

Environmental Changes Surrounding Urban Railroads in the U.S. and Strategies for Recovery from the COVID-19 Pandemic

The 150th Transport Policy Colloquium

Washington Report XIV

April 14, 2022

Background and objectives

Pre-Covid

- Urban railroads in the U.S. has served as a means of transportation, etc., mainly for the economically disadvantaged population who do not own cars, and has existed by **receiving financial support from the government**. Unlike in Japan, where the need for public transportation is widely recognized, **opinions in the U.S. were split along political lines, with Democrats for public transportation and Republicans against**.



Post-Covid

- Due to the continuing low levels of ridership, the need for federal spending on urban railroads is **receiving increased scrutiny by the opposing party**. Meanwhile, the Biden Administration passed a law that provides enormous funding for public transportation, which provides an **opportunity to improve U.S. urban railroads**.

I would like to describe the environmental changes surrounding urban railroads in the U.S. and the **latest trends regarding future strategies.**

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Types of urban railroads in the U.S.

- Urban railroads in the U.S. are roughly divided into “urban railroads” and “commuter rail.”

Urban railroad

- **Heavy rail**
 - Railroads used for heavy-duty transport
 - Mainly **subways**
- **Light rail**
 - Railroads used for light-duty transport
 - **Streetcars**

Commuter rail

- Railroads that link metropolitan areas and suburbs; medium-range transport

[Reference] Operating agencies, the number of users, and route area for commuter rail

- There are approximately 30 operating agencies for commuter rail in the United States.



- The top 3 companies in terms of number of users are in the NY State area
 Average of the 3 companies: approximately 98 million users per year

This is about 1/10 of the average for major private railways in the Kanto region.

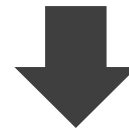
- Although a large metropolitan area, the route area is approximately 145km (Equivalent to distance between Tokyo Station and Karuizawa Station)

In the Kanto area, the area covered by major private railways is approximately 40km from the city center.

Change in urban railroads in the U.S.

- 1880s~

- Urban railroads originated with streetcars
- New York City's subway opened in 1904, and since then, subways rapidly opened in major cities across the States.
- They contributed to city development, and at the time were operated in a **financially-independent manner by the private sector.**



- 1950s~

- Railroad ridership decreased following the popularization of automobiles, and **private management of public transportation became difficult.**
- Urban railroads served mainly as an environmental measure and as a means of transportation for the economically disadvantaged population, including minorities, who could not own cars, and were operated as a **public corporation** while receiving government assistance.

Corporate structure of urban railroad operators (Example: New York)

Overview

- New York Metropolitan Transportation Authority (MTA)
- **As the largest public transportation operator in North America**, it operates New York City's subways and buses as well as the commuter rail that links New York City with its suburbs.

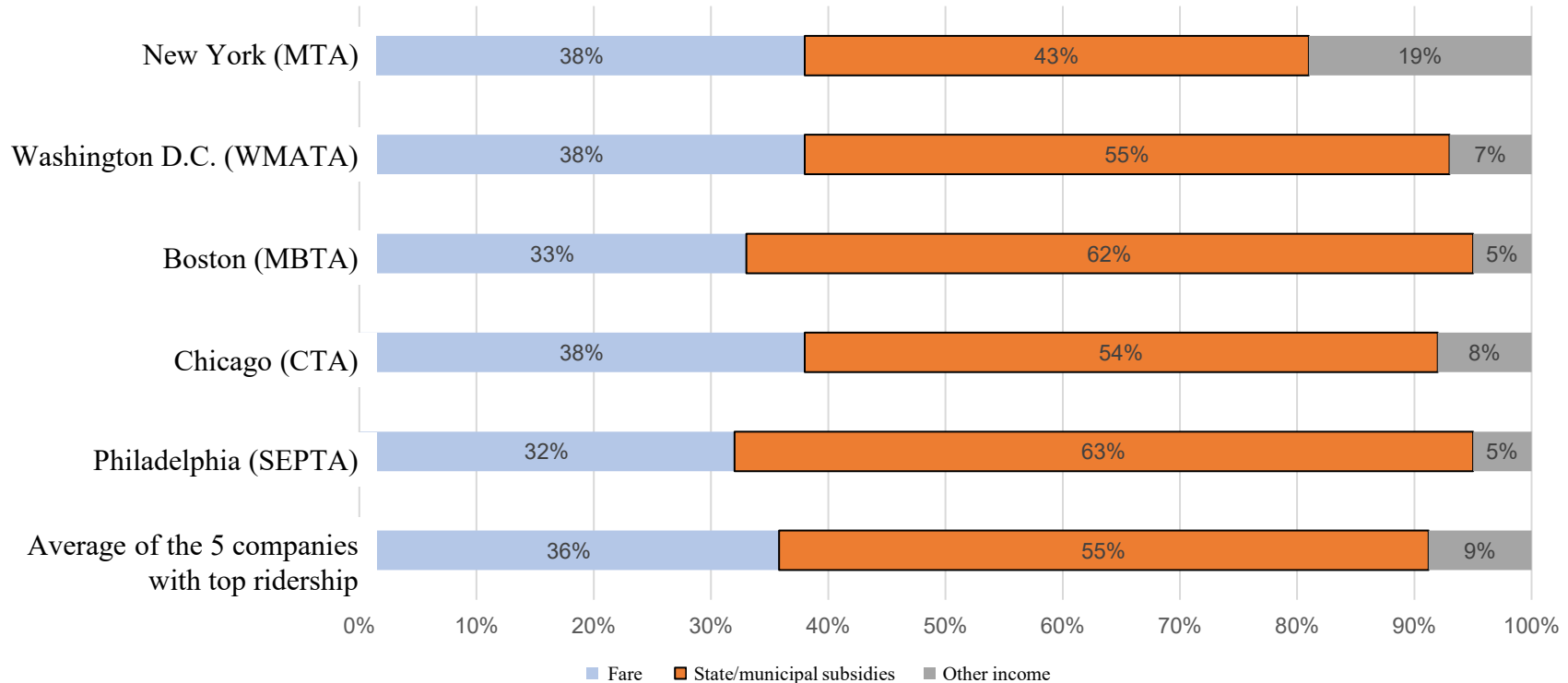
Railway business

- (1) Commuter rail business
 - Privately operated → Went **bankrupt** in 1949 due to the advancement of motorization.
 - Established as a **public corporation** in 1965.
- (2) Subway business
 - The city built the infrastructure and outsourced its operation to the private sector.
 - Went **bankrupt** after 1920 due to the burden of its contract with the city for establishing fixed fares.
 - Temporarily municipalized, but was established as a **public corporation** in 1953 at the initiative of the state.

- Most urban railroads in other states are also run as public corporations, which **differs from Japan, where many railroads are privately operated.**

Profit ratio of major urban railroad operators

Profit ratio of the top five companies in terms of ridership from among urban railroad operators (FY2019 budget)



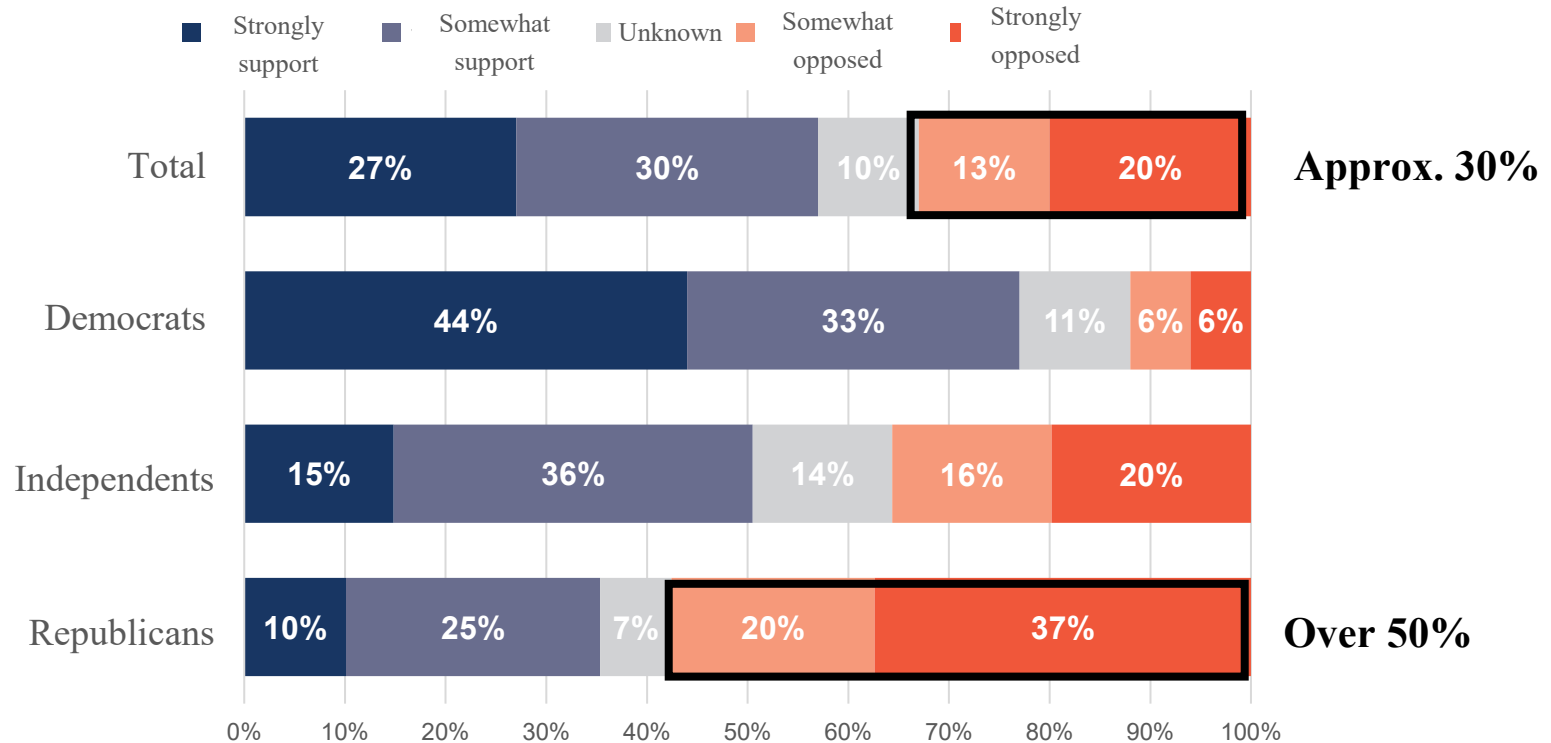
■ Even the operators of large metropolitan areas with high ridership rely on **state (and municipal) subsidies for 40-60% of their revenue.**

*Subsidies from the federal government are not included in the revenue as they can only be applied to capital expenditures in principle (mainly investment in tangible assets).

*The start and end months among accounts divisions differ depending on the operator.

Public opinion survey regarding funding for public transportation (pre-Covid)

Do you support funding of public transportation even if it means raising taxes?



【Survey period】 November 27-29, 2019

【Respondents】 1029 voters (weighted to account for age, race/ethnicity, gender, and region)

- Although over half the public supports funding for public transportation, **about 30% are opposed**, mainly among Republicans.

Summary (Overview of urban railroads in the U.S.)

- Urban railroads are expected to serve mainly as an environmental measure and as a means of transportation for the economically disadvantaged population who cannot own cars, and currently, many urban railroads are operated by public corporations established by the state/municipality.
- **Operation is dependent on state funding, etc., but this funding is not widely supported by the entire public, and has faced continued opposition, mainly by Republicans.**

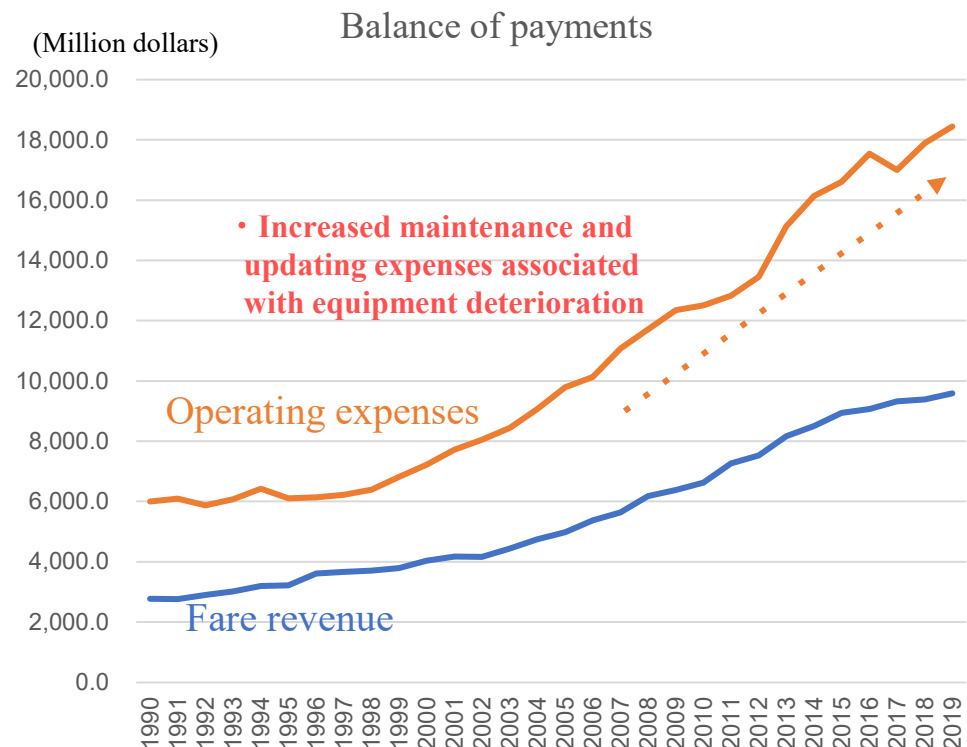
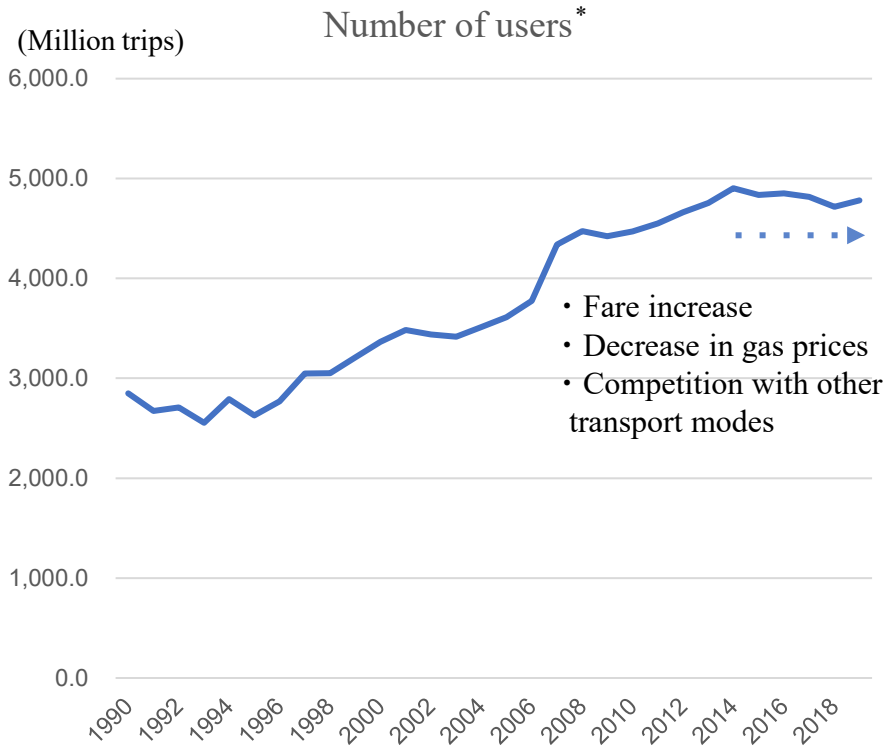
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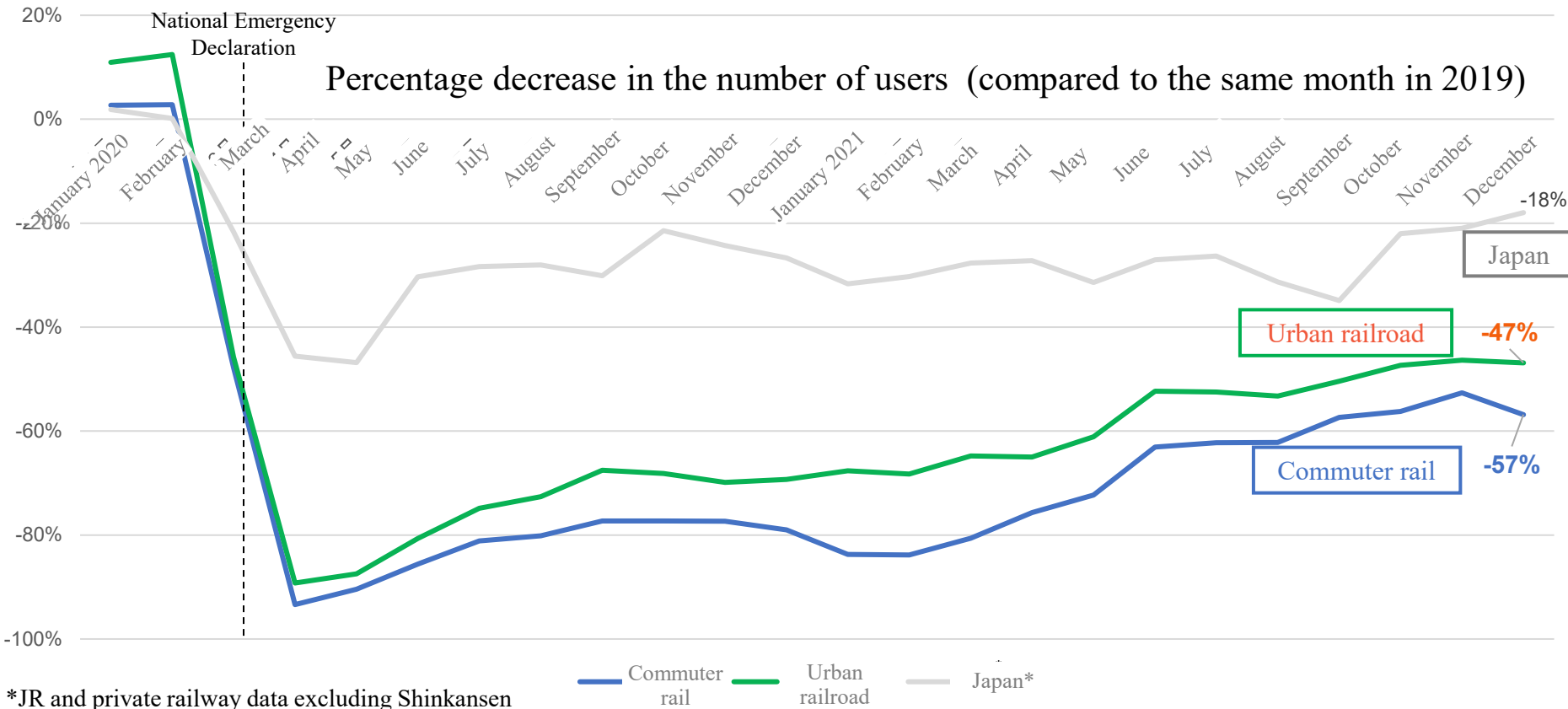
[Reference] Change in the number of users and balance of payments before Covid-19



*In the U.S., the number of passengers is measured using Trip Unlinked Passengers (total boarding; transfers are counted multiple times).

■ **The peaking of the number of users and deterioration in the balance of payments due to an increase in operating expenses** were problems from before the Covid pandemic.

Change in the number of users during the Covid pandemic

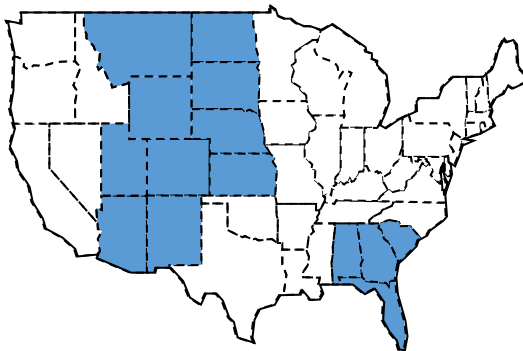


■ The recovery in the number of users is slow, and the numbers are particularly low for **commuter rail** that links the city and suburbs, due to the establishment of remote work.

Commuter rail recovery by region

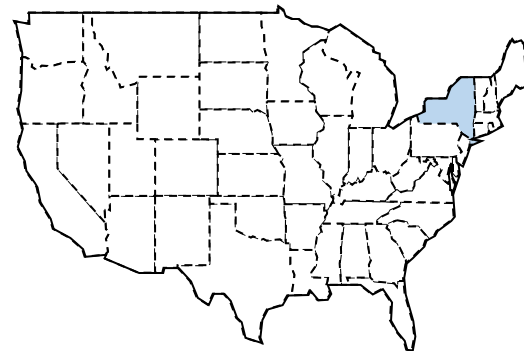
Where recovery is fastest

- Intermountain West
- Southeast
- Southwest



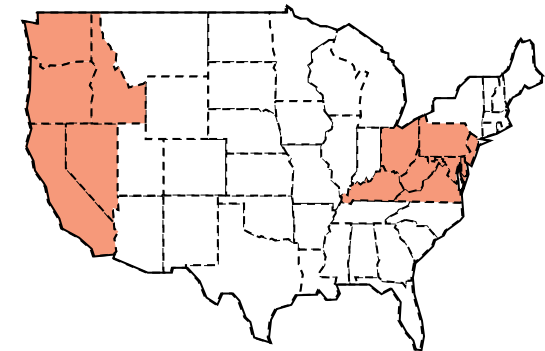
Where recovery is greater than average

- New York



Where recovery is slowest

- Mid-Atlantic Region
- Northwest
- California



- Fast recovery for commuter use
- High utilization rate for purposes other than commuting

- High railroad utilization rate
- High utilization rate for purposes other than commuting

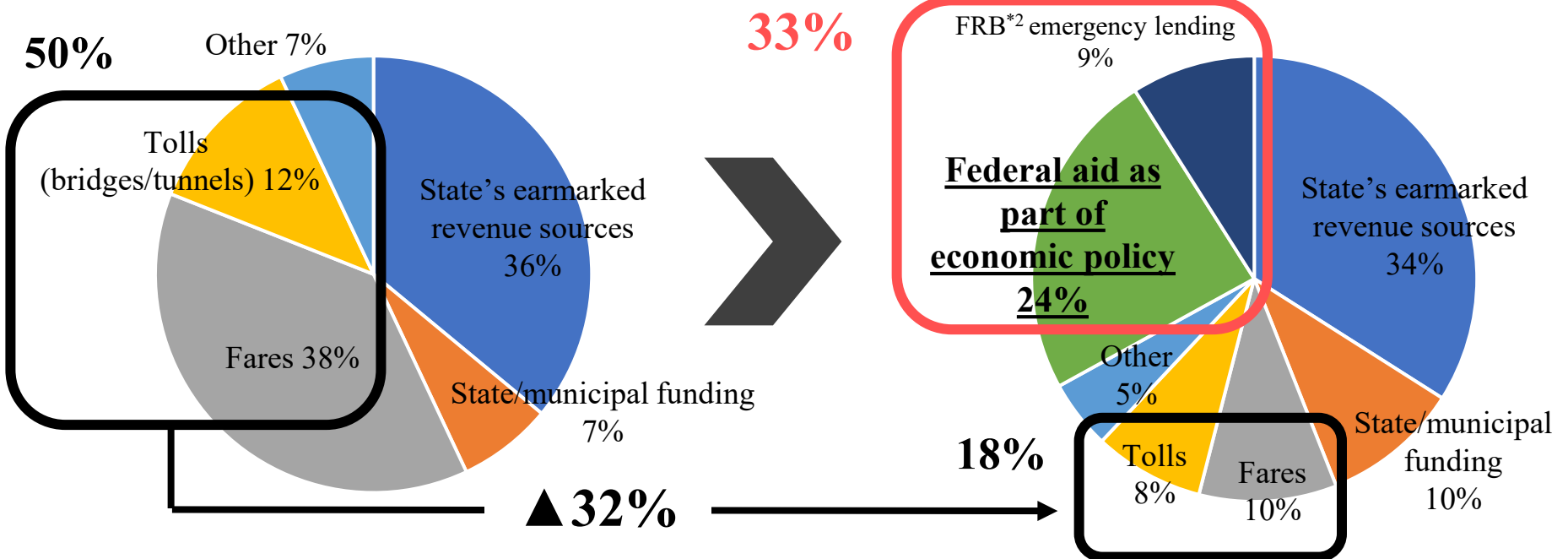
- Lots of office workers, and recovery of commuter use is slow

Profit structure of urban railroad operators since the Covid pandemic (Example: New York)

Example of New York Metropolitan Transportation Authority (MTA)

Profit structure (FY2019 budget)

Profit structure (FY2021 budget*1)



*1 As of February 2021

*2 Federal Reserve Board of Governors

[Reference] Federal bailout during the Covid pandemic (stopgap measures)

March 2020 CARES Act (Total of 2.2 trillion dollars, including 25 billion dollars for public transportation) [Approx. 260 trillion yen] [Approx. 3 trillion yen]

*Coronavirus Aid, Relief, and Economic Security Act

- Largest stimulus package in U.S. history
- Wide-ranging content, including direct cash payments of \$1,200 [approx. 150,000 yen] to each citizen, enhanced unemployment benefits, and payroll support for small and mid-size enterprises
- The transit aid is characterized by the fact that **it can be used for operating expenses (personnel costs, etc.) unlike previous federal grants which could only be used for capital investments in tangible assets.**

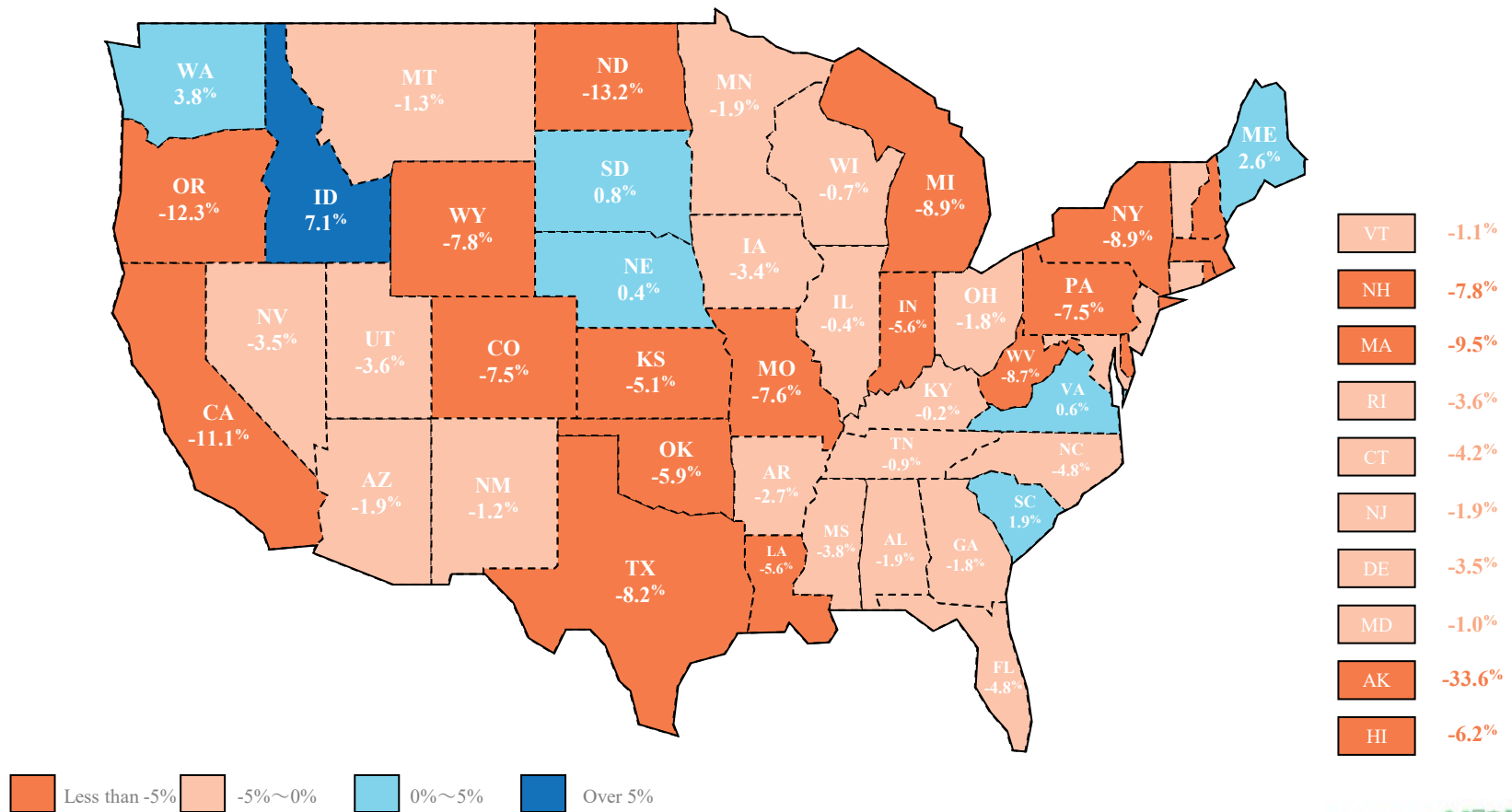
March 2021 American Rescue Plan Act (Total of 1.9 trillion dollars, including 30.4 billion dollars for public transportation) [Approx. 230 trillion yen] [Approx. 3.5 trillion yen]

- Recognized as one of the largest stimulus packages since the Great Depression, along with the CARES Act.
- The transit aid extended previous measures.

Finances of state governments in the Covid pandemic

Tax revenue decreased for most states in the Covid pandemic

Rate of change in tax revenue in the second quarter of 2020 (year-on-year)



Discussions regarding financial support for urban railroads

- There has always been conflict between supporters and opponents with regards to financial assistance for urban railroads, but in recent years, there has been **increased skepticism regarding generous financial support for the railway business** even in Democratic areas due to continued low ridership and yearly increase in accidents and failures.

February 9, 2022 Washington D.C. Congress House Subcommittee

The railway business is not a good place to invest taxpayer dollars in light of the ridership situation and repeated failures.

Management of the Metro should be **partly privatized**, and we should work on cost reduction and improving management efficiency.

Changing tides of the railroad industry

- A U.S. think tank specializing in transport policy has said that the **tides of the railroad industry are slowly changing** due to Covid-19.

February 2022 interview of the think tank

Until now, railways have served as a means of transport for essential workers and the economically vulnerable rather than for profitability, but now that ridership is so low, **the reason for the continued existence of railways needs to be called into question.**

Currently, railways are being subjected to the following logic:
“ridership has decreased due to Covid-19” → “Low ridership is proof of an ‘unpopular product’” → **“Railways should have a lower priority for investment by state governments, and thus subsidies should be decreased.”**

[Reference] Local reporting regarding the declining ridership of urban railroads

January 21, 2022 The New York Times

“How Remote Work Is Devastating New York City’s Commuter Rails”

- Transit agencies expect their ridership to reach about 75% of pre-pandemic levels in 2022, but an influential research group has a harsher outlook, saying that “those projections are built more on hope than certainty.”

March 6, 2022 THE WALL STREET JOURNAL

“Commuter Railroads Face Murky Future After Pandemic”

- The fiscal measures taken by the federal government in the Covid pandemic helped sustain commuter rail operation, but the Massachusetts Bay Transportation Authority, which operates the commuter rail around Boston forecasts that they will use up the federal funding that they received by the end of FY2023 at the earliest.

March 4, 2022 The Washington Post

“Metro’s next leader will face ridership challenges and a looming ‘financial cliff’”

- The General Manager of the Washington Metropolitan Area Transit Authority announced that he was stepping down in six months citing the current financial conditions.

(i) Effects of decreased ridership due to Covid

(ii) Use of financial support from the Biden Administration

Enactment of the Infrastructure Investment and Jobs Act

- In November 2021, the Infrastructure Investment and Jobs Act was established, which was described as a “historical achievement” in the history of U.S. transportation infrastructure policy. **It differs in nature from previous Covid relief measures (stop-gap measures) and is positioned in the industry as a budget for future recovery.**

- **The bill provides a total of 1.2 trillion dollars** [approx. 140 trillion yen] **over the next five years** and includes approx. 550 billion dollars [approx. 65 trillion yen] in new spending for **infrastructure improvement and maintenance, which have long been issues in the U.S.**
- The amount of new spending allocated for public transportation is 39 billion dollars [approx. 4.5 trillion yen] which is the largest amount ever.

Transit-related expenditure items (Unit: 100 million USD)	Infrastructure Investment and Jobs Act
(1) Roads, bridges, large-scale projects	1,100
(2) Traffic safety	110
(3) Public transportation	390
(4) Passenger rail/freight rail	660
(5) Airports	250
(6) Ports	170
(7) Electric vehicles	150
(8) Reconnecting communities	10
Total	2,840

[Reference] Background to the establishment of the Infrastructure Investment and Jobs Act

- On March 31, 2021, President Biden unveiled **“The American Jobs Plan”** to update/improve aging transportation infrastructure and secure high-quality jobs generated from these investments, etc.
- “The American Jobs Plan” was a **large-scale investment plan totaling 2.3 trillion dollars [approx. 275 trillion yen]**, and although infrastructure spending was the core of the plan, it also contained welfare provisions such as nursing care/housing. However, after months of congressional negotiation, the total investment was reduced in order to win the support of Republicans who were concerned about the deficit, and was enacted as the “Infrastructure Investment and Jobs Act” focusing only on infrastructure.

[Reference] Positioning of the Infrastructure Investment and Jobs Act

- In the U.S., bills that give the federal government **spending power aimed at transportation infrastructure development over multiple years are continuously enacted, and the Infrastructure Investment and Jobs Act is the latest such bill.**

Period	Recent transportation-related bills
1992-1997	ISTEA (Intermodal Surface Transportation Efficiency Act)
1998-2003	TEA21 (Transportation Equity Act of the 21 st Century)
2004	Extension of TEA21
2005-2009	SAFETEA-LU (Safe, Accountable, Flexible, Efficient, Transportation Equity Act- A Legacy for Users)
2010-2012	Extension of SAFETEA-LU
2013-2014	MAP-21 (Moving Ahead for Progress in the 21 st Century)
2015-2020	FAST (Fixing America's Surface Transportation Act)
2021	Extension of FAST
2022-2026	Infrastructure Investment and Jobs Act

Priority areas of the Infrastructure Investment and Jobs Act (public transportation-related)

- Federal Transit Administration (FTA^{*1}) secured an additional budget of 39 billion dollars [approx. 4.5 trillion yen] from the Infrastructure Investment and Jobs Act for its 5-year budget beginning in FY2022.

The keywords for priority areas are **“safety,” “modernization,” “climate” and “equity”**

Safety

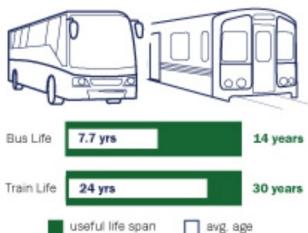
Improving Safety



- Implement additional staff training aimed at enhancing railway inspection work^{*2}
- Overhaul the states’ safety supervision programs
- Data collection aimed at cause analysis of past accidents

Modernization

Modernizing Bus & Rail Fleets



- Repair and upgrade aging equipment (rail tracks, traffic signals, stations, bridges, etc.)^{*2}
- Upgrade buses and railcars that are nearing the end of their service lives^{*2}
- Newly develop and expand public transportation in order to handle growing communities

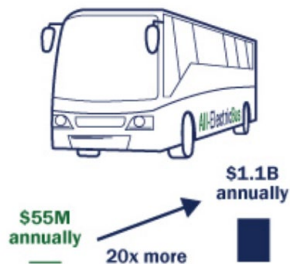
*1 Federal Transit Administration

*2 Up to 80% of costs will be funded by the federal government

Priority areas of the Infrastructure Investment and Jobs Act (public transportation-related)

Climate

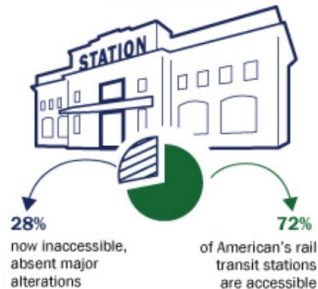
Low or No Vehicle Emissions Competitive Program



- Replace thousands of buses, ferries, and other transport vehicles with environmentally-friendly ones that have zero emissions, etc.*1
- Promote technological support/R&D to introduce zero emission vehicles
- Enhance traffic system durability to deal with climate change and abnormal climate

Equity

All Stations Accessibility Program



- Improve accessibility for disabled people*1
- Develop new routes, etc., in areas that do not sufficiently receive public transportation services (such as low-income areas) and improve convenience for access to public transport*2
- Support companies owned by minorities and women

*1 Up to 90% of costs will be funded by the federal government

*2 Up to 60-80% of costs will be funded by the federal government (to be determined based on the scale of the project)

Industry comments regarding the Infrastructure Investment and Jobs Act

- In March 2022, a conference was hosted by **APTA, a trade association for public transportation**. Government officials such as the Secretary of Transportation, the Federal Transit Administration (FTA) Administrator, etc., were invited, and sessions were held regarding the positioning of the Infrastructure Investment and Jobs Act, and expectations for operators, etc.

- **APTA (American Public Transportation Association)**

Name

American Public Transportation Association

Trade association made up of North American public transit agencies including bus and railways

Number of members

Approximately 1,500 organizations from 27 countries

Executive members

Comprised mainly of former executives of transit agencies from various regions

Activities

Hosts conferences/seminars, conducts research studies on public transportation, creates statistical data, makes public transport policy recommendations for North America

APTA makes requests to the government for financial assistance on behalf of the industry, and **advocates for increased funding. It has a high presence in the industry.**

Industry comments on the Infrastructure Investment and Jobs Act

March 2022 At the Legislative Conference hosted by APTA



APTA CEO
Paul Skoutelas

- The Covid pandemic showed me the importance of the transportation business, but also revealed its vulnerabilities.
- Right now, we have this budget, but we cannot lower our guard. **Our future challenge will be to determine how to effectively use this once-in-a-lifetime opportunity to enhance the presence of railways.**

Industry comments on the Infrastructure Investment and Jobs Act

March 2022 At the Legislative Conference hosted by APTA



Pete Buttigieg
Secretary of Transportation

- We secured all the funding we can for public transportation. We will never have this kind of opportunity again.
- **I fear an outcome in which the value of public transportation will not increase even if we use these funds. It must be understood that public transportation is indispensable for our citizens.**



Peter DeFazio
Democratic Congressman
Chair of the House Transportation and
Infrastructure Committee

- **If the Republicans win in this year's midterm elections, there is the risk that the budget provided by the Infrastructure Investment and Jobs Act will be cut.** It is important to use the budget as soon as possible.

Summary (Environmental changes surrounding urban railroads in the U.S.)

(i) Effects of decreased ridership due to Covid

- Rail users, mainly for commuter rail, have decreased due to the pandemic, and ridership has not recovered.
- If ridership continues to remain low, **there are concerns that public transit will face further scrutiny from Republicans, resulting in it receiving lower priority for funding.** Therefore, the short-term challenge is to recover ridership.

(ii) Use of financial support from the Biden Administration

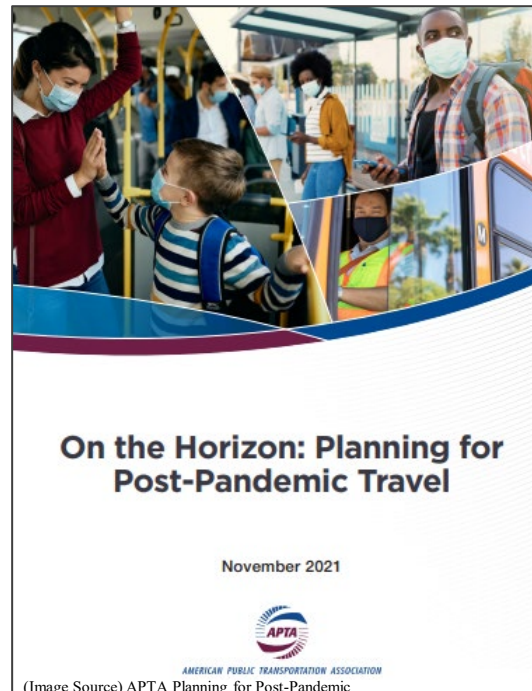
- **The budget required for the next five years has been secured thanks to the passing of the Infrastructure Investment and Jobs Act.**
- Urban railroad operators in the U.S. are **at a critical phase where it remains to be seen whether they can use this favorable opportunity to transform railways into a mode of transport that can find favor with riders.**

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Basic concept for future recovery

- APTA released a report, “Planning for Post-Pandemic Travel.” This plan was created in collaboration with research institutions, and is positioned as the basic concept for the pandemic recovery strategy.
- **The report promotes the use of public transportation and also contains the priority areas of the Infrastructure Investment and Jobs Act.**



▲ The released plan

Main content of “Planning for Post-Pandemic Travel”

1. Implementation of effective services based on changes in demand

- Consider redistribution of areas served and number of trains in service.
- Consider appropriate operation levels in accordance with the day and time.

2. Reinforcement of new initiatives to **promote usage** in response to changing trends

- **Consider flexible fare options**, improving fare payment methods and identifying potential discounts.
- Reinforce initiatives that take into consideration personal hygiene and social distancing.
- Create a mechanism where users can get involved in decision-making, and enhance involvement by local residents.

3. Reinforcement of initiatives focusing on **fair access to public transport**

- **Partner with urban development to promote redevelopment in areas with a large low income population.**
- Partner with rideshare services to improve access to public transport.

Fares (Fare capping)

Urban railroads

- New York’s subways began a pilot program called fare capping* (sets upper limits on fares) to combat the **decreased ridership caused by remote working.**

*A mechanism where once the amount spent on fares during a certain period exceeds the amount for an unlimited pass, all further rides automatically become free. Users will **no longer need to prepay for an unlimited pass.**

●New York subway pricing

- Single-ride fare: \$2.75
- One week unlimited pass: \$33



The first twelve rides ($\$2.75 \times 12 = \33) are charged at the regular \$2.75 per ride, but all further rides are free.



(画像Source) Metropolitan Transportation Authority OMNY website

➔ **There is a high possibility of reduced revenue, but this mechanism prioritizes the recovery of ridership.**

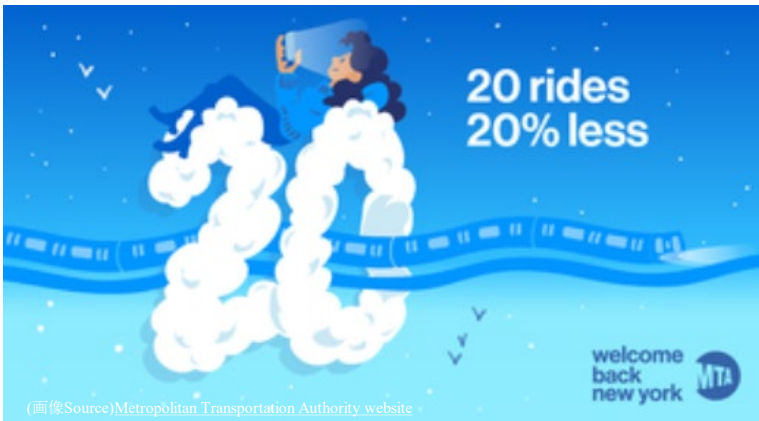
Fares (new discount options)

Commuter rail

- **Commuter rail operators** that link large metropolitan areas with the suburbs have increasingly introduced **new discount options** that serve as alternatives to commuter passes.

20-Trip ticket (New York: Metro-North Railroad/LIRR)

- **20-trip tickets** are sold at a 20% discount.*
- Tickets are valid for 60 days.
- Tickets can be purchased on the app or at the ticket booth (no contact).



5-DAY FLEX PASS (California: Metrolink)

- **Five one-day round trip passes** are sold at a 10% discount.
- The flex pass is valid for 30 days.
- The flex pass can be purchased on the app, and an **e-ticket is stored on the app.**



*20% discount from peak fares

Partnerships with urban development

Municipalities/Commuter rail

- In June 2021, the city of Chicago partnered with railroad operators, etc., and unveiled the **ETOD** (equitable transit-oriented development) plan which aims for **urban development that allows people of various races and income levels to have fair and quick access to public transportation.**

Issue recognition

- Chicago promoted TOD (transit-oriented development) from 2016-2019.
- Meanwhile, 90% of TOD took place in urban areas to the north with large white populations, causing growth disparities between regions and inequitable access to transportation.

ETOD

- A 135,000-dollar pilot program was commenced to support development in the south and western areas with large non-white populations.
- The city prioritized the use of public land near railway stations for ETOD.
- Chicago's commuter rail also participated in the program from its planning phase.



▲ Priority development districts under ETOD are marked with “×.”

[Reference] Redistribution of areas served and number of trains in service

Buses/urban railroads/commuter rail

- Colorado's Denver RTD released a system optimization plan. They are advancing plans to **improve services by increasing service frequency on routes with high ridership, while gradually abolishing suburban routes with decreased ridership to due the Covid pandemic.**

Ridership trends during the Covid pandemic

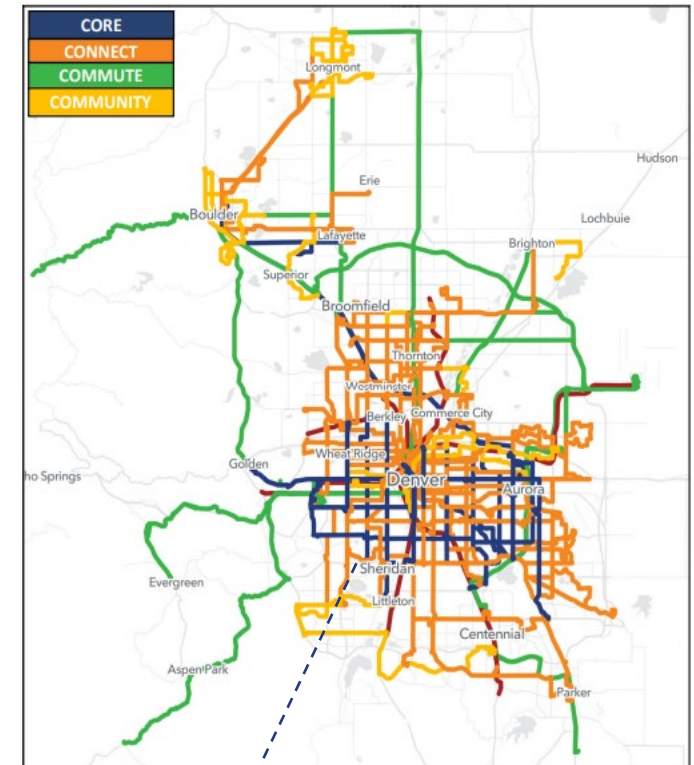
- Ridership has fallen most on commuter routes from the suburbs to the city center; meanwhile, ridership on routes that cross densely populated areas has been relatively stable.



System optimization plan (2027)

- Buses
 - Abolish 20 or more unprofitable routes in the suburbs
 - Increase service in densely populated areas
- Railways (Light rail/commuter rail)
 - Abolish routes that are currently out of service; meanwhile, increase service frequency on other routes

Future concept for the Denver region



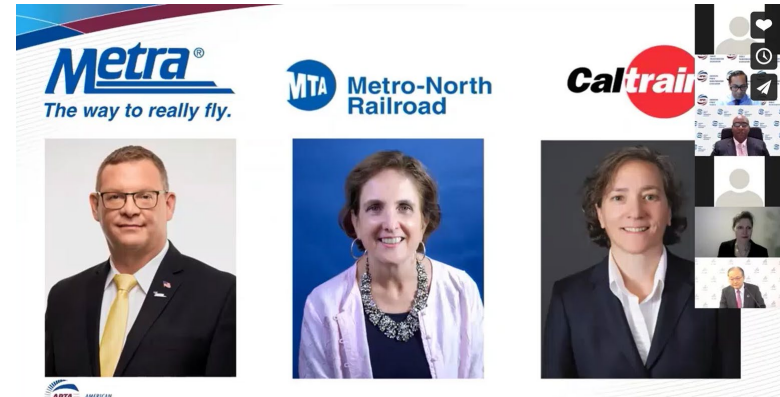
The "CORE" routes are located in the central area (dark blue).

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【Reference】 APTA×JTTRI Joint Conference

- In December 2021, APTA and JTTRI cohosted an online conference titled “Initiatives for the Recovery from the COVID-19 Pandemic and Strategies to ensure the Resilience by Commuter/Regional Rail companies in the U.S. and Japan.” Executives from railroad companies in Japan and the U.S. discussed their respective initiatives.



Interview survey of U.S. railroad officials

- U.S. railroad officials were interviewed to see what interested them about the Japanese initiatives that were presented in order to study the United States' recognition of issues and their future strategy.

Survey period

January-March 2022

Survey respondents

- CEOs and executives of railroad operators (New York, Washington D.C., Los Angeles, San Diego)
- Other conference attendees and affiliates such as APTA, etc.

Survey content

- **After listening to the Japanese presentations, what left a particular impression, and what did you feel may be useful to carry out in the U.S.?**
- Other thoughts regarding future business strategy, etc.

Interview survey of U.S. railroad officials

Main initiatives covered in the Japanese presentations

Safety measures

- Accident prevention (maintenance of equipment soundness)
- Improved resilience following an abnormality
- Establishment of an efficient maintenance system using digital technology
- Infection control

Natural disaster measures

- Flooding control measures (installation of waterproof plates and waterproof doors)
- Seismic reinforcement of structures

Promotion of off-peak usage

- Awarding points for staggered commuting

Partnership with urban development

- Railroad development/regional partnerships



Interview survey results

- Responses regarding information in the Japanese presentations that would be useful for application in the U.S. were **centered on “safety measures” and “natural disaster measures,”** which were also priority areas of the Infrastructure Investment and Jobs Act.

Main feedback regarding safety measures

Background

- Increased maintenance and operation costs associated with equipment aging
- Declining ridership due to reductions and suspension of services caused by failures and accidents



LA

- I am interested in **methods to reduce maintenance and operation costs using digital technologies such as AI and IoT, and** cultivating a safety culture.



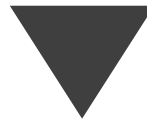
D.C.

- After the Metro train derailment that occurred in Washington D.C. in October, 60% of its rail fleet remains pulled from service. I want to know in detail about **preliminary safety inspections/standards**, and what kind of efforts are being undertaken to **enhance resilience after an accident.**

Main feedback regarding natural disaster measures

Background

- In the U.S., there are a lot of hurricanes and heavy rainfall, and the losses that occur on each of these occasions and efforts towards early recovery pose challenges.
- In New York, huge losses were suffered due to Hurricane Ida in 2021.



NY

- In addition to efforts to minimize damage, such as waterproof plates and waterproof doors, I am also interested in the **measures that are taken to achieve early recovery** after an abnormality.

[Reference] Main feedback regarding promotion of off-peak usage

Background

- Implement service leveling and enhance efficiency in terms of the number of required cars during peak times and staffing assignments, and therefore reduce the maintenance and operation costs , which have been increasing.



- Awarding “**points**” as incentives for staggered use was interesting. Although U.S. railway companies have begun boarding using mobile cards, we had not considered developing this sort of mechanism.
- Meanwhile, there is still the question of whether it is worth spending money on such upgrades with the current situation in the U.S.



D.C.

[Reference] Main feedback regarding partnerships with urban development

Background

- It is necessary to find new users by developing environments that facilitate access to railway stations from people's homes.



- Currently, private businesses that conduct real estate development around stations do not always partner with railroad operators.
- Although this might not mean building station buildings and commercial facilities like in Japan, it is necessary to cooperate/collaborate with **urban developers by building parking facilities for station users, etc.**



NY

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Main direction of European railroad policy

- In December 2019, Europe presented the “Green Deal” as a growth strategy, which aims to achieve net-zero greenhouse gas emissions by 2050.

In 2021, various measures regarding the strengthening of rail infrastructure were announced and promoted in the context of climate change measures, in order to realize this long-term growth strategy.

- In May 2021, the U.K. published the “Great British Railways-The Williams-Shapps Plan for Rail,” and is undertaking a **fundamental review of its conventional railroad operation methods** in order to achieve a sustainable railway business that also looks ahead to the post-Covid era.

① **Railroad policy to achieve the objectives of the “Green Deal”**

② **Fundamental review of railroad operation methods in the U.K.**

(i) Railroad policy for achieving the objectives of the “Green Deal”

- In December 2021, the European Commission released a **new transport policy package** in order to accelerate the switch to sustainable and smart mobility.
- Central to this package are the **revisions of the infrastructure development plan known as TEN-T (Trans-European Transport Network)** and the **announcement of a long-distance cross-border railroad plan** aimed at accelerating rail use for long-distance travel across borders.

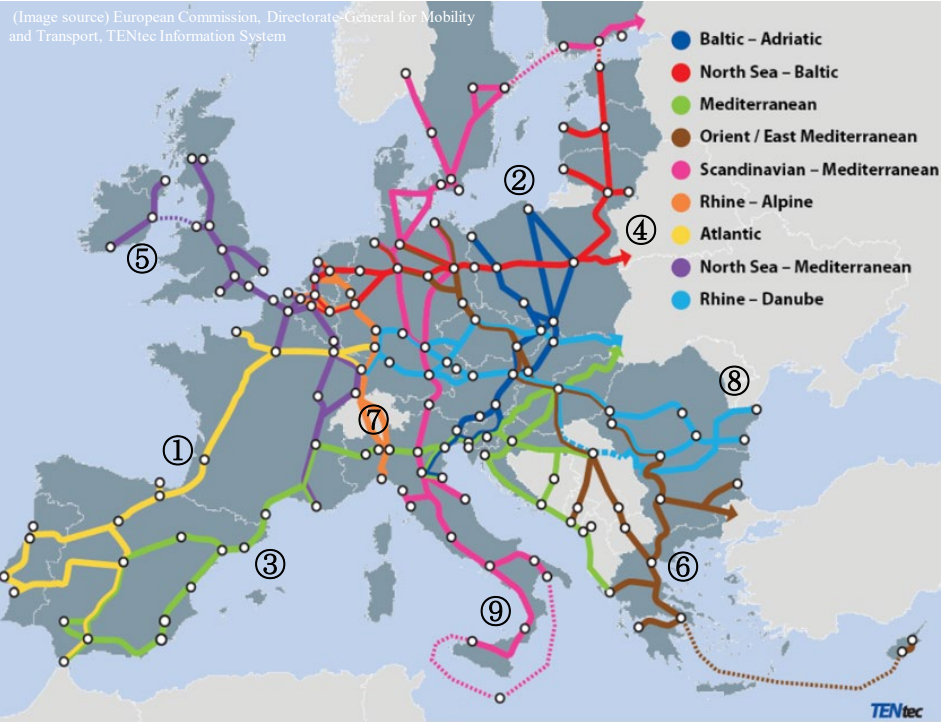


▲ Adina Vălean, European Commissioner for Transport

The key to achieving the “Green Deal” is a **90% reduction in greenhouse gases from the transport sector by 2050 (relative to 1990)**, and this package will contribute to achieving this goal.

(i) TEN-T revisions

■ TEN-T is the EU’s transport policy established in 1993. It plans for the establishment of a highly convenience transportation network by expanding transportation infrastructure and integrating multiple networks scattered around Europe. The recent revisions **aligns the plan with the objectives of the “Green Deal,” and include acceleration of the development plan and equipment upgrades, etc., in order to increase rail traffic volume.**



▲ TEN-T plan Core network (9 corridors)

TEN-T plan (before revisions)

- Develop the “core network” that links all major cities in the region by the end of 2030. (See left)
- Develop the “comprehensive network” that links all areas of the region by the end of 2050.



Main revised content

- An “extended core network” was newly defined **based on sections of the “comprehensive network” with high priority**, and the aim is to complete development **by the end of 2040.**
- Mandatory service speed of at least 160km/h on the TEN-T planned routes by the end of 2040.

(i) Announcement of the long-distance cross-border rail plan

- In Europe, most cross-border travel is done through automobiles and airplanes, and cross-border rail trips account for only about 7%. The long-distance cross-border rail plan incorporates the following three main points aimed at promoting railroad use.

Increase convenience in purchasing and issuing railway tickets

- Make a legislative proposal in FY2022 regarding planning and booking cross-border rail tickets.
- The proposed measures aim to enhance collaboration among affiliates and to build a system that enables planning and booking cross-border rail tickets, etc.

Review of prices

- As a measure to reduce costs of traveling by rail, a EU-wide **VAT exemption** for international rail tickets will be proposed.

Setting of appropriate track access charges

- High and diverse track access charges in the region hinder the entry of new rail service operators, inhibit market competition, and prevent price competition. **Therefore, guidelines regarding the setting of cross-border track access charges will be issued in 2023.**

(i) Financial support program for rail investments

- In conjunction with the TEN-T revision and release of the long-distance cross-border railroad plan, the European Investment Bank (EIB) established the “GREEN RAIL INVESTMENT PLATFORM,” a new program to support investments in railway businesses.
- EIB Vice President Kris Peeters has stated that “investing in rail is a top priority for the EIB.”



Projects covered by financial support

- **Development of new rail networks**
- **Renewal and upgrading of railroad equipment**
- Acquisition and renewal of environmentally-friendly rail cars
- Railroad digitalization (operation management, asset management, etc.)
- Development of transport hubs, such as terminals, etc.

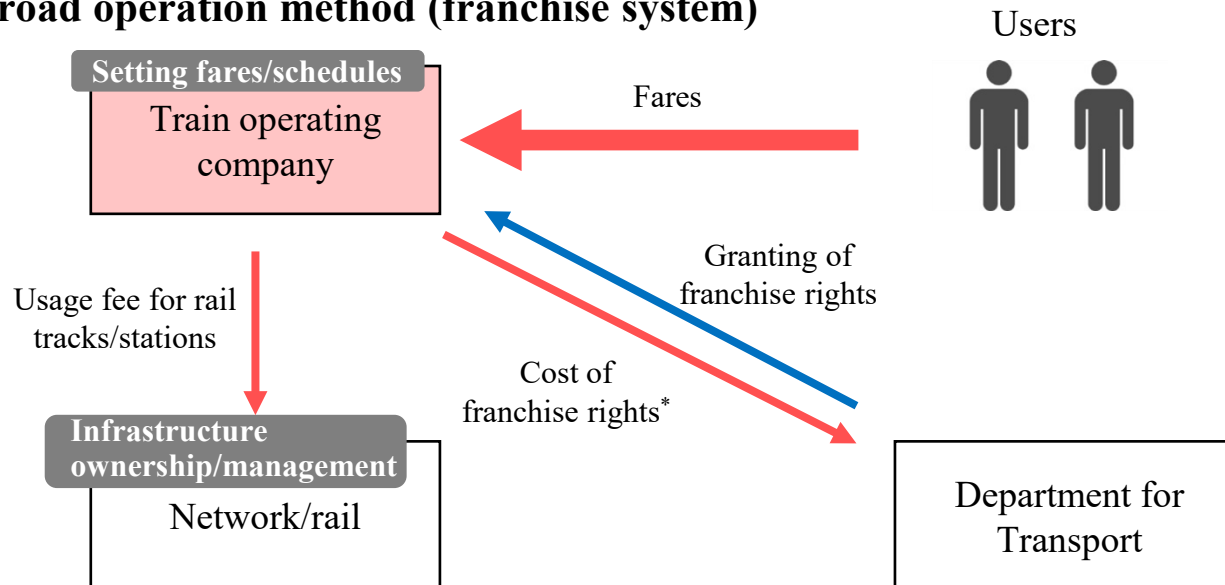
Loan amount

- Generally, loans of at least 25 million euros (approx. 3.3 billion yen) will be made, with the upper limit being 50% of project costs.

(ii) Fundamental review of railroad operation methods (previous operation method)

- In the United Kingdom, ownership of railroad infrastructure and rail operations were assumed by different companies since the 1990s, and rail operations were franchised to private sector operators.

Previous railroad operation method (franchise system)



*In the case of unprofitable routes, the Department for Transport may provide subsidies.

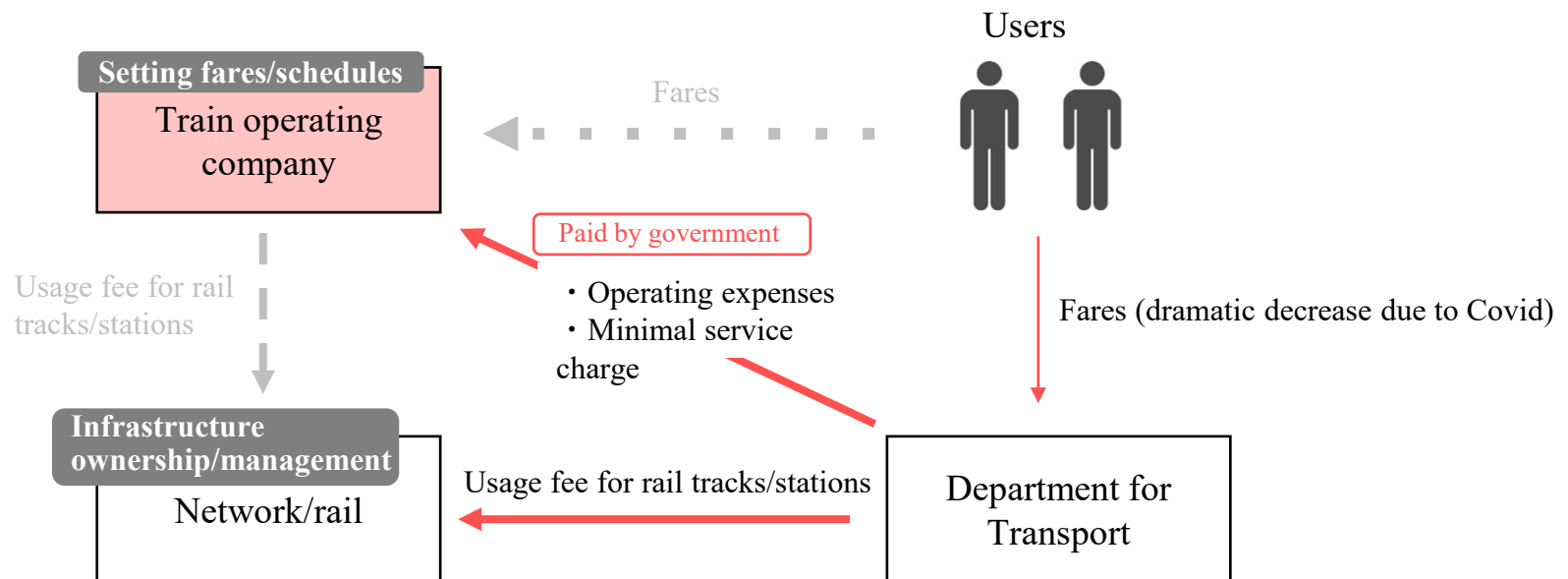
Issues with the franchise system

1. Service cancelations and delays occurred due to lack of coordination between affiliates, etc.
2. A decrease in fares directly affected the operations of the rail operators.

(ii) Fundamental review of railroad operation methods (tentative measures)

- Due to worsening business conditions faced by rail operators from declining ridership during the Covid-19 pandemic, service continuation became difficult. The government ended by previous franchising system, and took measures to relieve the burden on rail operators by transferring the risk of fare changes to the Department for Transport*.

Tentative measures in the Covid-19 pandemic (April 2020~)

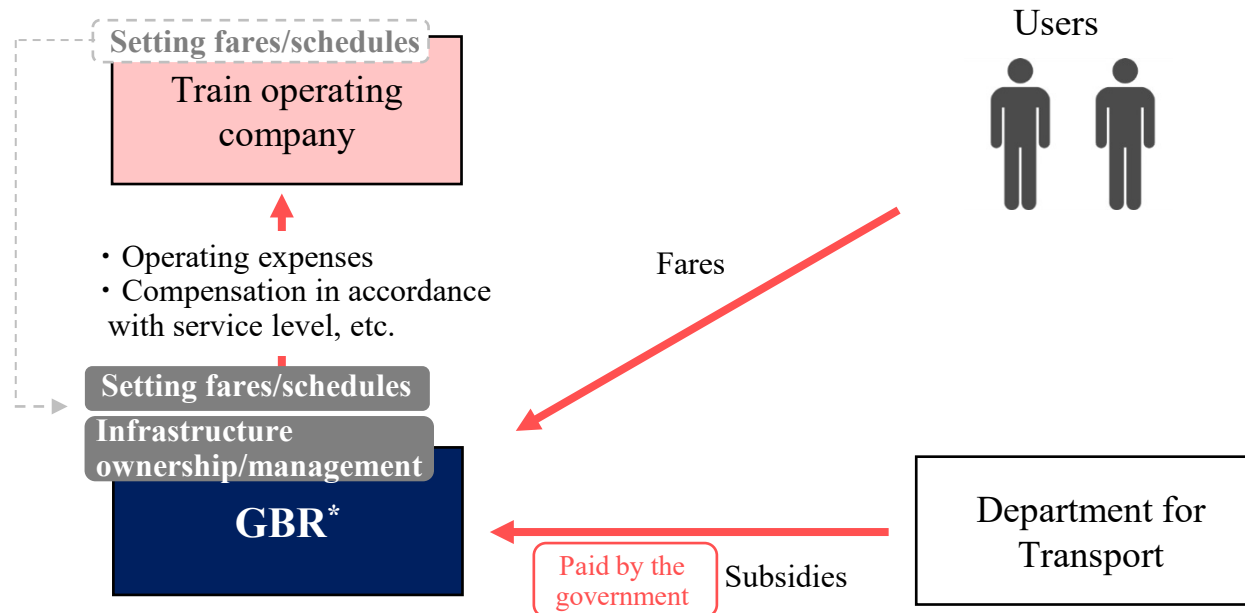


* “Emergency Measures Agreements” were passed between the Department for Transport and rail operators in March 2020, and these were replaced with “Emergency Recovery Measures Agreements” in September 2020.

(ii) Fundamental review of railroad operation methods (future)

- In May 2021, a white paper titled “Great British Railways The Williams-Shapps Plan for Rail” outlining the review guidelines for the franchising system was released.

Rail operation method to aim for in the future (2023-)



- Establishing a public body “GBR*”, which will oversee the setting of fares and schedules, and ownership and management of rail infrastructure, etc., will resolve the previous issue of “a lack of coordination with affiliates.”
- Transferring the risk of fare changes to “GBR” will realize sustainable business operations.

*Abbreviation for Great British Railways

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Summary (i)

- In the U.S., rail users, mainly for commuter rail, have decreased due to the Covid pandemic, and ridership has not recovered.
- Although measures are being taken to recover ridership, such as measures to set fares that accommodate the popularization of remote work, the effect of these measures are still **uncertain** at the present time.



- If ridership continues to remain low, public transit will face further scrutiny from Republicans, resulting in it receiving less funding from state governments; in other words, public transit services may be scaled back.

Summary (ii)

- **The budget for the next five years has been secured thanks to the passing of the Infrastructure Investment and Jobs Act.**
- **Urban railroad operators in the U.S. are at a critical phase where it remains to be seen whether they can use this favorable opportunity to transform railways into a mode of transport that can find favor with riders.**



- **The immediate strategy of U.S. urban railroad operators is to draw attention to the importance of railways by advancing measures dealing with “safety,” “modernization,” “climate,” and “Equity,” which are the priority areas of the Infrastructure Investment and Jobs Act.**

Summary (iii)

- **In Europe, measures were taken to promote the development of long-distance rail and reform business operation methods in order to develop sustainable railways in the post-Covid era, in the context of climate change measures.**
- **In addition to the U.S. urban rail industry, which is facing a turning of the tide, it is also necessary to pay close attention to policy trends in Europe, and we will conduct cross-sectional studies of the U.S. and Europe into the future.**

Thank you for listening!