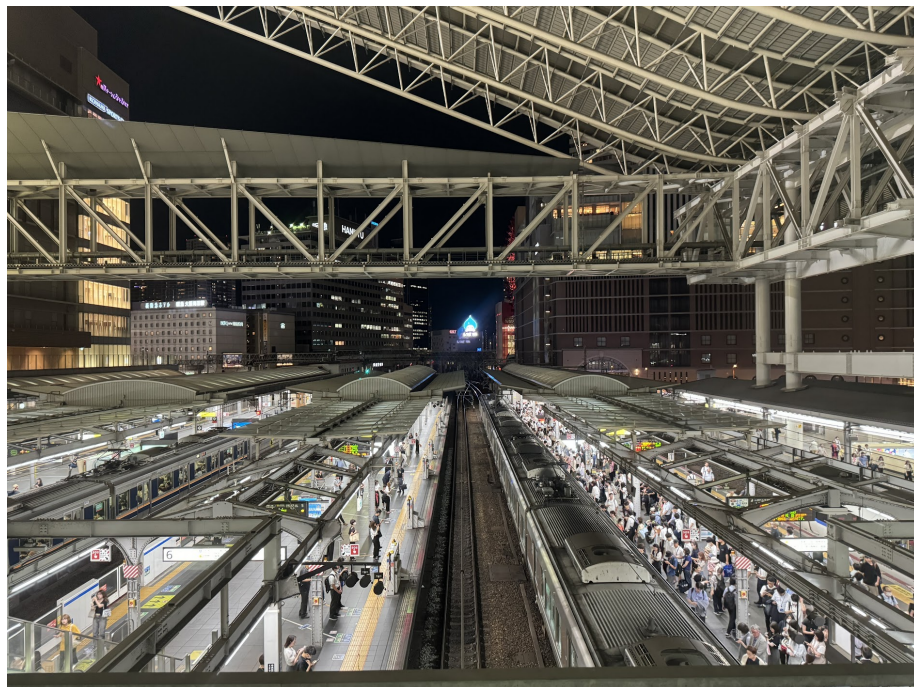


Figure 5. View of the platforms in JR Osaka Station. Photo by author.

In addition, arrival melodies within stations also serve a safety function for passengers. While most stations in Tokyo have platform gates, many stations in Kansai do not have safety barriers from the

tracks on platforms. In order to alleviate for this, most lines in Kansai have passing melodies (通過メロディ, “tsuuka merodi”) to signal when express trains speed through stations. The passing melody includes an approximately one minute long verbal announcement and a repeated melody until the passing train has left. This way, passengers have ample notice to be able to move themselves to the inner side of the platform, away from any potential danger of collision. One example of this is on the [JR Osaka Loop Line](#), which shares tracks with express trains headed to Wakayama, Kansai Airport, Nara, and Hineno. In order to notify passengers on the platform, a quick, bright melody plays in succession at approximately 120bpm. This fast pace catches the attention of passengers and acts as a nudge to people to make a decision about their location within the platform.

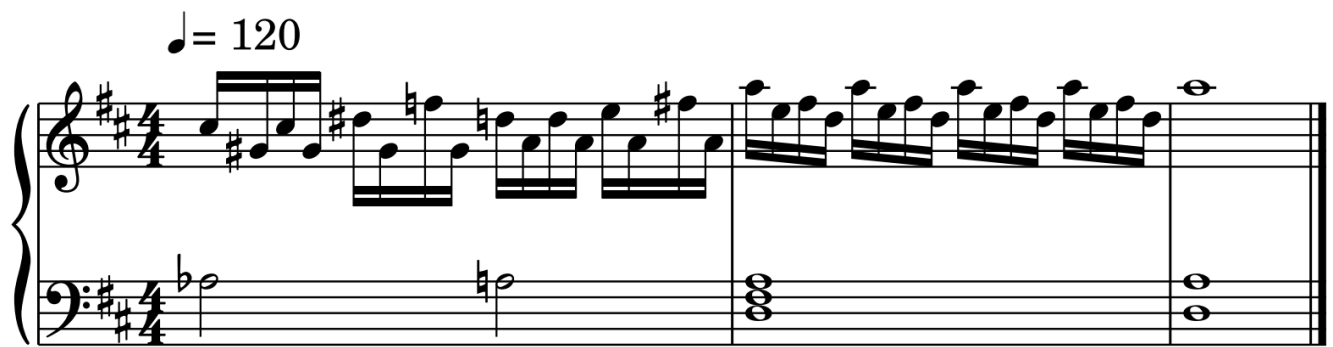


Figure 6. Passing Melody for the JR Osaka Loop Line and JR Takarazuka Line. Made by author with [flat.io](#).

Beyond individual stations, train melodies also function as wayfinding cues across the scale of the transit system. Some train companies use consistent sounds across the same line or region. Different train companies and lines use different musical styling, which allows riders to understand where they are within a train system. One example of this is in Kawasaki Station in Kanagawa Prefecture. Kawasaki Station has two train companies serving it: Keikyu and JR East, which use music in different ways despite being in the same station. The melodies of both companies are arranged from [“Ue wo muite](#)

[arukou” \(上を向いて歩こう, “I look up as I walk”\)](#), (Sakamoto) a famous 1960s song sung by Kawasaki native Kyu Sakamoto. At Keikyu Kawasaki Station, the song is used as an arrival melody that repeats until the train has completely arrived at the platform. In the [northbound direction, the pre-chorus is used](#) (links to melody recording) and the [main chorus used in the southbound direction](#) (links to melody recording). For both directions, the melodies contain an upper and lower line, creating depth in the music being played repeatedly. In the JR East part of Kawasaki Station, [the main chorus is simplified into a short departure melody](#) (links to melody recording). Despite the same music source, the melodies used in the JR East and Keikyu Stations create a boundary between the two train systems, causing riders to recognize what network they are in even within the same station.

Regional differences in melody styles can also provide wayfinding information at the scale of a train network. JR East’s widespread network dominates most of Kanto compared to smaller private companies like Odakyu and Keikyu. In Kanto, most JR East Stations tend to use short, electronic melodies with uniform structure, while in Kansai, both JR West and private companies often use longer and more melodic tunes. JR West has a widespread network in some regions, while other companies have robust networks covering large amounts of specific regions like the Kintetsu network in the Nara Basin. Since Kintetsu dominates the Nara region, this means that they can decide how they leverage the use of train melodies in their infrastructure. These differences in style created recognizable patterns that cause passengers to associate sounds with specific regions or operators.

During the listening portion of the interviews, participants from both Kansai and Kanto were able to differentiate between melodies from each region based on instrumentation. In the latter half of the listening portion, several participants noted that the length and instrumentation had regional patterns.

While very few were able to identify exact locations of melodies outside of the ones encountered on commutes, many were able to make educated guesses on where melodies were played that were consistent with regional styles. For example, one participant inferred that [Verde Rayo](#) (Nod6Pop and JR East Railway Corporation), an electronic sounding JR East melody, was played in Shibuya Station. While Verde Rayo was not played in Shibuya, a similar electronic melody called [Hana no Hokorobi](#) ([花のほころび](#)) was played. This suggests that participants were able to recognize broader regional trends in stylistic choices associated with train companies.

Another way that train melodies help system-wide navigation and orientation is by embedding directions of travel in their arrival melodies. This is most apparent on the Midosuji and Tanimachi Lines on the Osaka Metro, where arrival melodies match the syllables of cardinal directions. Both lines use uniform melodies depending on direction of travel. The Midosuji Line travels in a north-south direction, while the Tanimachi Line travels in an east-west direction. The north and west direction of both lines have the same melody, and the south and east directions share the other melody. This is because of how these words are pronounced in Japanese. North (北, “kita”) and west (西, “nishi”) both have two syllables, whereas south (南, “minami”) and east (東, “higashi”) have three syllables. The structure of the two melodies matches the syllabic structure of these words in Japanese while adding the word “to go to” (行き, “yuki”). While the melodies themselves do not include these vocals, it is common knowledge within communities of train enthusiasts and frequent commuters that the melody implies these lyrics, allowing these melodies to indicate direction in addition to signage (東北本線沿線民).

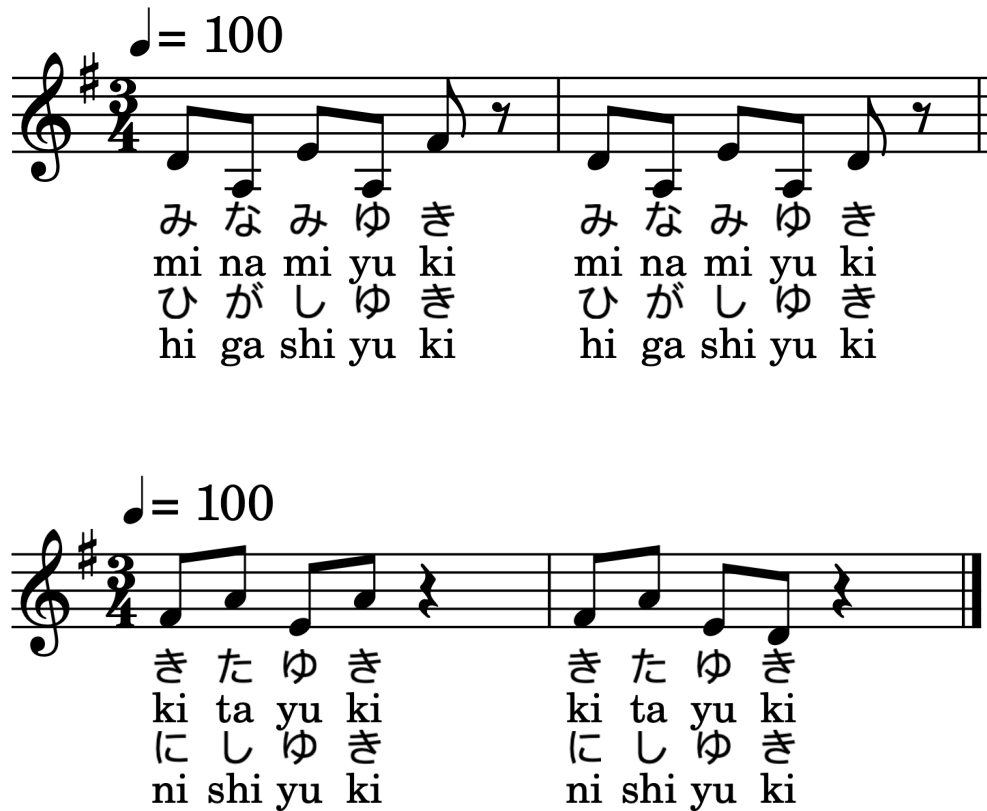


Figure 7. Sheet music for Midosuji and Tanimachi Line arrival melodies. Made by author with flat.io.

Some participants also had created associations between train melodies and chikan. Chikan is a form of sexual harassment that happens in Japanese trains where a sexual predator takes advantage of the crowded atmosphere of a train to grope a victim, typically a woman, without consent. While there is still a social taboo and shame in Japan when it comes to discussing sexual assault (Harada), multiple interview participants described their experiences with the issue and how it affected them. They described how specific lines and stations such as the JR Saikyo Line and neighborhoods with high concentration of izakayas (a type of Japanese pub) are known among the public for chikan. Some participants explained how hearing train melodies for the stations at which these incidents occurred can bring up memories of the experiences, even when the sound is heard out of the situation. These

memories are tied to specific stations, lines, and platforms, so the melodies place these memories into the structure of the train network, so they can immediately tell where they are upon hearing the melody.

Train melodies also use references to cultural events, companies, and other local landmarks in order to help passengers situate themselves relative to the surroundings of train stations. A well known example of this is in Ikebukuro station, a large interchange station in Tokyo which is served by Tokyo Metro, JR East, Seibu, and Tobu railways. The JR East portion of Ikebukuro Station has nearly 500,000 users daily (JR East Railway Corporation), meaning that a large number of people hear the train melodies playing in the station. On the JR Yamanote Line, the [theme song of Bic Camera](#) (ビックカメラCh) is used as a [departure melody](#). The station is adjacent to the headquarters and flagship store of Bic Camera, a major electronics retail chain store. Similar uses of local references are used in other stations as well. Another example of this is at [Mukogaoka-Yuen Station](#) in Kanagawa Prefecture, which uses the [theme song from Doraemon](#) (Music Federation), a world famous manga by Fujiko Fujio about a robotic cat that time travels to the 1960s to help neighborhood kids with new technology. The station is near the Fujiko F. Fujio Museum, which commemorates the life and work of the artist and his creation of Doraemon. Because these train melodies directly reference well known businesses and landmarks associated with the neighborhood, passengers are able to orient themselves based on what amenities the station's surroundings have to offer.

Efficiency

Along with aiding in wayfinding, train melodies are also used to improve the efficiency of the train system. Japanese society places high value on punctuality, especially in the workplace. This means that Japanese train companies have strict policies on efficiency in which even a minute's delay can lead to

reprimanding and high fines (Nagata et al.). Because of the precision required to operate the whole train network, train melodies act as directives to passengers to stand in specific places, prepare to stop moving, or to board a train. Departure melodies are often designed to have an obvious end. By the time that the melody finishes playing, the sea of passengers should be divided into two groups: in the train and on the platform. Separating these groups with physical distance helps avoid delays caused by people and their belongings causing doors to get jammed. When asked about the main purpose of train melodies, multiple participants answered that train melodies are meant to create time pressure. Several participants explained that hearing the melody made them more aware of how little time remained before the doors closed, which caused them to hurry onto the train or completely give up if they thought they could not make it. These seemingly small decisions maintain efficiency across the whole network. Minor delays at one station can affect other trains on the same line, timed interchanges, and across the greater train network.

Creating a Sense of Place

Train melodies also help create a sense of place by incorporating local references, cultural symbols, and familiar sounds that cause passengers to associate stations with specific routines and experiences. Stations in both Kansai and Kanto use melodies based on familiar songs, such as nursery rhymes, pop songs, or with traditional instruments. Since these songs and instruments are already familiar to many riders, the melodies create a strong sense of place for the stations they serve.

One example of a pop song used as a train melody is at [Tenma Station on the JR Osaka Loop Line](#). Here, the tune from the chorus of [“Hanabi” by Aiko](#) (aikoOfficial) is used: “夏の星座をぶらさがって上から花火を見下ろして” (“hanging over the summer constellations, we looked down at the fireworks”).

This melody references Tenjin Matsuri, a large summer festival that happens in the station's surroundings, which culminates in a large fireworks display. During the listening portion of interviews, many participants immediately recognized the tune and expressed a sense of clarity about the connection between the song and the festival once they realized it. By using this song, the station melody reflects an event of cultural significance that is closely associated with the station's neighborhood.

In addition to referencing local cultural events, train melodies also contribute to a sense of place through distinct music styles. For example, private railways in Kansai like Hankyu often use melodies with traditional instruments, creating calmer and less ear piercing melodies than the electronic ones widespread in Tokyo. These melodies feature softer tones with bells and koto-like sounds. After hearing the [Hankyu arrival melody](#), participants described its instrumentation as “old style,” “上品 (elegant),” and “京都らしい (Kyoto-ish).” Despite these elegant descriptions, others also used words like “warning,” “feel a need to be careful,” and “真面目 (serious).” This contrast shows that even though traditional instrumentation creates a different feeling from other train companies, the melody still serves its basic purpose as a safety signal for people to stand back from arriving trains.

Even melodies without cultural references or traditional instruments contribute to placemaking because of repeated exposure. Because passengers hear the same melodies repeatedly during commutes, the sounds become associated with stations, lines, and routines. An example of a train melody commissioned by JR East is called [JR SH-02](#) (links to train melody recording), which was in widespread use in Tokyo until 2024. This melody uses simple electronic tones and has no direct connection to a specific place, but its use in so many stations meant that several interview participants immediately recognized the melody and described the parts of their commutes in which they heard them. Participants

described the melody as “nostalgic,” and explained associations the melody had to going out with their friends. Some participants in Tokyo said that electronic melodies have been a part of their life since childhood. One of the participants summed up this process, saying “when the time comes, the melody [plays out]. I think at that time I recognized how people are and how trains leave after the melody. As a child, I think that’s how I got imprinted with this.” This response shows that even simple electronic melodies, with consistency, can become tied to how passengers expect trains to run. Through repeated exposure, these electronic melodies create a sense of place for the train station itself.

These examples demonstrate that train melodies build on their basic use as signalling devices into markers that give trains unique identities. Through references to local culture, differences in musical style between companies, and familiarity with repeated exposure, passengers begin associating specific sounds with specific locations.

Conclusion

This study shows that train melodies play a significant role in shaping how passengers experience trains in Japan. In addition to serving as signals, train melodies function as multisensory wayfinding tools, regulate the efficiency of both train and passenger movement, and contribute to a sense of place for passengers. These findings show that intentionally designed sounds can influence how people perceive and move through public spaces just as much as visual cues and physical layout.

These findings suggest that sound in urban environments does not necessarily need to be reduced, as it can be a sense used to enhance our experiences in space. Understanding sounds as a part of urban design has implications far beyond Japan. Transit systems in the United States often lack the efficiency and

identity found in Japanese trains, and stations are known to be dirty, unsafe, and confusing. Further research could analyze how designed audio cues could be implemented in American train and subway systems. Adding music in trains may also have potential to positively influence rider experiences and make public transit more memorable to even infrequent riders. Given the ongoing challenges faced by public transportation agencies in the United States, a more positive perception of public transportation environments is an important part of ensuring a network's long-term stability. While this study focuses on Japan, a point for further research could be analyzing how Americans perceive urban noise and sound in more detail. More broadly, this study suggests that sound should be considered as an important component of urban design instead of a byproduct of urban activity.

Appendix

Appendix A. Train Melodies Used in Interview Listening Portion

Name	Station	Line	Company	Link	Average Stress Rating
大阪駅接近 Osaka Arrival	Osaka	Osaka Loop Line, Takarazuka Line	JR West	https://drive.google.com/file/d/1paURN4JzdDygWZZTc5ve7s0MwICIdiq3/view?usp=sharing	3.071428571
Verde Rayo Departure	Various in Tokyo	Various in Tokyo	JR East	https://drive.google.com/file/d/1Gtp0vbzVD0viWx9JdAck9IRS3lh40zUn/view?usp=sharing (Nod6pop and JR East Railway Corporation)	2.076923077
花 Hana	Asakusa	Ginza Line	Tokyo Metro	https://drive.google.com/file/d/1p_xKkEJzHSfX8WcU12X1ubOsgnzOnI4O/view?usp=sharing	1.769230769
京成四ツ木駅 Yotsugi Arrival	Yotsugi	Keisei Main Line	Keisei	https://www.youtube.com/watch?v=7Px4LMYOI1c&t=19s (全国駅メロチャンネル)	3.125
JR SH1-1 Departure	Various in Tokyo	Various in Tokyo	JR East	https://drive.google.com/file/d/1zo7fy98sCsJitvVbCCkGPV0lxhCRpixd/view?usp=sharing	3

阪急接近 Hankyu Arrival	All Hankyu Stops except Umeda and Takarazuka	All Hankyu Lines	Hankyu	https://drive.google.com/file/d/17vtNRLpVSovrh5H0cPTUoh69Op7bTo93/view?usp=sharing	2.9230769 23
JR SH 2-2 Departure	Various in Tokyo	Various in Tokyo	JR East	https://drive.google.com/file/d/1_Ya3fCGFqXfVZ_kPhY27iH9BnNJAYQNG/view?usp=sharing	2.875
JR SH 2-1 Departure	Various in Tokyo	Various in Tokyo	JR East	https://drive.google.com/file/d/1Up1GlcmtuZV1QPhJVuEpkzZlJv7hGuoM/view?usp=sharing	2.1818181 82
神戸線予告・ 接近 Kobe Line Arrival	All JR Kobe Line	JR Kobe Line	JR West	https://drive.google.com/file/d/1pLFrIqiti7z3ko1ErDzrxwkvBqaFcB-A/view?usp=sharing	3.25
日根野接近 Hineno Arrival	Hineno	Hanwa Line, Kansai Airport Line	JR West	https://drive.google.com/file/d/1pTW1ibbX7ztJ4te5ZJgs2foPHPqSeANS/view?usp=sharing	3.0833333 33
JR SH 5-1 Departure	Various in Tokyo	Various in Tokyo	JR East	https://drive.google.com/file/d/1GyhRIffHmuAJQou9jIEBShMBGNdBA9Oa/view?usp=sharing	2.6
桜宮 Sakuranomiya Departure	Sakuranomiya	JR Osaka Loop Line	JR West	https://drive.google.com/file/d/1a_eGKk-0btJhoQlFMdjCR-vLnXL5mzQK/view?usp=sharing	1.4

渋谷 Shibuya Departure	Shibuya	JR Yamanote Line	JR East	https://drive.google.com/file/d/1A2lNlrQOlsbs_BsbaKGdHtTM2aihqz5/view?usp=sharing	3
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Appendix B. Sound Survey Information

The locations of stations were geocoded, and audio recordings were location tagged to a map in ArcGIS Pro. The recordings organized by location are linked here: <https://arcg.is/v8PKu3>

Recordings were made at a total of 400 stations, listed here (in Japanese):

https://docs.google.com/document/d/1AQ89I5PGGZXEQ7S1SOszVs_wp7N6DnVSsgtihVjB0ys/edit?usp=sharing

1110 total recordings were taken, listed here (in Japanese):

https://web.stanford.edu/~jkong2/train_sounds/

The routes used to conduct the sound survey are linked here (in Japanese):

https://docs.google.com/spreadsheets/d/1_s2On-R85imyh5h5hF4Vma-SuKaxy2jLHIYslolV6CQ/edit?usp=sharing

Appendix C. Interview Questions

English	Japanese
How would you explain hassha melodies to a person who has never heard them before?	聞いたことがない人に発車メロディーを説明してください。
What interesting characteristics and purposes do you think they have?	どのような特徴と目的がありますか？
Please walk me through your commute from your house to your workplace.	家から会社までの通勤経験を詳しく説明してください。
What do you do and think about when on the train?	電車に乗っている時に何を考えますか？
Tell me about a trip you make on the train every day. What sounds do you notice when you make this trip?	毎日電車に乗る旅行について話してください。どんな声が聞こえますか？
Tell me about the first time you ever remember riding a train. Where did you go? What was it for? Who did you go with? What made the trip so memorable?	初めて電車に乗った経験について話してください、どこに行きましたか？目的は？誰と一緒に行きましたか？よく思い出したらなぜですか？
If you have, tell me about a time you rode a train	外国で電車に乗ったことがありましたか？どんな声

outside of Japan. What sounds did you notice?	が聞こえましたか？
What is the last time you remember hearing a sound in a train or station?	電車また駅で最近どんな声が聞こえましたか？
How do you feel your commute would be different if there were no jingles in the train?	発車メロディがあっかたら、あなたの通勤経験がどう変わると思いますか？
I will play some train melodies. After hearing each one, please tell me these things: - If you recognize from a station - 3 words to describe how the sound made you feel - Rank each one on a scale of 1(very calming) to 5 (unsettled and alert)	今駅メロディを数回放送しています。聞いた後で、以下のことをしてください。 - あのメロディを聞いたことがあったら、どこで聞きましたか？ - あなたの気持ちについての言葉を三つを話してください。 - 1から5までランクしてください。1の意味がすごく心地いいです。5の意味は緊張と敏感です。
Are there trains that you actively avoid, and why?	わざわざ乗らない電車がありますか？
Do you think the speaking announcement after the music played is included in the term “hassha melody?”	音楽を放送した後の話す言葉は「発車メロディー」に含むと思いますか？なぜですか？

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