

RESEARCH REPORT

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Forward

**EQUALITY IN REVERSE:
WOMEN'S WORK AND
AUTOMATION IN
PUBLIC TRANSPORT**



ITF

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THE INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF) IS A DEMOCRATIC, AFFILIATE-LED GLOBAL FEDERATION OF 670 TRADE UNIONS IN 147 COUNTRIES, REPRESENTING OVER 18 MILLION WORKING MEN AND WOMEN IN ALL TRANSPORT SECTORS. THE ITF PASSIONATELY CAMPAIGNS FOR TRANSPORT WORKERS' RIGHTS, EQUALITY AND JUSTICE.



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ABOUT THIS REPORT

This case study was researched and written for the ITF by labour and social policy researcher Julie Porter.

The ITF would like to thank Julie for her contributions to our work which aims to end the systemic exclusion of women from decent and secure work in transport, endorsed as one of two key priorities for women transport workers at the ITF Congress in Singapore in 2018.

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GLOSSARY AND ACRONYMS

Automation – One type of digitalisation in which machinery, systems or algorithms can be controlled remotely, or self-sufficiently.

BMTA – Bangkok Mass Transport Authority (Thailand)

BMTA-SWU – Bangkok Mass Transport Authority-State Workers' Union (Thailand)

Digitalisation – The growing use of digital technology in transport, the global economy and society.

Digital technology – An application of technology that makes use of electronic data in some way.

Discrimination – ILO Convention 111 on Discrimination in Employment and Occupation describes discrimination as “any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment”. Discrimination may be direct or indirect.

Discrimination, direct – Laws, rules, policies, or practices that explicitly distinguish, exclude, or give preference based on a particular ground or characteristic. For example, a policy or practice that gives preference to male applicants for a particular kind of job.

Discrimination, indirect – Situations, rules, policies, and practices which may appear neutral, and which may not intend to discriminate, but which lead to disadvantages primarily suffered by a specific category of persons. For example, the decision by an employer to exclude part-time workers, where far greater numbers of women are found than men, from payments made to the rest of the workforce¹.

Equal pay for work of equal value – The principle to achieve pay equity, or fairness, for women and men. This principle extends beyond the right for similarly qualified women and men to be paid the same when they perform the same or similar work in equivalent conditions. Work of equal value means work that may be different in content, involve different responsibilities, require different skills or qualifications, and be performed under different conditions, but which, based on objective criteria that is free of gender bias, is of equal value.

Feminisation of poverty – The process whereby women are disproportionately represented among the poor, and whereby women's poverty is likely to be more severe relative to the poverty of men. Efforts to reverse this process must recognize and value the full contribution that women make to society and to the economy. Greater support and involvement by men, employers and public institutions in domestic labour and unpaid care work must go hand-in-hand with efforts to increase women's access to, and participation in, formal labour markets.

Feminism – A set of actions, questions, and demands that locate gender inequality and women's subordination to men through social, political, and economic structures as a problem, and that aim to raise women's consciousness, build women's power and improve women's lives. When the ITF uses the term feminism, it is as shorthand for a gender perspective that is critical of unequal power relations between men and women in society and seeks to empower women as collective agents of change.

FNV – Netherlands Trade Union Confederation

FNV Spoor – FNV rail union (Netherlands)

FESIMETRO (Federación de Sindicatos de Metro S.A) – Federation of Metro S.A. Unions (Chile)

Gender – The range of characteristics that a society defines as being masculine or feminine, which in turn determines the roles, behaviours, constraints, and opportunities associated with being male or female. Ideas of gender vary historically and culturally, may be binary or multiple, and are subject to change. Ideas of gender, including gendered job stereotypes and norms, can be actively transformed.

Gender-based occupational segregation (GBOS)

– Inequality in the kinds of work that women and men have access to and choose, based on ideas and stereotypes about gender and gendered power dynamics. Women are marginalised or excluded from some sectors of the economy and job categories, and concentrated in others, with impacts for their income, skills, power and opportunities. There can be horizontal gender-based occupational segregation (underrepresentation of women in certain industries/occupations and overrepresentation in others) and vertical gender-based occupational segregation (overrepresentation of men in highest status roles).

Gender bias in job evaluation – When skills, effort, responsibilities and/or working conditions associated with typically female work are unrecognized or undervalued. For example, when a skill is regarded as a natural characteristic inherent to women, rather than a competency acquired through experience or training.

Gender-unaware – The failure to recognize or consider the different situations and experiences of people of different genders. For example, workplaces designed around the default male worker, equating male with “unisex”.

Gender disaggregated – Statistics and data collected separately on women and men, so that gender inequality is made visible, and progress towards gender equality can be monitored.

Gender equality – A situation where a person’s exercise of their rights and opportunities is unaffected by gender. Gender equality does not mean that women and men are the same, or that they want to be.

Gender equity – An approach which recognises it is necessary to proactively dismantle existing processes of gender-based exclusion, marginalisation, and discrimination in order to treat people fairly. An equity approach aims to create a level playing field for women and men – it requires targeted positive action so that women’s exercise of their rights and opportunities cease to be defined or impacted by their gender. Equity is the means by which equality is achieved.

Gender pay gap – An indicator of gender inequalities in pay, calculated by measuring the difference between male and female average earnings as a percentage of the male earnings. Usually, the hourly gender pay gap is smaller than the weekly, monthly, and yearly gender pay gaps due to the fact that women tend to engage in paid work for fewer hours than men, as women continue to have greater family and domestic responsibilities.

ILO – International Labour Organization

ITF – International Transport Workers’ Federation

Metro de Santiago – Underground train network serving Santiago de Chile

Neoliberal economics – A policy approach based on the idea that the market is the appropriate mechanism by which to allocate all resources, whether natural, human, or financial, and which fails to recognize or measure the value of any activity or work that is unpaid and happens outside of the market. The main tenets of neoliberal economic policy are: free trade and the free movement of capital; deregulation; privatisation; reduction of government spending to meet social and environmental needs.

RIT (Rede Integrada de Transporte) – Integrated Transport Network, bus rapid transit system in Curitiba (Brazil)

SINDIMOC (Sindicato dos Motoristas e Cobradores de Ônibus de Curitiba e Região Metropolitana) – Curitiba & Metropolitan Region Bus Drivers’ and Conductors’ Union (Brazil)

OVERVIEW OF FINDINGS

This study explores four cases from across the world where **the introduction of automation and cashless ticketing in public transport systems is leading to an “equality reverse” in the workforce.** Women workers, already underrepresented in the sector, are being disproportionately impacted by the job losses and negative impacts of work reorganisation.

The rapid expansion of digital technology is one force driving economic and industrial change in these times of transition. This study provides an example of what happens when change is implemented in a way that is gender unaware. It testifies to how **transition that fails to actively challenge existing processes of discrimination and exclusion will serve only to deepen them.**

In all the cases explored, **the high level of occupational segregation by gender in the workforce is the pre-condition that leads to a reverse in gender equality.** Women workers are concentrated in customer-facing roles, such as ticket office clerk and customer service agent, which are currently impacted the most by the introduction of new technology. In contrast, women workers are largely excluded from the many other operational and technical occupations that keep public transport services running, for example, mechanic, engineer, driver.

The processes whereby women workers are excluded and marginalised from some jobs, and concentrated in others, are multifaceted. The way occupational segregation maps onto power dynamics within the systems explored is simple: the jobs with the best pay and conditions are done by men. Discrimination – whether direct or indirect, intentional or unwitting – is about power and its abuse, and **the distinction between “men’s work” and “women’s work” is discrimination hidden in plain sight.** This study emphasises the urgent need for robust action from public transport employers and trade unions to actively dismantle systemic

discrimination against women, in accordance with the ILO’s fundamental principles and rights at work.

In Chile, Thailand, Brazil, and the Netherlands (the four countries of focus in this study), the introduction of automation interacts with the neoliberal economic policies of reducing government spending on public services and opening these up to privatisation. This creates a situation where **digital technology is being introduced with a narrow focus on downsizing the workforce to cut costs and achieve productivity gains.** The cases in this study demonstrate the need for all public transport stakeholders (authorities, managers, and operating companies) to take a broader perspective – one in which technology integrates with, rather than excludes, the frequent, direct human interactions between workers and passengers that constitute an essential aspect of the service. **Worker representatives cited in this study describe the wide range of interactions with passengers that are an integral part of their work and of the passenger experience of customer service.** While not always formally recognised in job descriptions, these frequent interactions are essential to service safety, inclusivity, accessibility, and quality.

It is no coincidence that regular and improvised interactions with passengers is a job function that has been under-valued by public transport employers. The interpersonal and communication skills required are among the job characteristics most regularly under-recognized due to gender bias in job evaluation. At this moment of industry change, **there is a very clear risk that unless the work women most commonly undertake in public transport is fully valued, the workers themselves and all that they contribute to safe, inclusive, and quality services will be lost.** The need to establish limits on how digital technology is used to reform existing characteristics of public



transport operation is one of many areas where the interests of passengers and those of workers are aligned.

As automation or cashless payment is introduced into any system, it becomes necessary to reorganise work to accommodate the new technology. **It is possible and desirable for this work reorganisation to be achieved in a way that strengthens service safety, inclusivity, accessibility and quality, and decent work.**

In Indonesia, for example, where Jakarta's rail services are directly managed by the government, a new position of "boarding officer" was created when automatic ticket vending machines were introduced, strengthening customer service and avoiding 318 job losses². However, the cases considered here are representative of the most common outcome: service quality declines, jobs are lost, and work for those who remain is reorganised in ways that drive down pay and conditions.

These negative outcomes reflect the absence of worker representatives and of passengers from decision-making processes. The way that automated ticketing and cashless payments are

being introduced often leads to a deterioration in health and safety for workers in the only role where women are widely employed. Particularly prevalent is the psychosocial impact of increased stress on a daily basis, as workers are subject to third party verbal – and in some cases physical – violence from passengers frustrated at the changes or the machines. In the four cases described, it is clear that the enthusiasm public transport authorities and operating companies have for the expansion of automation is out of step with the views of those who actually use and provide these services.

In each of the cities considered, the trade union is the only public transport stakeholder demonstrating concern for the livelihoods and well-being of the women workers who are suffering the impact of automation. The study gives examples of strategies that have been effective at contesting this process and outlines the structural and socio-political factors that have stood in the way of women's access to decent and secure work, and their exercise of the rights to freedom of association and collective bargaining.

RECOMMENDATIONS

This study concludes with a list of recommendations for trade unions to advance gender equality in relation to women’s work and automation in public transport.

The first set of recommendations outline a gender equity approach for trade union action to strengthen women’s access to decent and secure work. In line with the research findings, these proposals focus on dismantling the patterns of occupational segregation that underlie the “equality reverse” found in the four cases considered. Myths and stereotypes about suitability for different kinds of work do not justify discrimination based on sex or gender, and it is time for trade unions to take action, particularly regarding roles that have historically been dominated by men.

The second set of recommendations addresses the need for a gender equity approach to industrial and workplace transition, including in response to restructuring and work reorganisation arising from the increased use of digital technology in public transport systems.

Where unions have won the right to collective bargaining, we propose that the demands to employers below are included in the collective bargaining agenda, and that women worker representatives are directly involved in negotiations. The direct involvement of women in trade union governance, collective bargaining and leadership is both a means to, and an end of, gender equality. Without the unmediated voice of women, well-intentioned action is likely to be less effective, and may be misguided.



STRENGTHEN ACCESS FOR WOMEN TO DECENT AND SECURE WORK

Demand that employers gather and report on workforce data that is disaggregated by gender, occupation and grade/seniority, in direct and in subcontracted employment, in order to monitor progress towards gender equality.

Gather gender-disaggregated union membership statistics, with as much information as is practically possible on the jobs and grades/seniority of members, in order to monitor progress towards gender equality by the employer (including through subcontracting) and in the union membership.

Proactively organise women workers in the occupations and jobs where they are currently working – including in subcontracted functions and in transport-related jobs in the informal economy. Negotiate and campaign to bring these jobs into direct employment.

Demand targeted recruitment that attracts women into male-dominated work and guarantees them a gender-neutral and fair selection process.

Demand positive action by employers for the retention of women workers alongside targeted recruitment, using the ITF/UITP agreement on promoting women's employment in public transport as a framework. As a minimum this should include using the language and provisions of ILO Convention 190 to negotiate measures to end gender-based violence and harassment, providing adequate facilities that are suitable for women and men workers, and negotiating for work organisation that enables workers to balance paid work with care responsibilities.

Demand or strengthen training programmes that support women to access and progress in male-dominated work. Priorities include quality apprenticeships and skills training for young women workers, and retraining for women workers who are facing redundancy due to workplace restructuring.

Ensure that career progression is decided through a transparent and gender-neutral process, that does not discriminate against workers who have primary or sole responsibility for caring for family members.

Organise education and awareness-raising programmes with union membership to proactively dismantle stereotypes around gendered job roles and build understanding of an equity approach towards gender equality.

Lead or facilitate the creation of a network of women workers to enable members to respond collectively to challenges and discrimination. Allocate resources to this network to enable sustainability and include its representatives in decision-making and collective bargaining.

Demand binding contractual requirements to ensure respect for labour rights, to create decent and secure work, and to require gender equality monitoring, measures and reporting:

- In government contracts that regulate public-private partnerships;
- In public and private sector contracts for services and functions that are outsourced.

GENDER EQUITY IN TRANSITION AND INCREASED USE OF TECHNOLOGY

Integrate proactive gender equity measures in all negotiations and campaigns that relate to processes of industrial or workplace transition, including the introduction of new digital technology. Unless transition is managed to actively dismantle existing processes of discrimination and exclusion, it will likely lead to deepened inequality.

Demand that employers conduct labour and gender impact assessments when introducing technological change or undertaking work reorganisation and restructuring for other reasons.



Demand that relocation agreements and policy guidelines on job restructuring cover those occupations, grades, and subcontracted employers where women workers are concentrated.

In situations where women workers stand to be negatively impacted by processes of transition and restructuring, negotiate for training and relocation into work with equal or better pay, conditions and job security, including into male-dominated occupations. Where the employer fails to provide retraining, consider providing union-led training to support these workers to remain in or to access decent and secure work.

Build alliances with groups representing passengers, proactively seek the passenger perspective on changes, and amplify the voices of passengers who complain about deterioration in customer service linked to the introduction of digital technology, for example through posts on social media. Consider the different needs and priorities of different groups of passengers, with a particular focus on women passengers and groups with support needs.

To avoid a deterioration in service safety, inclusivity and quality when new technology

is introduced, work reorganisation and restructuring must be based on a full understanding of the service provided to passengers prior to the change. To this end, demand – or directly conduct – an evaluation of functions and job characteristics that is free of gender bias for all roles requiring worker presence in stations and terminals, prioritising those jobs most impacted. The ILO Introductory Guide to Equal Pay³ and step-by-step guide to gender-neutral job evaluation⁴ are useful tools for this task. Use these evaluations as the starting point for negotiations.

Negotiate against all forms of function stripping – where employers remove customer service functions and responsibilities that workers are in a position to perform due to their presence at stations and terminals – for example, providing live information, timetables, or information on journey history where payment is cashless.

When negotiating work restructuring and reorganisation, survey impacted workers about how service safety, inclusivity or quality could be improved, and negotiate for these tasks to be formally included in new job descriptions.

SCOPE AND METHODOLOGY

This study considers four examples of automation and cashless ticketing being introduced in ways that the ITF considers representative of stories and experiences shared by affiliates across the globe:

- Metro underground trains, Santiago, Chile: automated ticketing and closure of station ticket offices
- Dutch Railways, Netherlands: automated ticketing and closure of station ticket offices
- Bangkok Mass Transport Authority (BMTA, bus services), Thailand: introduction of cashless payment
- Integrated Transport Network (RIT, bus services), Curitiba, Brazil: introduction of cashless payment

The ownership and management models of the above transport systems vary: in all cases, public transport is provided by a combination of state and private sector; in two cases, increased use of digital technology is being introduced by private employers.

This study is the product of a qualitative research process in the feminist⁵ tradition. A series of in-depth interviews were conducted using teleconferencing software with a worker representative from each system. All interviewees were women, all had direct experience as workers in the impacted jobs, and all had been directly involved in the processes of contesting automation and cashless ticketing. All the interviewees either held an elected position within their trade union at the time of the research or were elected subsequently (prior to publication). The study was researched and written in 2022 with the aim of understanding the experiences and impacts for women workers and analysing the story of accommodating automation through a gender-critical lens.

The ITF would like to thank the following affiliated trade unions for their involvement in this process:



- FESIMETRO, the Federation of Metro S.A. Unions (Chile)
- FNV, the Netherlands Trade Union Confederation
- BMTA-SWU, Bangkok Municipal Transport Authority-State Workers' Union (Thailand)
- SINDIMOC, Curitiba & Metropolitan Region Bus Drivers' and Conductors' Union (Brazil)

The case study begins with review and analysis of the information available on occupational segregation by gender in the respective public transport systems. The next section describes the process of accommodating automation. Then follow the stories of trade union action for gender equality. The study concludes with the recommendations arising from the research, as included above.

SYSTEMIC GENDER DISCRIMINATION IN PUBLIC TRANSPORT

Reliable and robust statistics on employment are unavailable – for public transport, or indeed for any other economic activity. Current legal requirements for companies to report on their social impact are inadequate, and when they choose to profile their workforce and employment practices, the picture painted will focus on direct employees, excluding the precarious agency and subcontracted workers whose labour is integral to almost any service delivered or good produced in today’s global economy. Women are often over-represented in precarious and informal work, meaning that this limitation to voluntary company statistics contains a particular distortion when it comes to gender analysis.

In all four cases discussed in this study, women are grossly under-represented in the total public transport workforce. In terms of the women workers who have accessed jobs in public transport, the percentages in the table below are estimates from union officers with in-depth knowledge of the systems and services concerned. In some cases, these statistics have

been provided to the union in the context of negotiations. In the case of Brazil, the statistics were published by a public agency. These numbers are the most reliable statistics available on women’s employment in these public transport services.

In all four cases, the women workers are concentrated in the function of ticket selling (see table below).

There are a wide range of operational and technical roles involved in running a public transport service. In addition to drivers, any service will employ, for example, many maintenance workers, mechanics, engineers and station supervisors. However, when asked about the other roles where women workers are employed, none of the research participants described any of these operational or technical positions. Across the cases considered in this study, the only operational jobs carried out by women workers were customer-facing ticket sales or fare collection roles. In Metro de Santiago, FESIMETRO observed a significant representation

Public transport service	Women ticket sellers	Women drivers	Year of stats
Rede Integrada de Transporte, Curitiba, Brazil	41.5% ⁶	2.4%	2020
Metro de Santiago, Chile	80%	19.8% ⁷	2021
Dutch Railways, Netherlands	60%	20%	2020
Bangkok Metropolitan Transport Authority, Thailand	40%	6%	2022

of women in the subcontracted function of cleaning. In all systems, women workers are also found in administrative office work.

The distinction between “men’s work” and “women’s work” is a form of gender discrimination that is often hidden in plain sight. In many sectors of the economy and countries, occupational segregation by gender is so common that it is accepted as the norm. In the transport industry and elsewhere, trade unions organising in male-dominated workplaces, with majority male membership and leadership, have often been slow to demand full implementation of ILO Convention 111 on Discrimination in Employment and Occupation (1958), even though it is a core international labour standard that applies in any ILO member state.

While many ITF affiliates are taking opportunities to address barriers and problems that women face in the workplace, examples of trade unions working pro-actively to address the causes and conditions that combine to create gender inequality in the transport industry are less common. In some countries, women are increasingly found in operational public transport roles as drivers and engineers, and in 2019 the ITF and employers organisation UITP (International Association of Public Transport) signed a ground-breaking joint agreement to strengthen women’s employment and equal opportunities in the sector⁸. The agreement provides a comprehensive framework for unions, employers, other companies and governments to work together towards gender equal public transport.

A full exploration of the processes and forms of discrimination which combine to keep women at the margins of decent and secure work in the public transport systems considered here is beyond the scope of this study. The organisation of work time was identified as a factor attracting women to public transport work, with shorter shifts (Curitiba) and decent, permanent part-time contracts (Netherlands) making it easier for women to combine their paid work with unpaid family and care responsibilities. Barriers that participants identified to women accessing male-dominated work, including direct discrimination,

lack of access to training, and structural barriers to progression and to collective representation, are discussed in the section on union action for gender equality. Further information can be found in the Women in Public Transport chapter of the ITF People’s Public Transport Policy, which provides an overview of the experiences of women public transport workers across the globe⁹.

Gendered myths and stereotypes of men’s work and women’s work both create and justify occupational segregation by gender. Actively challenging stereotypes can be an effective tool in campaigning for gender equality. However, it is limiting to blame the sexual division of labour – and the female poverty that results – on social and cultural norms alone, without considering the economic and political processes that are unfolding alongside practices of exclusion and marginalisation.

The gendered power dynamics at play in the occupational segregation of public transport work are powerfully illustrated by two of the cases considered in this study.

Curitiba’s RIT is managed on a public-private partnership (PPP) model, where the municipal government public transport agency owns the infrastructure and issues contracts to private operating companies. This model of ownership and management is now extremely common across the globe, in large part because it is required as a condition of transport development loans from international financial institutions and development banks. PPPs of this kind have been the most important mechanism for creating markets in public transport from which private profit can be generated. Brazil is a BRIC country: an “emerging market” celebrated by asset managers and international investors for its accelerated process of economic liberalisation (since an IMF loan in 1998). Curitiba is in the south of Brazil, which was the stronghold of the openly misogynistic, extreme-right Jair Bolsonaro during his term as President from 2019 to 2022.

The number of women workers in Curitiba’s public transport system over time shows a negative correlation with the timeline

of SINDIMOC's successes in collectively negotiating improved pay, terms and conditions for the workforce.

“Na época que mais contratou, começou a contratar mulheres por motivo do salário. Caiu bastante o salário nas empresas e não ficou atrativo para os homens. Então os homens quase não mandaram mais currículo para as empresas. Foi nessa época que as mulheres acabaram ganhando mais espaços nas empresas e foi aumentando o número de mulheres no transporte coletivo”.

“The period in which the most women were employed, they began to employ women because of the pay. The salary had fallen quite significantly and men were no longer interested in the work. Hardly any men were submitting their CVs to the companies. It was during this period that women began to gain space in the companies and the number of women working in public transport increased”.

At the highest point, women made up 30% of the entire RIT workforce (predominantly as ticket sellers). SINDIMOC's achievements in negotiating improved pay and conditions mean that employment on Curitiba's bus service is again an attractive prospect to male workers – who have more employment opportunities to choose from. The fact that the number of women across the system has reduced to 17%¹⁰ in 2022 is illustrative of both the way that automation is being introduced, as discussed below, and direct gender discrimination by bus operators in recruitment, which SINDIMOC regards as particularly entrenched at one privately-owned national operator:

“Hoje nós somos um dos melhores salários, praticamente o melhor salário do Brasil atuando no transporte é o nosso. Então hoje, particularmente vem contratando menos mulheres por que lógico aumentou o pessoal mandando mais currículo no transporte coletivo e assim, eles têm opção de colocar mais homens no transporte, não é?”

“Today we have one of the highest salaries, practically the best transport sector salary in Brazil. And today, there is a marked decrease in the number of women being employed. More people are applying for jobs in the system and this means they can choose to employ more men, it's that simple”.

At Metro de Santiago in Chile's capital city, the PPP extends up and into the management agency itself, where operating company representatives sit alongside public officials on the Board of Directors of state-owned private company Metro S.A.. Many core functions of the system, including maintenance and ticket sales, are delivered by subcontracted companies. This subcontracting model of management, and the law that circumscribes it, was introduced during the 1980s by the Pinochet Dictatorship in a context of dramatic neoliberal reforms and profound trade union repression. While unions have since made progress in regulating some of the worst excesses of the subcontracting law, and in some industries have successfully ended the practice of subcontracting, provision of a key public service based on this model demonstrates the ongoing political struggle in Chile against the powerful legacy of the military dictatorship¹¹.

Of the approximately 10,300 workers who keep the Metro de Santiago running, more than 6,000 are employed by subcontracting companies¹². Occupational segregation limiting the participation of women to particular jobs interacts with this fragmented and highly privatised model of service provision. The power dynamics at the root of gender inequality map neatly onto the divide between secure and well-paid public sector jobs as drivers and station managers, where the workforce is overwhelmingly male, and insecure, low-paid work for private sector subcontractors, where the women workers can be found.

Ticket sales, where approximately 80% of the workforce are women, is a service that Metro S.A. subcontracts. From 2017 to 2020, three companies were contracted to run the ticket offices. When the service was tendered in 2020, only two companies were contracted, leading to

450 job losses at the company whose contract was not renewed. FESIMETRO had to fight for redundancy payments to be made in line with the law, with six tribunal cases still in progress at the time of writing.

While they clearly had the skills and experience to do the work, and despite intervention by FESIMETRO, under 10% of these majority female workers were successful in gaining re-employment within Metro de Santiago ticket offices. Those who were successful suffered an acute deterioration in their standard of living. A FESIMETRO internal study that was conducted in 2021 to reach out to workers at the new company, who were not unionised at the time of the research, found a pay decrease of over 25% compared with the previous contractual period, despite a significant increase in the cost of living (7.2% annual inflation recorded for the year 2021¹³):

¿Nuestras compañeras que hacen? Al principio pensamos que la empresa nueva pagaba el doble. Estas señoras trabajan por la mañana en un lado y por la tarde en otro extremo. Pero se están matando. Tú crees que el Metro se está metiendo en eso? No le importa. La ley de subcontratación es básica. Zero beneficios para el trabajador.

And how are our colleagues doing? At first, we thought that the new company was paying double. These women work the morning in one place and in the afternoon, they work another shift at the other side of the city. And they are killing themselves. Do you think Metro is concerned about this situation? They don't care. The subcontracting law is basic. Zero rights and benefits for the worker.

The financial pressure to work two consecutive seven-hour shifts in one day in order to take home the wage they need to survive and support their families results in a violation of both national and international labour standards that seek to protect workers.

The examples from Curitiba in Brazil and Santiago de Chile demonstrate how occupational segregation by gender is the product of

power and its abuse. The division between “men’s work” and “women’s work” is a form of discrimination against women, that needs to be regarded as a problem in and of itself.

The consequences of workplace economic exclusion and marginalisation are far-reaching. Public transport workers often enjoy decent pay, conditions and job security compared to workers in other sectors of the economy. The systemic exclusion of women from operational and technical public transport jobs translates to exclusion from decent work, contributing directly to the gender pay gap, and to the feminisation of poverty.

A high level of occupational segregation by gender in the workforce creates a structure where any process of change will have a highly gendered impact. In public transport services across the world, occupational segregation by gender – where women are ringfenced into customer-facing, ticket-selling roles – is the pre-condition that means the automation of ticketing will result in a reverse in gender equality. This equality reverse is inevitable – unless specific measures are taken to mitigate the impact and pro-actively promote gender equality and access for women to decent work in public transport.

AUTOMATION

Digital technology, like any tool, is designed for a purpose, and the structure of our global economy means that this purpose is private profit. Developers seek a return for their investors through innovation that will have a market of interested buyers. The innovations have – or create – a market because the technology promises to increase the profits of the companies that purchase it, and in consequence their returns to their investors. The development of technology within the context of neoliberal capitalism is not, therefore, orientated towards social or environmental health, unless concerns of a social and/or environmental nature can somehow be turned into private profit in the short-term. While increased use of technology to “modernise” public transport is often presented to citizens as a measure to improve service quality and efficiency, the ways that automated and cashless ticketing have been introduced in the cases explored here provide fitting examples of decision-making isolated from any consideration of social impact for either workers or passengers.

In all cases, the technology was introduced with the intention of increasing productivity by reducing the workforce. In Bangkok, rather ironically, eliminating over 5,500 decent jobs with state bus operator BMTA was directly linked to a social security initiative to support low-income citizens, issuing them with a welfare card that could be used to touch in on the buses and to pay for food staples. Evidently no one was joining the dots between unemployment and welfare dependency. In the Netherlands in 2019, 150 workers faced losing their job if ticket offices were closed. In Curitiba, the 6,000 conductors still employed across the city in 2021 were at risk of redundancy. In Santiago de Chile, staffing at ticket offices across the city in 2022 had been reduced to a third of the 2019 level.

While a ticket machine at a metro station, or a cashless touch-in disk on a bus, may replace the core function of a person whose job title is ticket seller or bus conductor, the reality is that the technology can only ever replace part of what the human worker does. It becomes necessary to reorganise work in order to accommodate the new technology – with significant impacts on the daily lives of remaining workers. As the examples here demonstrate, these changes to employment practice and work organisation have a direct impact on passenger experience and service inclusivity, accessibility and safety. When the work of providing customer service has not been fully recognised or valued, there is a very real risk that customer service functions will be made redundant along with the individuals who have hitherto provided these – to the detriment of workers and passengers. While the profit “hit” for investors resulting from these redundancies will be short-lived, the impact for cities will be lasting.

High levels of occupational segregation based on gender in these public transport systems leads to a situation, in all cases, where women workers are most impacted by the way that automation is being introduced. None of the employers considered in this study took any measures to safeguard the participation of women workers in service provision as they implemented their plans for workforce reduction and restructure.

In Bangkok, the Municipal Transport Authority’s (BMTA) decision to introduce cashless ticketing has not gone smoothly. Fixed e-ticket devices were installed on 800 buses across 75 routes in October 2018, which in the initial phase were for use by “welfare card” holders only. The failure of these devices to cope with demand at peak travel times, even with a limited group of passengers, meant that instead of being rolled out, the machines were withdrawn just five months later. Whether this experiment has been at a cost to

the public purse is yet to be determined, with a case for damages filed by BMTA against the tech company that is ongoing at time of writing.

BMTA's decision to invest in cashless technology was part of restructuring aimed to comply with the government's requirement to operate entirely from fare-box revenue. The requirement to operate without subsidy is a break from what had worked in the past and is out of step with a sustainable future. Cities including Paris, New York, Montreal and Barcelona all boast high-quality and widely accessible public transport systems where farebox revenue makes up less than 50% of the financing mix¹⁴. Government bailouts during the Covid-19 pandemic could not have demonstrated more clearly the fact that it is always the public purse that guarantees necessary public services.

Despite this financial pressure, BMTA continued to invest heavily in tech. This time, however, bus conductors remained part of the service, carrying contactless EDC (electronic data capture) machines for fare collection. Introduced initially for welfare card users only, the EDC machines were extended to all passengers and deployed across all of BMTA's buses and routes by the end of 2019.

While relieved to have avoided the job losses, union BMTA-SWU has found that bus conductors are facing a range of health and safety issues as a direct result of problems with the EDC machines. Firstly, the EDC machines are heavy – far heavier than the traditional coin carriers used in the past. The union believes it is only a question of time before workers register back complaints as a result of carrying the machines for hours at a time. Pregnant workers are particularly likely to suffer. On the longest routes that are prone to heavy traffic, and where lack of a bus depot or station at the end stop obliges the driver and conductor to make a return journey without a proper break, this can be as much as six or seven hours.

Secondly, these machines don't work very well either. There are serious problems with internet connectivity, which are largely beyond the power of the transport authority to resolve. Battery

life is short and at the time of writing, despite repeated complaints from the union, the number of replacement batteries available at stations and depots remains inadequate. As a result of these issues, the EDC machines are unable to “capture data” and the bus conductors find themselves unable to take cashless fares. Fare-box revenue also regularly takes a hit whenever the machines show that a passenger's card does not have sufficient funds. In both situations, the bus conductors request cash payment. Passengers may argue that their account does have funds or that they do not have the physical money to pay the fare in cash. Since the problem is not their fault, they insist on travelling anyway. While in some cases this is legitimate, in others, conductors – who work the same route each day and are familiar with their passengers – believe that the tech is enabling fare evasion.

The direct impact of these technical problems on workers in the only role with any female employment at BMTA is two-fold. On the one hand, bus conductors complain of a dramatic increase in verbal abuse from passengers. On the other, the salary of conductors and of drivers – which includes a component linked to fares collected – is being noticeably impacted by the fare evasion and lost revenue.

Union BMTA-SWU describes a lack of interest from the transport authority in really addressing the problems created by accommodating automation. While there have been no cases of the authority punishing employees in response to complaints relating to fare payment, no training or explicit guidance is being provided to bus conductors about how they should manage the frequent occurrence of passengers wishing to travel despite being unable to make their cashless fare payment. Bus conductors directly see the fares lost each day and are in a position to feed this information back to management. However, the union is not aware of any attempts by the transport authority to monitor the loss of fare-box revenue.

A female BMTA bus conductor explained how she and many of her colleagues view the situation:

“There are so many problems with the EDC machines; since their introduction we have so many problems with passengers. It would be much better to return to the coin carrier that we have always used. It used to be very rare that we had to deal with an angry passenger”.

Evidently, passengers are not happy. Stress for workers, in the only role with a significant number of female employees, has dramatically increased and instead of financial recognition of this new characteristic of their job, their income has actually decreased. BMTA itself, regarded as struggling before its endeavour to go cashless, is now further financially exposed due to the ongoing e-ticket legal case, and the need for further expenditure to make good on the investment in the EDC machines. In negotiations however, the union finds that abandoning the tech, and reverting to the cash payments that continue to be the norm on the privately operated buses in Bangkok, is off the table.

Of the cases considered here, Metro de Santiago in Chile is the service that has invested most heavily in automation. Two fully automated lines – driverless trains stopping at stations with no staff – have been in operation since 2017 (line 6) and 2019 (line 3). On the other five lines, the reduction of the ticket office workforce as ticket machines are installed has accelerated since 2019.

It was a hike in public transport fares (from 6th October 2019) that triggered the “*estallido social*”, the mass explosion of anger and discontent at the cost-of-living crisis and endemic inequality that led to the change of government in 2022. Early in the protests, the fare hikes, combined with allegations that the Carabineros (national police) were using Baquedano metro station to torture protestors¹⁵ led to arson and other attacks against metro infrastructure and trains, with 15 stations burnt to the ground. Mercifully, no workers lost their lives. However, many lost their livelihoods, with new employees at damaged and destroyed stations made redundant, and those on secure contracts suspended without pay, a measure

that was made possible due to the declaration of a state of emergency. Since this pivotal moment, the Covid-19 pandemic justified further workforce reduction and reorganisation:

“Entre lo que significó el estallido social, que afectó la boletería, y que después vino el Covid, no se han recuperado puestos de trabajo. Donde habían seis cajeros ahora hay dos; donde habían tres, hay uno. Eso es la lucha en este momento porque ahora que se está recuperando la economía, y hay muuucha gente que se traslada en metro, y no han colocado más trabajadores. Y porqué? Porque viene pegadito, todo eso viene a la mano. Han dicho que sí, en vez de trabajar tres personas puede trabajar una sola, y que viene allí? La multi-funcionalidad”

“Between the estallido social, which had an impact on the ticket offices, and the way this was followed by Covid, jobs have been lost and not replaced. Where there were six ticket staff, now there are two; where there were three, there is one. This is the fight we are taking at the moment because the economy is recovering and there are many, many people travelling by metro but they aren’t contracting more workers. And why? It’s all linked, all this goes hand-in-hand. They say that yes, one person can do the work that three did before. And what is their argument? Multi-functionality”.

A ticket machine unarguably creates a situation where ticket office staff will spend less of their time selling tickets. A more varied job is often a more interesting one: as discussed in more detail below, there are many functions that these workers can and do fulfil while they are present in the workplace. However, the workforce reduction and reorganisation at Metro de Santiago has been happening without consideration of the experiences of these workers and without negotiation with their representatives. Instead, the only criteria appears to be maintaining the unsustainably low staffing levels introduced during the period of lowest public transport usage in the system's history.

While accelerated automation and imposed multi-functionality are impacting the vast majority of workers who keep Santiago de Chile's metro running – in particular, station managers and security guards – the impositions are greatest where the protections are weakest:

“En el caso de los cajeros, se da una situación en particular peligrosa. Porque allí necesitan cajeros y necesitan administración, y intentan ocupar al cajero para andar trasladando valores de boletería a boletería. Y eso es peligroso. Imagínase, no había cambio, no había moneda, entonces la cajera normal, corriente, que no está preparada para eso, con su mochila llena de monedas, o llena de billetes grandes, cambiando de una estación a otra. O incluso de una línea a otra. Imagínase, con la delincuencia como está hoy. A más que algún cajero le asaltaron”.

“In the case of ticket office staff, this leads to a particularly dangerous situation. The company needs customer-facing ticket sales staff, and they need administration, so they try to get the ticket staff to transfer monies between offices. And this is dangerous. Imagine! There is no change, so a normal ticket seller, with no special training or protective clothing, her rucksack full of coins, or full of high value notes, carrying the money from one station to another. Or even from one line to another. Imagine, with the delinquency problem we have today! More than one ticket seller has been assaulted”.

While FESIMETRO was successful in ending this dangerous practice by Metro subcontracting companies in the past, the narrow focus on automation for workforce reduction means that ticket sellers are again being required to risk their personal safety by transporting cash and valuables. As discussed in the next section, barriers to union rights and collective bargaining mean these subcontracted workers, most of whom are women, are more vulnerable to abuse of their contractual obligations than those directly employed by Metro S.A.

This process of accommodating automation

could, of course, be managed differently. Freedom of association and collective bargaining are rights and mechanisms that have developed out of the need for workers to defend themselves against abuses of power by employers. However, industrial relations need not be defined by conflict – the question of how to organise work to best deliver safe, inclusive, sustainable and high-quality public transport can only be answered effectively when it considers the experiences of workers and the realities of day-to-day service provision. If public transport operators were to regard service quality as a baseline above which profit can be made, there would be ample shared ground for productive discussion and negotiation.

It seems that in their haste to generate cost-savings through reducing the workforce, public transport decision-makers – the majority of whom are men – are not considering the whole picture as they introduce new digital technology. Listening to workers in customer facing roles – where women are most likely to be employed – reveals that service safety, inclusivity and quality are achieved through the regular and repeated actions and interactions of staff as they go about their working day:

“We normally work the same routes – unless someone is ill and there is need to cover their shift. So, we get to know our passengers. We see familiar faces and we greet them, ‘you’re early today’. If an elderly or a disabled passenger boards the bus, we help them to their seat. If a pregnant woman boards, we may ask another passenger to move in order for her to sit down. We enjoy helping people and the passengers appreciate us. Sometimes they even bring us a snack, or a gift.”

Woman bus conductor, Bangkok Municipal Transport Authority

“There is high quality customer service. These women are really very much involved with the passengers, with the disabled people, with the elderly people, to help them get a train ticket, to help them to find a connection. Maybe younger people can manage with an app to find

their connection to Amsterdam, but not everyone. People with a disability, or older people, or those who maybe have a learning difficulty, they need some attention. High workforce retention means that these women have been in their jobs for a long time and they are really good at what they do."

Dutch Railways worker representative, FNV

Both these quotes demonstrate the professional satisfaction that the women ticket sellers derive from the interactions with passengers that are an integral part of their work, and an integral part of the passenger experience of customer service. While the introduction of technology requires work reorganisation, at the time of writing, it is only the Netherlands where these interpersonal interactions have been formally recognized as part of that reorganisation, and then only as the result of determined campaigning by a strong, long-established national union (see the section 'Union action for gender equality', page 24).

It is important to note that the inter-personal and communication skills being undervalued by public transport employers fall firmly in the realm of characteristics frequently overlooked due to gender bias in job evaluation. In its Introductory Guide to Equal Pay, the ILO explains:

"This is due to the false assumption that the skills associated with looking after others or cleaning – jobs that resemble the work performed by women for free at home – are intrinsic to women's nature and not acquired through learning and experience. This leads to the systematic under-estimation of female dominated jobs. It translates into lower wage rates for women¹⁶".

The view of direct human interaction in customer service as expendable is part of the mind-set behind the introduction of automation and cashless ticketing with a narrow focus on workforce reduction and reduced labour costs.

Public transport workers whose primary and named function is ticket selling/ fare collecting make an important contribution also to service safety:

Além do cobrador fazer a cobrança das passagens, ela tem por obrigação ali ajudar um cadeirante, um idoso que está com dificuldade de subir no ônibus, auxiliar com sacolas. Então, não é só cobrar. É ajudar o motorista a manobrar o ônibus em determinado local ou até mesmo no trânsito que está com acidente ali. Se acontece um acidente a obrigação do cobrador é pegar os dados de quem presenciou o acidente, número de telefone. Mais geralmente acontece acidente de moto e alguém ir a óbito, o motorista ele não tem cabeça, ele entra em choque. Então o cobrador vai ali e abre as portas para todo mundo descer, é ela que pega testemunha, porque ela já vê que o companheiro não tem condição de fazer isso.

Curitiba RIT bus conductor representative, SINDIMOC

"As well as collecting passenger fares, the bus conductor is responsible for helping wheelchair users or elderly people who find it difficult to get onto the bus and helping people with their bags. The job is more than just collecting fares. It's helping the driver to manoeuvre the bus in particular locations, or even in transit when there's been an accident. If an accident occurs, the conductor is expected to collect the details of witnesses and their phone numbers. Often, if there's an accident with a motorbike and someone dies, the driver can't function, he goes into shock. So, it's the conductor who goes over to open the doors so that everyone can get off and it's her who takes witness statements, because she can see that her colleague is in no condition to do any of this".

Curitiba RIT bus conductor representative, SINDIMOC

It is widely recognized that the presence of women public transport workers makes services safer for women passengers. Participants in this study confirmed female passengers may suffer sexual harassment, including unwanted

and intrusive attention or physical contact from men travelling next to them, particularly during busy times. The bus conductor from Bangkok, quoted above, described the ways that she protects women from this harassment, either going over to the seats and starting an innocent conversation, because most men will stop when there is a witness, or directly intervening by moving the woman to a different seat.

The cases explored here lead to two important conclusions:

Firstly, existing levels of service safety, inclusivity and quality have depended on job functions and characteristics that have gone unrecognized – and unremunerated – due to gender bias in job evaluation. As a result, these functions and characteristics are in danger of being lost.

Secondly, describing automated ticketing as leading to increased productivity is best regarded as a sales pitch, and a misleading one. Any productivity gains are achieved in large part through eroding the terms and conditions of the remaining workforce, and the decrease or loss of human workers in direct interaction with passengers means that a decline in service safety, inclusivity and quality is inevitable.

UNION ACTION FOR GENDER EQUALITY

As already established, the four public transport services considered in this case study are marked by high levels of occupational gender segregation, which testify to processes that exclude and marginalise women from most operational and technical work. **The fact that women workers are concentrated in customer-facing ticket selling roles, either at stations or on the vehicles themselves, leads very obviously to another fact: if services are restructured around automation and cashless ticketing in a way that aims to reduce the workforce, women will be disproportionately impacted. Unless action is taken to mitigate this consequence, the single-minded way in which automation is being introduced inevitably leads to a reverse in gender equality in the workforce.** As described in the previous section, a negative impact on passengers through a decline in service quality and inclusivity is also inevitable.

In all the cities discussed, the push towards automation has either come from the government agency that manages the transport operator/s or, in the case of systems where ownership is a public-private model, the decision has been made with government involvement and approval. It is important to note that in no case was a gender impact assessment undertaken prior to beginning the process of restructuring to accommodate the greater use of digital technology.

Part of the reason this equality reverse can pass unnoticed by those who do not directly suffer its impacts is the lack of reliable employment statistics, as described earlier in this study. Notwithstanding the absence of official statistics, the facts of the situations discussed in this study, and the ways in which automation has been contested, demonstrate a reality that is extremely important in this era of change. Independent of management model or country context, when a process of change

fails to actively challenge existing processes of exclusion and marginalisation, it serves to deepen them.

While some of the public transport employers considered have been proactive in recruiting women in the past, when it comes to the current situation and the introduction of automated or cashless ticketing, in each city the trade union is the only stakeholder demonstrating concern for gender equality and women's employment.

FNV is the largest national trade union confederation in the Netherlands, representing workers across all sectors of the economy. For many years, Dutch Railways was a “closed shop”: at the point of gaining employment, a new worker would sign both their employment contract and membership of the union which would represent them. The process of regular collective bargaining, normally every three years, between management and worker representatives is extremely well-developed and practiced. And while FNV can no longer count every employee as a member, the legacy of this period is a strong collective bargaining agreement guaranteeing decent pay and conditions for all workers. A job with Dutch Railways is widely regarded as a good job, and the service boasts high levels of workforce retention.

The mature industrial relations in this context underpin a story of success for workers and passengers. While ticket machines have been installed in the biggest stations for some time as a complement to the ticket offices, FNV had been successful in defending the ticket office against closures as a corollary of this process:

“We were able to stay strong in defending the importance of the ticketing staff in providing good customer service, but Covid enabled Dutch Railways to push the automation agenda because income and profits dropped so dramatically. They said

it was a financial necessity to close the ticket offices. They also argued that during lock down they didn't want people on the stations".

Dutch Railways has an extensive rail network serving the whole country and high ridership levels, which have increased in recent years due to climate concern. While the national government provided a financial bail-out to the railways during the pandemic, this public money came without conditions to guarantee employment. The pandemic decision to close all ticket offices meant 150 workers – most of them women working three or four days a week – would lose their jobs.¹⁷

As the process unfolded however, it became clear that the negative impact of the closures was arguably more important – certainly in the long run – for passengers than for the group of impacted workers, many of whom were at the end of their working lives and happy to accept the generous voluntary redundancy package on offer:

"When the ticket offices were closed, some disabled people who use the trains a lot became very vocal on social media, complaining that the service wasn't what it used to be. We re-tweeted all the posts – so did a lot of others. It's very clear that services need to be accessible, and that disabled people need to be able to use the train just like everyone else. So, they had every right to complain, and it was good campaigning for us to amplify their voice in whatever way we could."

While some of the functions that the Dutch Railways ticket office staff perform – for example, providing information for connections to bus transport – remain unrecognized in their job descriptions, their role supporting disabled passengers was formally recognized and could therefore be argued strongly in the negotiations.

FNV's campaign to save the ticket offices also benefitted passengers by the union standing firm against a policy of selling "saver" train tickets online (including via the app) and at town centre supermarkets and grocery shops without making these tickets available at the ticket window in

the station. FNV was successful in demanding that all passengers have access to the same fare structure, regardless of where they purchase their ticket.

In the absence of an agreement with the union, ticket windows remained open but were understaffed due to the loss of those workers who had chosen early retirement. FNV encouraged the workers to utilise the leverage this situation provided. A mass day of action where 200 workers, the vast majority of them women, protested outside the Dutch Railways head office gained widespread press coverage.

Union representatives also went in person to advise municipal government staff about the planned closure of the ticket offices, which generated local press coverage and increased public opposition to the plans. After a full year of campaigning and negotiating, plans to close the ticket offices were dropped in November 2021 and Dutch Railways recruited to fill the vacant roles.

The railways in the Netherlands have been subject to a much-contested process of liberalisation, beginning in the early 1990s when the decision was taken that this essential public service should operate without public subsidy. The impact of creeping privatization on internal culture, and the conflict between market competition and quality provision of public services, is summed up by an experienced union officer who was involved in the worker education and negotiations to save the ticket offices:

"Passengers want to see people, they want to see service. And service is not value in money, it's a feeling. You cannot say... my service generated 100 euros in profit. You can't measure it this way. So that was the main challenge in negotiations, when the mindset is so narrow. It was difficult to communicate the importance of these staff, and how much they are valued by passengers, to management"

As a result of the campaign, FNV increased its female membership. A group of workers who had been reluctant to take action kept their jobs and were empowered to see both the value of their work, and their collective power.

Here to stay

*Exactly a year ago,
life took a turn for all ticket service staff...
A cut that no one saw coming in this way.*

*Replaceable by an information screen,
the message hit us and hit us hard.*

*Anxious about the corona virus,
we stood together as one.
Feelings were running high,
our aim was PRESERVATION!*

*I saw people collapse
when another tough message came
crashing in.*

*We are not through it yet,
but I certainly don't feel alone.
I am proud of my colleagues and my work,
they are my solid rock!*

**Anja Nagtzaam, Dutch Railways Ticket
Service Employee, Breda**

In Bangkok, the failure of the on-bus e-ticket machines led to the decision to retain bus conductors. While happy to avoid the job losses, union BMTA-SWU is supporting these conductors – the only operational role staffed by a significant number of women – who now face a deterioration in both pay and conditions. Public transport employers often state the aim of reducing violence against bus workers when they introduce cashless payment. However, in Bangkok, the requirement for cashless payment in and of itself, and the ongoing technical problems with the machines, are causing a marked and worrying increase in third-party verbal abuse. Alongside the tech investment costs, automation has led to a decline in fare-box revenue to the state-owned transport authority, depleting the public purse.

Metro de Santiago in Chile stands out among the cases considered here as the service with the poorest employment practices: the majority of the public transport workforce is employed on precarious contracts by subcontracted companies. Metro S.A. has the power, the

responsibility and, due to state ownership and control, the duty to require and enforce decent standards for all workers in the system¹⁸. However, subcontracting denies workers job security and creates a perverse incentive towards the erosion of labour standards as an element of competition between tendering companies.

Processes of exclusion and discrimination mean that women are particularly disadvantaged by Metro de Santiago's management model. The majority of women workers are employed by subcontracted companies to provide ticketing services. They lack job security, and many have suffered an acute deterioration in pay and conditions since 2020. While the Metro de Santiago 2021 annual report¹⁹ demonstrates some good practice in terms of reporting on women's employment and the gender pay gap, the exclusion of the majority of the system's workforce from the calculations means the figures have little real meaning. A Diversity and Inclusion Policy was launched in August 2021, but women workers in outsourced jobs are not included in this policy. In particular, the declaration that Metro will promote increased employment for women by 2027 rings hollow when staffing levels at ticket offices across the capital city, where women workers in the system are overwhelming found, speak to a loss of approximately two thirds of the workforce between 2019 and 2022.

The most effective and reliable means for Metro S.A. to ensure decent and secure work and to strengthen gender equality throughout the system is to bring the subcontracted services in-house. With the current model, Metro claims to require contractors and service providers to respect labour rights, and to align themselves to the Metro S.A. strategy and vision. The realities discussed in this study are testimony to the fact that this broad and essentially voluntary approach is not sufficient. To create decent and secure work and strengthen gender equality it is necessary for the public transport management agency to implement and enforce these requirements of operators and service providers through legally binding contractual terms that are both reported on and monitored. Where

public transport services are provided under a public-private model, the more stringent duties of the state with respect to upholding labour rights come into play.

The only effective mechanism for Metro S.A. to know how its subcontractors and providers manage their workforce on a day-to-day basis, and to learn of dangerous practices or situations where rights are being abused, is for representatives of subcontracted workers to have a direct voice with Metro management. However, the model of service provision based on short-term contracts, and regular changes of operating or service providing company, creates structural barriers to the exercise of the rights to freedom of association and collective bargaining that are necessary for this channel of communication to exist.

Short-term contracts preclude the regular negotiations which can achieve the sustainable service delivery and decent, secure employment that are the hall marks of successful industrial relations. The subcontracting law is also open to abuse. For example, a company may make a minor change to its legally registered name at the point of submitting a new tender, despite no change of ownership or senior management. This has the impact of nullifying the legal status of the trade union (registered to the old name). As a result, the process of gaining legal recognition must be commenced anew, and the previous collective bargaining agreement becomes irrelevant, despite the continuity of management and often the workforce:

“La ley de subcontratación le da el favor a la empresa. ¿Qué pasa con las licitaciones? Se comienza todo de nuevo. Por un motivo o otro, se pierde todo lo ganado con la licitación”.

“The subcontracting law favours the company. What happens when there is a tender? Everything starts from scratch. For one reason or another, everything that has been won until that point is lost.”

In addition to the structural barriers to workers exercising their rights to freedom of association

and collective bargaining, FESIMETRO's experience, speaking prior to the Boric presidency won in March 2022 as the result of the mass protests, is that: “METRO S.A. has no interest in monitoring or regulating what is happening in the subcontracted companies”.

FESIMETRO is a federation that brings unions representing directly employed public sector workers together with unions representing precarious workers from subcontracted companies. Too often, practices of gender-based occupational segregation translate directly into the exclusion or marginalisation of precarious women workers from the representative structures of the labour movement. In Santiago de Chile, a collective voice that can speak to Metro S.A. on behalf of the majority of the workforce has been achieved by FESIMETRO's pro-active organisation of women. At the time of writing, FESIMETRO is representing 75% of the workers, many of them women, who lost their jobs when the decision was taken by Metro S.A. to reduce the number of companies it contracts for ticket sales. The collective tribunal action aims to secure a fair dismissal package that is in line with the cost of living.

In Curitiba, Brazil, SINDIMOC has been fighting to retain a balance between digital technology and human interaction in the city bus service. “Micro” buses with automated payment, designed on a driver-only model and operating on feeder routes to the BRT system, have been in use for some time, with accelerated deployment across operators since 2017. SINDIMOC feared all the bus conductors on these vehicles would be lost by the end of 2021, however negotiations succeeded in holding off full automation on the micro bus services:

“Agora na negociação... foi fixado, e assinado e homologado por mais alguns dois anos ainda, cobradores no transporte coletivo. Enquanto o SINDIMOC conseguir segurar ele vai segurar, joga mais dois anos, daqui a dois anos quando vencer a data, na negociação brigamos novamente para jogar para mais dois. Vamos empurrando. Vamos empurrando”.

“In the recent negotiations, it was settled, signed off and approved that bus conductors will remain part of public transport for another two years. And we’re going to keep it that way for as long as we can. When the agreement expires in two-years’ time, we’ll be there in the negotiations fighting for another two years. We’ll keep pushing, we’ll keep pushing”.

Industrial relations for the RIT are characterised by bi-annual negotiations resulting in a collective bargaining agreement that binds all 24 private sector bus operators. SINDIMOC organises a workers’ assembly to discuss priorities and challenges prior to negotiations. These negotiations need to be understood in the context of the collective power that SINDIMOC has built and exercised over the past decade. Examples include a mass camp lasting one week outside the offices of an operator that dismissed workers without the pay and compensation they were entitled to by law; and the vote for a city-wide strike (still in consideration at the time of writing) when operating companies cut worker pay, alleging underpayment from the municipal government as the reason.

In Curitiba, automation and bus conductor workforce reduction are underway gradually, avoiding the sweeping mass of redundancies that would risk mass retaliation in support of these mostly women workers.

As automation is accommodated into the RIT, SINDIMOC’s negotiation to retain bus conductors on the micro bus services goes hand-in-hand with a gender equity approach to transition, closely linked to moves to strengthen women’s representation and leadership within the union.

“No passado você andava em ônibus e não conseguia ver uma mulher como motorista. Aos poucos as empresas foram abrindo espaço para uma, automaticamente foi incentivando as outras. Mas, é um trabalho ainda que nós temos que fazer com as mulheres, encorajá-las, que elas são capazes de mudar a habilitação que elas podem. Temos que fazer um trabalho

porque sabemos que cobrador aos poucos vai acabar”.

“In the past you would travel by bus and never see a woman driver. Some operating companies began to open opportunities to women, and the presence of one woman automatically encouraged others to apply. But we still have work to do, building women’s confidence to see that they can change job, retrain, that they are capable. It’s a priority to work on this because we know that the role of bus conductor will gradually disappear”.

Among the 24 RIT operating companies, there are examples of good practice in dismantling the segregation that kept women out of the best paying work. The first company to offer women employees the opportunity to train as drivers did so in the mid 2000s:

“A própria empresa começou a contratar e deu oportunidade para a cobradora passar. Hoje, atualmente, a grande maioria das mulheres que estão cimo motoristas, foram cobradoras, elas trabalharam ali naquela empresa. O gestor deu oportunidade para ela começar uma escolinha dentro da empresa. Depois que elas mudam a habilitação, eles as treinam em ônibus ali na rua para eles capacitam essas mulheres; e quando eles sentem a segurança de estar colocando-as na rua, aí eles já as mudam na carteira e já começa no outro dia na rua. Já entrando no terminal, saindo”.

“The company itself began to contract women drivers and gave bus conductors the opportunity to retrain. Today, the vast majority of women who are working as drivers used to be bus conductors; they were already there working for that same employer. The manager gave them the opportunity to attend the company driving school. When a woman goes for her licence, they train her on the buses out on the routes. When they are confident that she is ready, her job status is changed and the next day she’s on the road, straight away, coming and going from the station”.

While some companies provide internal training opportunities, many do not. In 2021, in response to this situation, and to the restructuring which aims to make the job of bus conductor a thing of the past, SINDIMOC set up a union training school to support members to train as bus drivers. The training programme has been developed in response to a worker survey which identified the aspects of driving and manoeuvring the buses that workers found most intimidating.

In addition, **SINDIMOC's Women's Department are planning research to understand how women bus conductors feel about the opportunity to retrain as drivers, so that they can empower and support them in the most responsive and effective way possible. The result for those who take the opportunity will be a life-changing increase in pay of 76%²⁰ – a powerful example of how occupational segregation generates a gender pay gap.**

There are no gender equality clauses in the contracts Curitiba RIT issues to operating companies. While some companies proactively recruit and train women for work that has traditionally been a male domain, in others there is evidence of direct discrimination:

“Eu tenho habilitação. Eu sou cobradora, eu estou capacitada [como motorista], eu fiz a escolinha [do sindicato], eu provei que eu estou capacitada para isso, mas não abrem espaço, não abrem. E o que está mais me doendo é que há um mês atrás contrataram 3 homens, e eu aqui capacitada com eles há 8”

Bus conductor with private operating company

“I've got my licence. I'm a conductor, I'm trained [as a driver], I've been through the [union] training school and I have proved that that I'm able to do the job, but they won't open the opportunity, they won't open it. And what grieves me most is that a month ago they hired three men from outside the company, and I've got the skills and I've been working here for eight years.”

Bus conductor with private operating company

SINDIMOC intervened directly to advocate for this woman bus conductor to be given the opportunity to progress to the role of bus driver. Despite the woman's demonstrable driving skills, and her years of reliable service as an employee, the company refused. Shamelessly discriminatory though it is, the insistence on recruiting a man externally rather than promoting a female employee does not surprise SINDIMOC. Union representatives and employees at this privately-owned Brazilian company describe open comments by management that they do not allow women to work as drivers.

In this case there is a perception of entrenched sexism on the part of management. Both Latin American participants interviewed for this study discussed how maternity is viewed by employers as an unwanted cost that comes with employing women. This violation of women's labour rights turns the reproductive and care work that is fundamental to society into an economic externality: there would, of course, be no workers, or managers, or passengers, or customers, or investors, if women did not give birth. Exploring this issue is beyond the scope of this case study, however it is important to emphasise that children, mothers, fathers, and economically dependent adults, would all benefit from care needs being met in a more gender-balanced way and with strong public care, education and health services in support.

The number of women employed by any given company or organisation is straightforward to monitor, and public agency URBS collects gender disaggregated employment statistics for the RIT. URBS must, therefore, be aware of the striking disparity in practices between operating companies, and the existence of discrimination based on sex and gender by some actors within the public transport system. At the time of writing, there has been no action by the municipal government of Curitiba to address the problem.

The very existence of entrenched occupational segregation is disempowering to women workers – it is evidence of a range of discriminatory practices that are unlikely to be openly acknowledged, but that women themselves are all too aware of:

“Eu já dirigi ônibus de manhã cedo, mas assim com o próprio motorista antes de entrar na linha que dizia para eu pegar o ônibus e levar até a final, pois não havia mais ninguém dentro dele e eu como sou atrevida não é, eu pegava e levava até o ponto final. Inclusive, cheguei a pegar os primeiros passageiros, pegá-los no ponto os conhecidos de todos os dias da 5:30 da manhã. E eles diziam: “sou louca você tá dirigindo o ônibus!” E eu respondia que estava treinando. Eu queria ver como era dirigir um ônibus. Mas, a escolinha eu não cheguei a fazer, pois a minha empresa não dava essa oportunidade as mulheres, na verdade não dá. Só a própria empresa pode dar oportunidade para aqueles que nunca foram motoristas de ônibus. Só a empresa dá essa oportunidade de passar”.

“I have driven a bus early in the morning, alongside the actual driver. He told me to take the bus and drive it to the end of the route when there was nobody else aboard, and I’m bold, I took the wheel and I drove to the terminal. I even picked up the first passengers, picked up the regulars who are there at 5.30 every morning – and they were saying: “Am I going mad? What are you doing driving the bus?” So, I replied that I was training. I wanted to feel what it was like to drive a bus. But I never did the training course. My company didn’t give women the opportunity to train as drivers, they still don’t. Only the company itself can give that opportunity to people who have never been bus drivers. Only the company can offer that opportunity to retrain”.

Women bus conductor, RIT Curitiba

If a woman has reason to believe that her motivation and skill will be rejected by her employer, it is only natural for her to invest her energies elsewhere.

It is important to recognize that gender discrimination in employment is not limited to explicit processes of exclusion in recruitment, training and progression like those described by women workers in parts of Curitiba’s RIT. In Bangkok, BMTA-SWU was successful in

negotiating for the transport authority to amend its regulations, and since 2017 women workers are permitted to hold a public vehicle driving licence in equality with men²¹. BMTA-SWU also offers a comprehensive driver training programme to workers. Five years after the regulatory change, however, just 300 women have qualified as drivers. Given that BMTA employs 3,000 bus drivers, and progressing to the role means a two-thirds increase in pay, the figure is surprisingly low.

It is essential to end the kinds of explicit discrimination which deny women access to decent and secure work; however, this is only the first step on the journey to gender equality. Women entering male-dominated work face multiple barriers and forms of direct and indirect discrimination in their working day. These may include: hostility from colleagues and supervisors for breaking gendered job stereotypes, ill-fitting equipment and facilities designed for the default male employee, macho workplace cultures where bullying and sexualised banter go unchallenged, and work organisation that is difficult or impossible to reconcile with care responsibilities. These processes and practices of discrimination are mutually reinforcing, producing a system of exclusion which negatively impacts the retention and progression of women workers.

Breaking the system that excludes and marginalises women from decent and secure work is a task that is structural, political and collective. It is the responsibility of employers to seek to understand the reality of women employees and to take a proactive approach towards their retention and progression. Every individual woman will be stronger in facing the challenges of a male-dominated workplace when she knows her trade union is behind her in full understanding, solidarity and support.

Resolute and pro-active trade union action for gender equity has the potential to play a decisive role in ending gender discrimination at work and in the economy. As automation and cashless ticketing – technologies that occupy the beginning of the Industry 4.0 curve – effect an equality reverse in public transport systems across the world, it is clear the need for such action could not be more urgent.

RECOMMENDATIONS

Analysis of the four cases considered in this study leads to the following recommendations for trade union action to advance gender equality in relation to women's work and automation in public transport.

Where unions have won the right to collective bargaining or are recognised as stakeholders in the development of transport systems, we propose the demands below are included in the agenda, and that women workers are directly included in negotiations. The direct participation of women in trade union governance, collective bargaining, negotiations and leadership is the means to winning gender equality. Without the collective voice of women, even well-intentioned action is less likely to be effective, and may not meet the needs of women workers.

STRENGTHEN ACCESS FOR WOMEN TO DECENT AND SECURE WORK

Demand that employers gather and report on workforce data that is disaggregated by gender, occupation and grade/seniority, in direct and in subcontracted employment, in order to monitor progress towards gender equality.

Gather gender-disaggregated union membership statistics, with as much information as is practically possible on the jobs and grades/seniority of members, in order to monitor progress towards gender equality by the employer (including through subcontracting) and in the union membership.

Proactively organise women workers in the occupations and jobs where they are currently working – including in subcontracted functions and in transport-related jobs in the informal economy. Negotiate and campaign to bring these jobs into direct employment.

Demand targeted recruitment that attracts women into male-dominated work and guarantees them a gender-neutral and fair selection process.

Demand positive action by employers for the retention of women workers alongside targeted recruitment, using the ITF/UITP agreement on promoting women's employment in public transport as a framework. As a minimum this should include using the language and provisions of ILO Convention 190 to negotiate measures to end gender-based violence and harassment, providing adequate facilities that are suitable for women and men workers, and negotiating for work organisation that enables workers to balance paid work with care responsibilities.

Demand or strengthen training programmes that support women to access and progress in male-dominated work. Priorities include quality apprenticeships and skills training for young women workers, and retraining for women workers who are facing redundancy due to workplace restructuring.

Ensure that career progression is decided through a transparent and gender-neutral process, that does not discriminate against workers who have primary or sole responsibility for caring for family members.

Organise education and awareness-raising programmes with union membership to proactively dismantle stereotypes around gendered job roles and build understanding of an equity approach towards gender equality.

Lead or facilitate the creation of a network of women workers to enable members to respond collectively to challenges and discrimination. Allocate resources to this network to enable sustainability and include its representatives in decision-making and collective bargaining.

Demand binding contractual requirements to ensure respect for labour rights, to create decent and secure work, and to require gender equality monitoring, measures and reporting:

- In government contracts that regulate public-private partnerships;
- In public and private sector contracts for services and functions that are outsourced.

GENDER EQUITY IN TRANSITION AND INCREASED USE OF TECHNOLOGY

Integrate proactive gender equity measures in all negotiations and campaigns that relate to processes of industrial or workplace transition, including the introduction of new digital technology. Unless transition is managed to actively dismantle existing processes of discrimination and exclusion, it will likely lead to deepened inequality.

Demand that employers conduct labour and gender impact assessments when introducing technological change or undertaking work reorganisation and restructuring for other reasons.

Demand that relocation agreements and policy guidelines on job restructuring cover those occupations, grades, and subcontracted employers where women workers are concentrated.

In situations where women workers stand to be negatively impacted by processes of transition and restructuring, negotiate for training and relocation into work with equal or better pay, conditions and job security, including into male-dominated occupations. Where the employer fails to provide retraining, consider providing union-led training to support these workers to remain in or to access decent and secure work.

Build alliances with groups representing passengers, proactively seek the passenger

perspective on changes, and amplify the voices of passengers who complain about deterioration in customer service linked to the introduction of digital technology, for example through posts on social media. Consider the different needs and priorities of different groups of passengers, with a particular focus on women passengers and groups with support needs.

To avoid a deterioration in service safety, inclusivity and quality when new technology is introduced, work reorganisation and restructuring must be based on a full understanding of the service provided to passengers prior to the change. To this end, demand – or directly conduct – an evaluation of functions and job characteristics that is free of gender bias for all roles requiring worker presence in stations and terminals, prioritising those jobs most impacted. The ILO Introductory Guide to Equal Pay²² and step-by-step guide to gender-neutral job evaluation²³ are useful tools for this task. Use these evaluations as the starting point for negotiations.

Negotiate against all forms of function stripping – where employers remove customer service functions and responsibilities that workers are in a position to perform due to their presence at stations and terminals – for example, providing live information, timetables, or information on journey history where payment is cashless.

When negotiating work restructuring and reorganisation, survey impacted workers about how service safety, inclusivity or quality could be improved, and negotiate for these tasks to be formally included in new job descriptions.

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