

Mainstreaming Gender in the Transport Workforce for Sustainability

APEC Transportation Working Group

November 2024



**Asia-Pacific
Economic Cooperation**



**Asia-Pacific
Economic Cooperation**

Mainstreaming Gender in the Transport Workforce for Sustainability

APEC Transportation Working Group

November 2024

APEC Project: TPT 04 2022A

Produced by
Washington CORE, L.L.C.
4500 East-West Highway, Suite 730,
Bethesda, Maryland 20814 United States
Tel: (1) 301 654 2915
Fax: (1) 301 654 4054
Website: www.wcore.com

Megumi Aikawa / Senior Research Analyst
Telephone (U.S.A.): 1-301-654-2915
Email: megumi@wcore.com

Sean Chappell / Senior Research Analyst
Telephone (U.S.A.): 1-301-654-2915
Email: sean@wcore.com

For
Asia-Pacific Economic Cooperation Secretariat
35 Heng Mui Keng Terrace
Singapore 119616
Tel: (65) 68919 600
Fax: (65) 68919 690
Email: info@apec.org
Website: www.apec.org

© 2024 APEC Secretariat

APEC#224-TR-01.5

Table of Contents

1	Introduction.....	5
2	Background: existing barriers and challenges to gender mainstreaming.....	5
2.1	Challenges of capturing gender mainstreaming in the transport sector.....	6
2.2	Past studies on challenges and barriers to gender mainstreaming in the transport sector.....	6
2.3	Summary of known challenges and barriers.....	100
3	Policy Analysis.....	100
3.1	APEC Women in Transport (WiT) Data Framework.....	100
3.2	Other international policy analysis efforts.....	133
•	3.2.1 Policy analysis and recommendations.....	133
•	3.2.2 Existing measures and best practices in the transport industry.....	155
3.3	Summary of policy initiatives relating to gender mainstreaming in the transport workforce.....	166
4	Survey.....	167
4.1	Method.....	167
4.2	Results.....	178
•	4.2.1 Gender mainstreaming and related policies in the surveyed economies.....	19
•	4.2.2 Women's representation in the transportation workforce.....	19
•	4.2.3 Data collection.....	19
•	4.2.4 Economy-level strategies to promote gender equality in the transportation workforce.....	212
•	4.2.5 Legal framework.....	223
•	4.2.6 Challenges and barriers to gender mainstreaming.....	234
•	4.2.7 Policy interventions.....	267
•	4.2.8 Future steps.....	302
5	Discussion.....	313
5.1	Policy frameworks for gender mainstreaming in transportation.....	313
5.2	Challenges and barriers.....	313
5.3	Policy interventions, effectiveness, and future steps.....	32
6	Mainstreaming Gender Workshop.....	32
6.1	Purpose.....	32
6.2	Summary of Workshop Presentations.....	33
•	6.2.1 APEC past work on women in transportation.....	33
•	6.2.2 Women's challenges in transport: an academic perspective.....	33
•	6.2.3 Women's challenges in transport: an industry perspective.....	34
•	6.2.4 Case Study 1: Directorate of Metropolitan Public Transport, Ministry of Transport and Telecommunications, Chile.....	35
•	6.2.5 Case Study 2: Ministry of Transport, Viet Nam.....	38
•	6.2.6 Case Study 3: Department of Infrastructure, Transport, Regional Development, Communications and the Arts, Australia.....	39
6.3	Outcomes: Results of Post-Workshop Survey Analysis.....	39
•	6.3.1 Workshop administration.....	38
•	6.3.2 Workshop content.....	38
•	6.3.3 Participant understanding before and after the workshop.....	40
•	6.3.4 Insights from the workshop, future topics to cover, and application of knowledge.....	40
•	6.3.5 Next steps.....	41
7	Recommendations.....	41

7.1	Best Practices.....	42
7.2	Recommended Policy Initiatives	43
8	Limitations	48
9	Conclusions and Potential Next Steps for APEC Economies.....	48
10	Annex.....	491

Tables and Figures

Table 1:	Analysis of existing challenges and barriers in previous multi-economy studies	6
Table 2:	Existing challenges and barriers identified in economy-level studies	8
Table 3:	Summary of the APEC WiT Data Framework	11
Table 4:	Summary of policies related to gender mainstreaming in the transport sector.....	18
Table 5:	Summary of strategies or policies related to gender mainstreaming in the transport sector in surveyed economies	21
Figure 1:	Summary of challenges and barriers identified through previous studies	10
Figure 2:	The five pillars of the APEC WiT Data Framework	11
Figure 3:	Summary of existing policy initiatives identified through previous studies	16
Figure 4:	Data collected by the government related to women’s workforce participation in the transportation sector	19
Figure 5:	Other data collected by the government related to gender equality in the transportation sector	20
Figure 6:	Presence of overarching strategy for promoting gender equality in the transportation sector (including women as users of transportation services)	21
Figure 7:	Presence of strategy for promoting women’s participation in the transportation workforce ...	21
Figure 8:	Presence of employment regulations or laws concerning women in APEC economies	23
Figure 9:	The significance of challenges/barriers faced by women in advancing gender equality in the transportation workforce	24
Figure 10:	Significance of challenges/barriers faced by employers in advancing gender equality in the transportation workforce	25
Figure 11:	Existing policies or measures concerning gender equality in the transportation workforce ..	27
Figure 12:	Reported collaborations between the government and other stakeholders to promote gender equality in the transportation workforce	29
Figure 13:	Indicators or metrics used by the government to demonstrate the success of policy interventions to promote gender equality in the transportation workforce	30
Figure 14:	Best practices identified in the Mainstreaming Gender Workshop	43

1 Introduction

The transportation sector supplies between 10-20% of jobs across APEC economies and is associated with relatively high pay and opportunities for career advancement. Despite this, fewer than 20% of these jobs are occupied by women, with the women who do work in the sector being underrepresented in a wide range of career paths including: infrastructure design, construction, and maintenance; transportation technology development and implementation; and value-chain logistics.¹ Women are being overlooked as leaders in the transport sector and as consumers of transport services, leading to a lack of reflection of their perspectives and experience in transportation policy, design, and implementation.² This constitutes a major challenge for women as users of transportation services, given ample evidence that women feel unsafe and/or unseen as riders on major transit systems. This could have further implications for the social mobility of women, given these transportation services are key linkages to school and employment in all economies.³

Deficiencies in the representation of women are especially notable given current pressure on the transportation sector, such as current and foreseen staffing shortages in some economies, and increased demand for new skills necessary for a more digitally-enabled and sustainable transportation sector.⁴ Meanwhile, increased diversity has been demonstrated to improve firms' bottom lines, productivity and performance, and competitiveness. At the economy level, a more gender inclusive and responsive transportation sector may promote greater economic growth.⁵

This project aims to build on past APEC work concerning women in the transportation sector with the goal of enabling easier participation in the sector's workforce by women. This project has the objective to increase visibility into the issue of gender equality in the transport workforce and build capacity among stakeholders including policymakers, transport operators and planners. To achieve this, a review of past studies as well as a survey of APEC economies was carried out, focusing on challenges and barriers that hinder women's employment in transportation roles, as well as policies designed to increase women's participation.

The findings from the desktop and survey research were further discussed in a knowledge sharing workshop organised in Ha Noi, Viet Nam in March 2024, with the goal of identifying potential best practices and policy recommendations for APEC economies.

2 Background: existing barriers and challenges to gender mainstreaming

A sample of 46 economies reviewed in 2020 by the Organisation for Economic Cooperation and Development (OECD) revealed that, on average, only 17% of workers in the transportation sector were women. Despite progress on gender equality in other areas of society, gender gaps in the transportation sector in key labour market indicators remain persistent. Governments, international organisations, and other stakeholders have begun to recognise this issue and have sought to discover the specific nature of challenges and barriers hindering women's participation in order to design and implement policies that support women's participation in transportation employment. Capturing the current status of gender mainstreaming in the sector, including identifying the most salient challenges and barriers to women's participation, is considered the first step towards achieving greater gender diversity in the sector.⁶

¹ <https://www.nathaninc.com/wp-content/uploads/2015/12/2017-APEC-WiT-Best-Practices-Compendium-Update.pdf>

² http://mddb.apec.org/Documents/2015/PPWE/PPWE1/15_ppwe_012.pdf

³ http://mddb.apec.org/Documents/2015/MM/TPTMM/15_tptmm_003.pdf

⁴ [https://www.oecd-ilibrary.org/docserver/0610184a-](https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1704319208&id=id&accname=guest&checksum=635C8446B8A75E4A18BC0B43CAB11BF0)

[en.pdf?expires=1704319208&id=id&accname=guest&checksum=635C8446B8A75E4A18BC0B43CAB11BF0](https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1704319208&id=id&accname=guest&checksum=635C8446B8A75E4A18BC0B43CAB11BF0)

⁵ http://mddb.apec.org/Documents/2015/MM/TPTMM/15_tptmm_003.pdf

⁶ [https://www.oecd-ilibrary.org/docserver/0610184a-](https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1704749903&id=id&accname=guest&checksum=5B8E396346A5C51E380637FC094A7747)

[en.pdf?expires=1704749903&id=id&accname=guest&checksum=5B8E396346A5C51E380637FC094A7747](https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1704749903&id=id&accname=guest&checksum=5B8E396346A5C51E380637FC094A7747)

2.1 Challenges of capturing gender mainstreaming in the transport sector

In APEC economies, women are underrepresented in transportation sector careers across all levels of the workforce both in absolute numbers and relative to their overall rates of labor-market participation, constituting a gender gap in which women experience restricted access to job opportunities and unequal outcomes.

While data shows that women typically occupy less than 25% of total transportation jobs in APEC economies, data on key variables that impact women's participation is often not available, coupled with a lack of systematic structures to collect, evaluate and share data on successful practices and programs.⁷ This includes a lack of sex disaggregated data on aspects such as data by transport job division on wages by gender, number of working hours by gender, or the number of paid and unpaid working hours by gender, and a general lack of systematic structures to collect data on interventions implemented by the private sector to address the gender gap.⁸ Data becomes an even greater challenge for specific modes of transportation (maritime, ports, inland waterways, civil aviation, roads, and railways).⁹ This has resulted in the lack of a shared set of indicators that can be used across APEC economies to compare how conditions in the transport sector impact women.¹⁰

Another key barrier to greater understanding of this issue is that often closing the gender gap in the transport sector is the responsibility of transport ministries and authorities, although the collection of relevant workforce and education data is often the purview of labour and education ministries.¹¹

2.2 Past studies on challenges and barriers to gender mainstreaming in the transport sector

As a first step to begin tackling the issue of gender mainstreaming in the transport sector, many international organisations, industry consortia, labor groups, and independent researchers have conducted studies to investigate the various factors impacting women's participation. These research efforts have targeted women working in transport, transport agencies, and women in general, and have contributed to the identification of major challenges and barriers in the gender mainstreaming of the sector.

The following table summarises such major research efforts and their findings regarding the existing challenges and barriers to promoting gender mainstreaming in the transport sector.

Table 1: Analysis of existing challenges and barriers in previous multi-economy studies

Organisation (year)	Methodology	Findings on existing challenges & barriers
International Labour Organisation (ILO) (2013) ¹²	Literature review (including previous quantitative and qualitative studies)	The study grouped obstacles for women to enter transportation careers into two simplified main categories: working conditions (including the time, timing and place of work); and gender stereotyping. Furthermore, it identified labour laws and their application as another barrier, including legal restrictions on women working night hours, gaps in enforcement of equal pay and/or equal opportunities laws, lack of or deficiencies in paid maternity leave and childcare laws as well as workload adjustments during pregnancy.

⁷ *ibid.*

⁸ <https://www.oecd.org/employment/the-gender-dimension-of-the-transport-workforce-0610184a-en.htm>

⁹ https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_234882.pdf

¹⁰ http://mddb.apec.org/Documents/2015/MM/TPTMM/15_tptmm_003.pdf

¹¹ <https://www.oecd.org/employment/the-gender-dimension-of-the-transport-workforce-0610184a-en.htm>

¹² https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_234880.pdf

<p>Independent study commissioned by the International Transport Workers' Federation (2018)¹³</p>	<p>164 face-to-face & telephone interviews with female public transport workers, union representatives, transport employers, community organisations/NGOs, policy makers and local participants in Bangkok, Thailand, Bogota, Colombia, Cape Town, South Africa, Mexico City, Mexico, and Nairobi, Kenya, and a workshop with the researchers, union representatives and ITF representatives</p>	<p>This study found that women continue to face gender segregation in the public transport sector, being concentrated into lower-paying and in some cases more precarious or informal positions. The study identified various factors, including gender stereotypes, negative attitudes about women's driving abilities or suitability to work in public transport, violence and sexual harassment, working hours and shiftwork, and access to toilet and sufficient break time.</p>
<p>WISE (Women Employment in Urban Public Transport Sector) Project (2018)¹⁴</p>	<p>Quantitative survey targeting transport companies, associations and trade unions in the EU-27 economies, qualitative interviews with women and work meetings in five cities: Antwerp, Berlin, Bucharest, Helsinki and Sofia.</p>	<p>The survey found that the following factors have a high importance for women's employment: reconciliation of work and family/social life; work organisation; reconciliation of work and family/social life; work-life-balance; health and safety at workplace; working culture; wages; career, qualification and trainings; and recruitment.</p>
<p>European Transport Workers' Federation (ETF) (2020)¹⁵</p>	<p>Survey distributed to 3,000 female transport workers across Europe in 2019.</p>	<p>The survey findings highlighted five areas where action is needed for the sector to become a place where women really want to work:</p> <ol style="list-style-type: none"> 1) The dominant culture of masculinity and the associated stereotyping of women 2) Discrimination and unequal treatment, including wages, training opportunities and promotions. 3) Work-life balance issues and the associated needs for flexibility and for being able to build a career alongside family responsibilities. 4) Women's health and safety, in particular the fact that there are often no, or too few, acceptable sanitary facilities. 5) Gender-based violence and sexual harassment at the workplace.
<p>Sustainable Mobility for All (SuM4AllTM) (2023)¹⁶</p>	<p>Desktop research, literature review, online survey with 300 responses collected from local or domestic entities (mostly from North America and Europe), international development</p>	<p>The following five key barriers/entry points for action were identified from the analysis of the 300 survey responses:</p> <ol style="list-style-type: none"> 1) Gender stereotyping for certain jobs, especially technical ones 2) Discriminatory work cultures

¹³ <https://www.itfglobal.org/en/resources/impact-future-work-women-in-public-transport>

¹⁴ https://www.etf-europe.org/wp-content/uploads/2018/09/WISE-I-Report_EN.pdf

¹⁵ <https://www.etf-europe.org/resource/etf-report-making-the-transport-sector-fit-for-women-to-work-in-findings-from-a-survey-of-women-transport-workers/>

¹⁶ <https://www.polisnetwork.eu/news/gender-balance-in-the-transport-sector-a-toolkit-for-change/>

	<p>agencies, private sector, academia, unions, NPOs), and 27 interviews with selected individuals from across the transport sector conducted between June 2022 to March 2023.</p>	<p>3) Lack of flexible working and childcare provision 4) Invisible glass ceilings and restricted career options 5) Gender equity and its relationship with wider diversity, behavior, and culture change</p>
--	---	---

In addition, some APEC member economies have conducted studies of their domestic transport and logistic industries in an attempt to identify and categorise the major barriers that are disadvantaging women in their economies, as summarised below.

Table 2: Existing challenges and barriers identified in economy-level studies

Economy: Organisation (year)	Methodology	Findings on existing challenges & barriers
<p>United States: Domestic Academies of Sciences, Engineering & Medicine (NAS) (2020) ¹⁷</p>	<p>Literature review and survey with 92 respondents from transit agencies (90.4%) and other organisations involved with the transit industry across the United States.</p>	<p>The literature review grouped existing barriers that keep women from entering and developing in careers within transit under the following themes:</p> <ul style="list-style-type: none"> • General lack of transit job outreach to women and promotional strategies that focus on women. • Social factors with the message that men traditionally perform transit jobs. • The dominant masculine culture in transit agencies due to the proportionally greater presence of men in the workforce population. • Safety and health concerns applicable to women. • Challenges with accommodating responsibilities outside of work <p>Many of the barriers identified in the survey (in which participants were asked to list the greatest barriers they see for their agencies) aligned directly with the themes identified in the literature review. One of the major barriers involved scheduling difficulties, inflexible work schedules, and other factors that can make it difficult to meet responsibilities outside of work. In addition, lack of child-leave policies and benefits such as maternity leave were seen as significant barriers for the retention of women. Another common theme was an overly masculine culture prevalent in transit agencies.</p>
<p>Australia: Women in Aviation/Aerospace Australia (2022) ¹⁸</p>	<p>Online survey with 181 respondents (86% female, 12% male, and 4% non-binary or undeclared)</p>	<p>The survey revealed the following as the most common challenges of women working in the Australian aviation and aerospace industries:</p> <ul style="list-style-type: none"> • male dominance in the transport sector • a lack of availability and visibility of information regarding career opportunities in the sector • sexism, discrimination and implicit and explicit bias in the workplace • hostile work environment

¹⁷ <https://nap.nationalacademies.org/catalog/25741/attracting-retaining-and-advancing-women-in-transit>

¹⁸ https://www.aviationaerospace.org.au/media/pdf/Barriers_to_the_pipeline.pdf

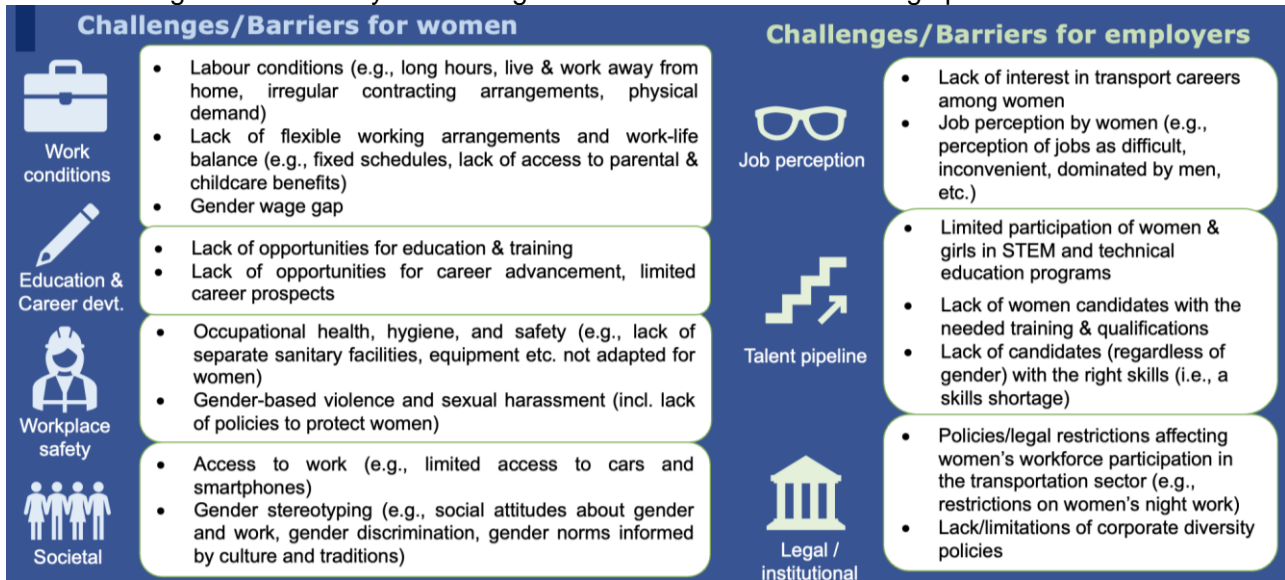
		<p>Male dominance in the sector was considered the most severe barrier, while the ‘leaks’ from the career pipeline were attributed more to sexism and discrimination than any other single factor.</p>
<p>Australia: Independent study (2023)¹⁹</p>	<p>Qualitative narratives collected through semi-structured interviews with 15 key executive managers in the Australian T&L industry</p>	<p>The study categorised how barriers to women’s participation in the sector manifest within different actors and at different levels of the transportation sector, as follows:</p> <ul style="list-style-type: none"> • Individual women: perceptions of the transport jobs as difficult, inconvenient and dominated by men, perceptions of the sector as characterised by explicit and implicit forms of discrimination and gender-based violence in the workplace, women’s personal career choices and preferences, limited number of female role models and leadership representation. • Society: socio-cultural expectations, traditions, and attitudes about women and work, which often manifest as gender stereotypes and assumptions that can lead to transport careers and relevant educational and training opportunities being poorly targeted to women. • Organisations: embedded masculine culture, structures and attitudes, which can manifest as working conditions that are unfavorable to women, biased hiring practices, limited professional development opportunities, wage gaps and discrimination. • Industry: embedded masculine cultural identities in the broader industry, industrial relations (poor representation of women in relevant unions or health & safety committees) and regulatory requirements that disadvantage women.

¹⁹ <https://www.tandfonline.com/doi/full/10.1080/10301763.2023.2254565?src=>

2.3 Summary of known challenges and barriers

The challenges and barriers to gender mainstreaming in the transport workforce identified in the past studies above can be broadly categorised under challenges/barriers faced by women and challenges/barriers faced by employers (firms and organisations). The most common challenges and barriers cited in the studies above have been summarised in the figure below.

Figure 1: Summary of challenges and barriers identified through previous studies



The summary above was used to design questions in the pre-workshop survey in the present study that aimed to 1) examine the degree to which known challenges and barriers impact women's ability to enter into and advance within careers in the transportation sector, and 2) uncover any overlooked or newly emerging challenges and barriers.

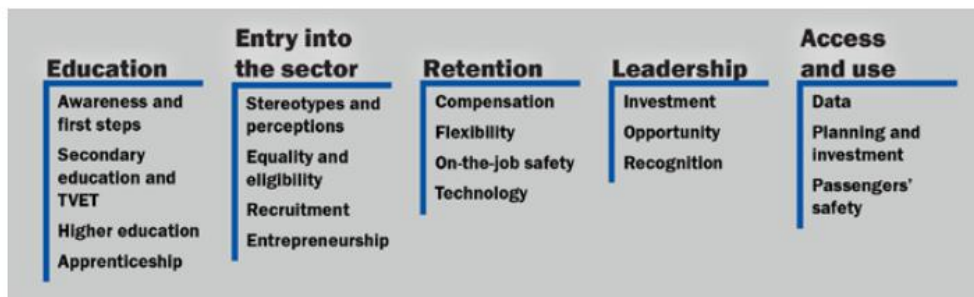
3 Policy Analysis

The following section presents a brief review of past work that identifies existing policies and measures in APEC economies and beyond to promote gender mainstreaming of the transport sector, as well as past research studies and/or expert discussions that have produced policy frameworks, recommendations, and best practices for governments, transport planners and organisations.

3.1 APEC Women in Transport (WiT) Data Framework

Since 2012, APEC's Transportation Working Group (TPTWG) has sought to collect data on conditions faced by women in transportation careers and as consumers of transportation services for the purpose of benchmarking, setting goals, and measuring progress, in addition to identifying and disseminating best practices from economies. The resulting Women in Transport (WiT) Data Framework (published in 2015, updated in 2017) includes five pillars and eighteen key outcomes that pair desired outcomes with specific actions and data metrics designed to guide economies towards policies to increase women's representation in the sector.

Figure 2: The five pillars of the APEC WiT Data Framework²⁰



The following table provides an introduction to each pillar along with the key outcomes and actions identified in the framework.

Table 3: Summary of the APEC WiT Data Framework²¹

Key Outcomes	Actions
Pillar 1 (Education): The education pillar recognises that the work needed to address the gender gap in the transportation sector begins at early years of schooling and must continue throughout education and training in order to build awareness of the range of careers available and reinforce that women are capable of pursuing them.	
Awareness and first steps	<ul style="list-style-type: none"> Raise awareness of transportation careers among primary and middle-school aged girls. Tangible introductions and first steps into the transportation sector (e.g., school visits, fieldtrips, mentoring) for girls.
Secondary education and TVET	<ul style="list-style-type: none"> Narrow gender gaps in math participation and achievement. Increase opportunities for young women to prepare for leadership roles, especially in nontraditional sectors. Increase participation of girls and women in nontraditional TVET programs.
Higher education	<ul style="list-style-type: none"> Encourage women university students to pursue STEM-related courses of study. Increase presence of women as STEM faculty within universities.
Apprenticeships	<ul style="list-style-type: none"> Increase presence of women in formal apprenticeships.
Pillar 2 (Entry into sector): The entry into sector pillar concerns factors that affect women's likelihood of pursuing transportation careers, such as stereotypes, legal factors, and health & safety concerns.	
Stereotypes and perceptions	<ul style="list-style-type: none"> Strive to counter gender stereotypes that may inhibit women's full participation in the transportation sector.
Equality and eligibility	<ul style="list-style-type: none"> Ensure that women may lawfully work the same hours as men. Ensure that women have equal access under law to the full range of transportation-related jobs. Increase rate of women seeking full certification to serve as unrestricted drivers, pilots, or captains.

²⁰ <https://www.nathaninc.com/wp-content/uploads/2015/12/2017-APEC-WiT-Best-Practices-Compendium-Update.pdf>

²¹ http://mddb.apec.org/Documents/2015/MM/TPTMM/15_tptmm_003.pdf

Key Outcomes	Actions
Recruitment	<ul style="list-style-type: none"> • Orient recruitment efforts toward increased presence of qualified women in transportation jobs. • Hold transportation companies and leaders accountable for workplace inclusion and diversity.
Entrepreneurship	<ul style="list-style-type: none"> • Embrace APEC priorities as they pertain to Women in the Economy. • Strengthen conditions for SME access to credit. • Ensure transparency, equal opportunity, and accessibility of government procurements in the transportation sector. • Facilitate access of women-owned enterprises to transportation supply chains. • Ensure transparency, equal opportunity, and accessibility of government procurements in the transportation sector. • Facilitate access of women-owned enterprises to transportation supply chains.
Pillar 3 (Retention): The retention pillar highlights the policies and practices that can mitigate the attrition women face in transportation careers through policies related to wages, working conditions, job flexibility, and safety.	
Compensation	<ul style="list-style-type: none"> • Monitor and address wage equality between men and women by firm and mode. • Track changes in wages earned by women before and after entering transportation sector.
Flexibility	<ul style="list-style-type: none"> • Ensure that the law does not penalise workers who take time off when they become parents. • Develop flexible work schedules in all transportation modes, for all male and female workers without compromising benefits or opportunities for promotion. • Encourage transportation firms to support employees' needs for childcare services. • Demonstrate a commitment to reemploying workers, particularly women, who have taken time out from their careers for family and other reasons.
On-the-job safety	<ul style="list-style-type: none"> • Monitor and address workplace safety issues of particular concern to women. • Create mechanisms for reporting and addressing gender-related workplace harassment or violence. • Compare safety statistics between men and women for purposes of studying advantages and differences.
Technology	<ul style="list-style-type: none"> • Integrate technologies that make key transportation jobs more accessible to women. • Integrate technologies that respond to the personal security concerns of women working in various modes of transportation.
Pillar 4 (Leadership): The leadership pillar examines issues such as investment in women leaders, opportunities for advancements, and the recognition of women's accomplishments, with the goal to generate an understanding of how to promote more female leaders in a traditionally male-dominated sector.	
Investment in women	<ul style="list-style-type: none"> • Offer career counseling to women in the transportation sector. • Develop and implement formal policies that encourage greater inclusion and development of women employees.

Key Outcomes	Actions
	<ul style="list-style-type: none"> • Provide women in transportation with mentors. • Support women's participation in formal leadership programs.
Opportunity	<ul style="list-style-type: none"> • Promote qualified women into executive leadership positions in the public sector • Promote qualified women into executive leadership positions in the private sector. • Encourage women's leadership in transportation labour unions. • Ensure participation of women on the governing boards of transportation companies.
Recognition	<ul style="list-style-type: none"> • Encourage economy-wide and mode-based awards for women in transportation, for individuals and employers.
<p>Pillar 5 (Access and use): Given evidence that the experiences of women as passengers and travelers are rarely considered in transportation planning, the access & use pillar examines how the sector could become more gender-responsive via measures including data collection, the consultation of women in transport design & policy, and initiatives to improve the safety of public and private transportation services for women. Other issues may include costs, facilities, and additional needs.</p>	
Data	<ul style="list-style-type: none"> • Commit to the development of reliably maintained statistics on the use of each transportation mode, disaggregated by sex.
Planning and investment	<ul style="list-style-type: none"> • Consult representative groups of women on their particular recommendations and needs pertaining to transport design and policy.
Passenger safety	<ul style="list-style-type: none"> • Promote the personal safety of women as passengers in both public and private modes of transit transportation.

Since the launch of the WiT Data Framework in 2015, five economies (Malaysia; New Zealand; Papua New Guinea; the United States; Viet Nam) have undertaken pilot activities that seek to demonstrate the linkage between better data and gender-responsive policy & practice.²² Other economies have contributed best practice examples of initiatives aligned with key outcomes in the framework, and these experiences were compiled in a 2017 update to data framework.²³

3.2 Other international policy analysis efforts

3.2.1 Policy analysis and recommendations

In addition to APEC's efforts to create a policy framework to guide economies' efforts, a limited number of quantitative studies have been conducted to explore the relationship between certain variables and women's participation in the transport workforce with the goal of informing policy interventions.

Most notably, in 2021, the OECD and ITF conducted research that examined how female participation in the transport workforce was impacted by several variables, including real GDP per capita, overall female labour force participation rate, gender parity index for tertiary education enrolment, female

²²

https://www.pscouncil.org/a/Member_Spotlight/2019/Women_in_Transportation_Initiative_Models_Womens_Economic_Empowerment_Across_APEC.aspx

²³ <https://www.nathaninc.com/wp-content/uploads/2015/12/2017-APEC-WiT-Best-Practices-Compendium-Update.pdf>

tertiary attainment rate in STEM academic disciplines, fertility rates, and the existence of maternity leave and equal pay laws.²⁴

The research revealed that, holding all other variables constant, GDP per capita, female labour force participation rates, gender parity indices for tertiary education enrolment, and female STEM tertiary attainment rates were positively correlated with women's participation in the transport sector. The study also found that laws mandating paid or unpaid maternity leave were insignificant in increasing women's participation, partially due to outliers and economies with missing legislation, and also perhaps due to variability in the application of domestic laws at the company and regional level.

Based on these results and challenges encountered in the study, the authors presented three policy recommendations:

- **Implement an integrated and collaborative approach to close data gaps:** Given that the causes and solutions to gender gaps in the transport sector are multi-faceted, a collaborative and multi-stakeholder approach to data collection and sharing is necessary. Transport ministries would need to work with labour ministries to ensure that data collected from the transport workforce is gender disaggregated and capable of reflecting sector-specific gender equality issues.
- **Increase stakeholder engagement beyond the transport sector:** The cross-cutting nature of gender equality issues calls for broader multi-ministry and multi-stakeholder engagement, including ministries responsible for education, culture, media, and communications, in order to develop effective and comprehensive strategies. Collaboration with the private sector and unions is also critical to transform recruitment techniques and workplace practices, while awareness-raising and education initiatives would benefit from closer collaboration between transport organisations, schools and universities.
- **Align international standards with complementary domestic policies:** Based on the lack of significant direct relationships between equal pay and maternity leave laws and women's participation in the transport workforce, full implementation of international labour standards in the form of statutes may be necessary to significantly increase women's participation. For example, EU standards on equal pay and equal treatment in the workplace, maternity protection, and parental leave may explain why women are better represented in the European transport workforce than other regions.²⁵

Furthermore, a 2022 study on gender equality and the role of women in decarbonising transport by the ITF and FIA Foundation for the Automobile and Society produced guiding principles and actionable steps for governments and companies to align their gender equality and decarbonisation goals in the transport industry. A summary of suggested actions under the four guiding principles is shown below:

- **Capacity building, knowledge management and communication:** Strengthening awareness of the gender, transport and climate change policy nexus by expanding research efforts, conducting gender-based analysis when considering decarbonising transport policies, ensuring government has an active role in upskilling the whole sector through multistakeholder engagement, and creating a platform for horizontal integration and knowledge sharing between ministries and stakeholder groups.
- **Gender balance, participation and women's leadership:** Building diverse teams at every level, enhancing women's participation and leadership in the transport workforce to build an unbiased culture.
- **Implementation:** Ensuring that budget processes incentivise gender-based decarbonising transport policies, and identifying synergies gender equality and zero-carbon transport policies.
- **Monitoring and reporting:** Establishing effective evaluation, monitoring and reporting systems including gender-disaggregated and gender-relevant indicators, identifying and implementing appropriate gender analysis tools that help guide policy makers in creating more linkages in the gender, transport and climate change policy nexus.²⁶

²⁴ <https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1702404618&id=id&accname=guest&checksum=ACCF99BF07AF06253002B1301F862965>

²⁵ <https://www.oecd.org/employment/the-gender-dimension-of-the-transport-workforce-0610184a-en.htm>

²⁶ <https://www.itf-oecd.org/sites/default/files/docs/gender-equality-women-decarbonising-transport.pdf>

3.2.2 Existing measures and best practices in the transport industry

Given that many of the challenges and barriers faced by women working in the transportation sector relate to the conduct of transportation organisations and conditions in the workplace, international scholarship has sought to identify and recommend measures taken by employers to increase the hiring and retention of women workers.

To date, independent researchers, economies, and private organisations have identified numerous gender-focused recruitment, retention and training/career development measures introduced by employers in the transportation sector, which are summarised below.

- **Recruitment:** Gender-focused recruitment measures include establishing official goals or targets for the recruitment of women, ensuring job advertisements are inclusive (e.g., removing stereotype-based imagery), reevaluating job descriptions to remove unnecessary or outdated skill requirements, and targeted recruitment campaigns focused on women.^{27,28} These efforts can be enhanced through gender mainstreaming activities in the recruitment process itself, such as utilising female recruiters and/or providing specialised training to recruitment staff on unconscious bias and likely concerns of female recruits.²⁹ Since the factors that limit the pipeline of female recruits in transport extend far beyond the conduct of individual employers, research has suggested the need for integrated strategies involving government, employers and educational institutions to raise awareness about transportation career opportunities, increase women's enrolment in relevant programs, and increase clarity around necessary skills and qualifications.³⁰
- **Retention:** Measures to retain female workers range from providing more flexible working arrangements (e.g., parental leave policies, flexible hours, support for caring responsibilities), policies and practices to reduce discrimination and harassment in the workplace (e.g., equal pay, appropriate workplace facilities and uniforms, efforts to build a welcoming and unbiased culture), and establishing clear paths of career progression (e.g., return to work planning). These measures are known to be essential for recruitment in addition to retention.³¹ Research has suggested that broader 'parental leave' (including men) should also be pursued to change perceptions and attitudes to caring responsibilities. More broadly, involving men in gender mainstreaming efforts has been suggested as a way to accelerate efforts to reduce stereotyping and discrimination in transportation workplaces.³² One tool to promote these practices is the participatory gender audit, in which an organisation's policies, programs and structures are assessed collaboratively to discover the degree to which gender has been mainstreamed at the firm, work unit and individual levels. ILO research has suggested participatory gender audits as a valuable tool for promote individual and organisational learning on gender mainstreaming with regard to "push and pull" factors that encourage or discourage from pursuing and remaining in transportation careers.
- **Training and career development:** In addition to attractive working conditions, ongoing training, opportunities for career advancement, and women's leadership and mentoring are also critical factors to retain women in transportation careers.³³

Some studies have focused on identifying best practices to be adopted by industry stakeholders as a result of qualitative data analysis (small scale surveys, interviews, case studies) and/or expert discussions. For example, the aforementioned SuM4AllTM study (2023) produced a "Toolkit for change" based on the results of the literature, survey, and interview research that was conducted over the span of a full year. Best practices for transit industry employers are summarised under "key entry points" to tackle the five most pressing barriers for women in the industry. The Toolkit covers recruitment and selection processes (e.g., interviewing, outreach, partnerships), workplace inclusivity

²⁷ <https://www.itf-oecd.org/sites/default/files/docs/cpb-gender-workstream.pdf>

²⁸ <https://www.oecd.org/employment/the-gender-dimension-of-the-transport-workforce-0610184a-en.htm>

²⁹ <https://www.nathaninc.com/wp-content/uploads/2015/12/2017-APEC-WiT-Best-Practices-Compendium-Update.pdf>

³⁰ https://www.sum4all.org/data/files/gender_imbalance_in_the_transport_sector_a_toolkit_for_change.pdf

³¹ <https://www.itf-oecd.org/sites/default/files/docs/gender-equality-women-decarbonising-transport.pdf>

³² Gender Imbalance in the Transport Sector A Toolkit for Change

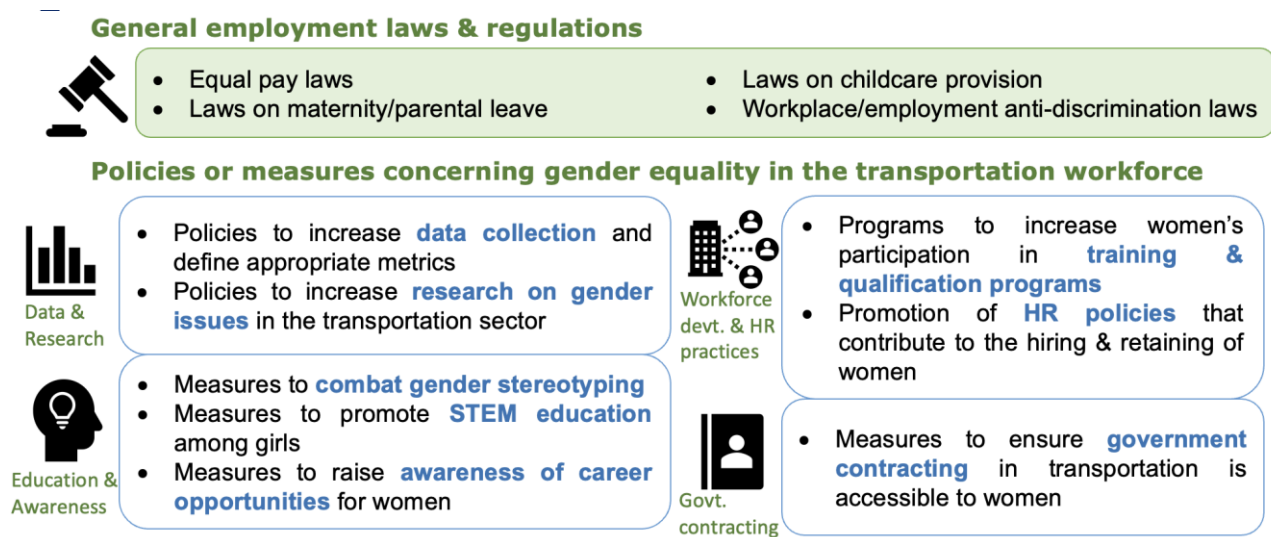
³³ https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_234880.pdf

practices (e.g., HR practices, data collection, evaluation, reporting mechanisms, training and education, contracts), flexible working and childcare provisions (e.g., maternity and parental needs, re-entry, flexible hours), addressing glass ceilings (e.g., networking and mentoring, performance reviews, quotas, partnerships), and wider diversity, behavioral and culture change (e.g., corporate leadership, governance, onboarding, education and peer-support mechanisms).³⁴

3.3 Summary of policy initiatives relating to gender mainstreaming in the transport workforce

The present study focuses on policies and measures to be adopted at the government level to promote gender mainstreaming in the transport industry. Through the review of past studies by APEC and other organisations reported in the preceding sections, the following existing policies, measures and initiatives have been identified at the government level.

Figure 3: Summary of existing policy initiatives identified through previous studies



This summary was used to design questions in the pre-workshop survey in the present study that aimed to 1) capture policies already in place in APEC economies, 2) identify policies that have been the most effective to date, and 3) identify policies that APEC economies are planning to adopt in the future.

4 Survey

The following section reports on the methodology and results of the pre-workshop survey administered to seek information from economies related to policy frameworks for addressing gender issues in the transportation sector, the challenges and barriers towards achieving greater gender equality in the transportation workforce, and specific interventions designed to increase women's participation.

4.1 Method

Between November 2023 to March 2024, an online survey of transportation public policy officials (namely Ministries of Transportation or equivalents) in the APEC region was conducted to evaluate how these agencies are approaching the issue of women's participation in the transportation sector at the economy level.

The survey design was informed by the literature review presented in the earlier sections of this report that examined the existing challenges & barriers in gender mainstreaming faced by women and transport organisations, and current strategies, policies and programs employed to mitigate them.

³⁴ https://www.sum4all.org/data/files/gender_imbalance_in_the_transport_sector_a_toolkit_for_change.pdf

The survey (see Annex) was split into several key parts, as follows:

- Respondents' professional and demographic details (economy, organisation, role, gender etc.)
- Women's representation in the transport workforce
- Status of data collection on gender equality metrics in the transport sector
- Views on the main challenges and barriers for women entering and progressing in the transport sector from a personal and organisational point of view
- Existing strategies, policies and programs to promote gender mainstreaming in the transport sector and their perceived effectiveness
- Policies and programs that economies are planning to adopt in the future

The online survey used a combination of "yes/no," multiple choice, and Likert scale questions in order to obtain a comprehensive understanding of the perceived challenges and barriers and the current policy landscape. The final section of the survey included an optional set of open-ended questions which allowed economies to share unique initiatives and best practices deemed helpful to advance gender mainstreaming in the greater APEC region.

The survey, which was created through Microsoft Forms, was disseminated to all 21 APEC economies through the APEC secretariat and individual email outreach to transportation public policy officials in member economies. Taking part in the survey was voluntary.

At least 75% of the respondents were female, and several economies submitted a consolidated response resulting from internal discussion and coordination between several units or officials within the relevant department.

The majority of survey analysis was dedicated to understanding how common certain challenges, practices and policy interventions were across responding economies, as well as noting how economies perceived the significance of the different challenges and the effectiveness of the policies employed to mitigate them. From this exercise, certain themes emerged regarding how economies perceive challenges and target interventions, which are detailed in the following sections. In some cases, results were discussed within the context of challenges and recommendations identified in the desktop research to suggest areas in which economies appear to embody best practices or point to potential gaps. Unique policies or initiatives to promote gender equality in the transport workforce shared by several economies through the optional open-ended questions were profiled as short case-study boxes throughout the analysis.

4.2 Results

The following sections include an analysis of the survey responses collected from transportation public policy officials (Ministries of Transportation or equivalents) the following 15 APEC economies:

1. Australia
2. Canada
3. Chile
4. Hong Kong, China
5. Japan
6. Malaysia
7. Mexico
8. New Zealand
9. Papua New Guinea
10. Peru
11. The Philippines
12. The Russian Federation
13. Chinese Taipei
14. The United States
15. Viet Nam

4.2.1 Gender mainstreaming and related policies in the surveyed economies

The table below summarizes survey results (n=15) related to economies' gender mainstreaming practices in the transportation sector, including economy responses to questions relating to the percentage of women in the transport workforce, the existence of gender mainstreaming policies and strategies specific to the transportation sector as well as the legal framework for issues known to affect women in the sector. The results are explained in more detail in the sections that follow.

Table 4: Summary of policies related to gender mainstreaming in the transport sector

Economy	% of women in transport workforce	Periodic review of gender equality in transport workforce	Related laws				Overarching strategy for gender equality in the transport sector	Strategy for promoting women's participation in the transport workforce
			Maternity/parental leave	Equal pay	Workplace/employment anti-discrimination	Childcare provision		
Australia	More than 25%		○		○	○		○
Canada	21 - 25 %		○	○	○			
Chile	16 - 20%	○	○	○			○	○
Hong Kong, China	More than 25%	○	○		○			
Japan	Not known	○	○	○	○	○		○
Malaysia	Not known		○			○	○	○
Mexico	6 - 10%		○	○	○	○	○	
New Zealand	6 - 10%		○		○		○	
Papua New Guinea	6 - 10%		○	○			○	
Peru	0 - 5%		○		○			
The Philippines	More than 25%		○	○	○	○	○	○
The Russian Federation	More than 25%	○	○	○	○	○	○	
Chinese Taipei ³⁵	More than 25%	○		○				
United States	21 - 25 %	○	○	○	○	○	○	○
Viet Nam	More than 25%		○	○	○	○	○	

³⁵ Although the survey response specified that Chinese Taipei does not have a law mandating maternity/parental leave, sources indicate that the economy has laws relating to parental leave. For details, see: <https://www.bli.gov.tw/en/0015949.html>; <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=N0030018>

4.2.2 Women’s representation in the transportation workforce

Six out of 15 responding economies indicated women constitute >25% of the transportation workforce, with two out of 15 between 21% and 25%, meaning that a slight majority of participating economies exceed the 17% average arrived at by the OECD in 2020. Four economies had 10% or less, and only two (Malaysia and Japan) lacked necessary data.

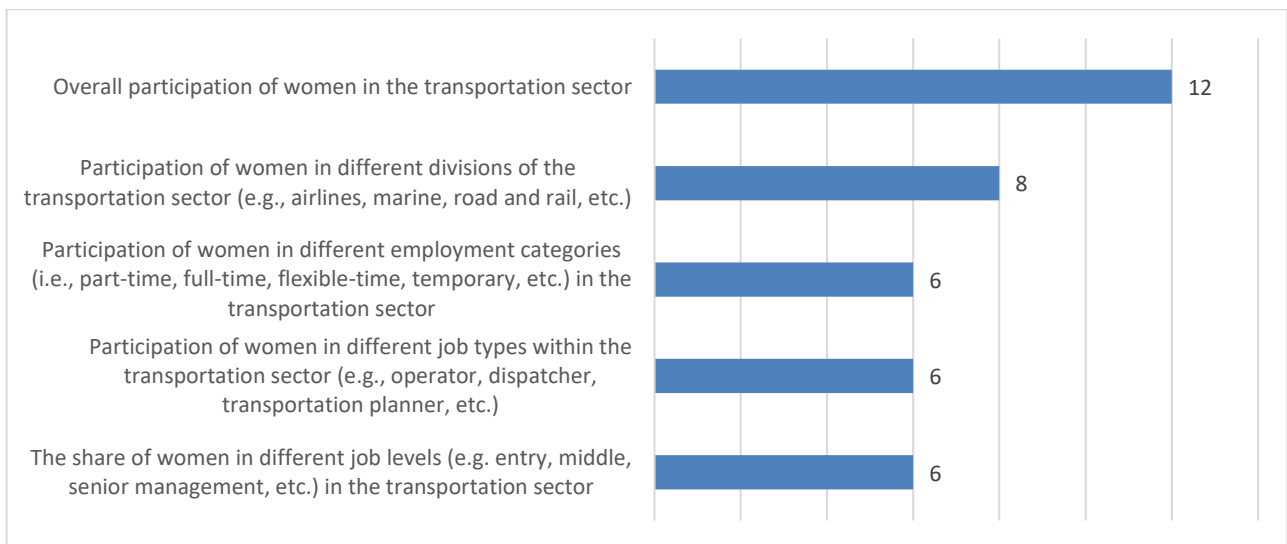
4.2.3 Data collection

In spite of the recognition by APEC economies that the lack of representation of women in the transportation workforce constitutes a major challenge, less than half of the respondents conduct a periodic review of gender equality. The lack of such a review may create challenges in measuring the effectiveness of policies designed to increase women’s representation in transportation jobs; notably, the APEC Women in Transportation (WiT) initiative has challenged economies to commit to regular data collection, while other best practices research by organisations like the OECD has called for collaborative work to close data gaps.³⁶

This broad challenge is also reflected in responses regarding the type of data that economies collect regarding gender equality in the transportation workforce, with the overall percentage of women represented in the workforce being the most commonly collected (12 out of 15), followed by their representation in different divisions/modes (eight out of 15). Meanwhile, women’s participation in different types of roles, their employment status (full vs. part-time), and level of employment (entry-level vs. management) was less commonly collected. This type of data is critical for economies to identify specific challenges faced by women in the transportation workforce, such as their concentration in certain roles and the existence of “glass ceilings” that hinder women’s career advancement.

Chile; Chinese Taipei; and the United States conduct the most comprehensive data collection, including data on the overall participation of women, data on different divisions of the sector, job types, employment categories, and job levels within the transport sector.

Figure 4: Data collected by the government related to women’s workforce participation in the transportation sector



³⁶ <https://www.oecd.org/employment/the-gender-dimension-of-the-transport-workforce-0610184a-en.htm>

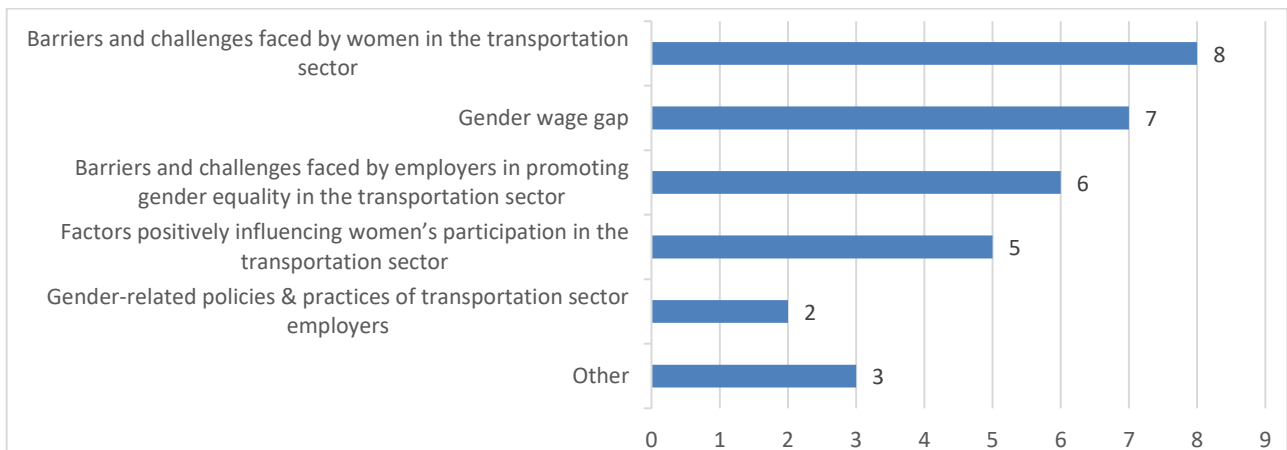
Example 1: Transport Canada’s Gender Based Analysis Plus (GBA+) Pilot

Transport Canada uses Census data collected by Statistics Canada to analyse the transportation sector’s overall diversity, as well as to provide information relating to reporting on the wage gap in the sector from an intersectional approach. In October 2019, Transport Canada launched a pilot of Gender Based Analysis Plus (GBA+) of the Aircraft Operations - Civil Aviation Inspection (AO-CAI), Technical Inspection (TI), and Engineering (ENG) occupational groups, which are internal job classifications for transportation positions within the federal public service. The original purpose of the analysis was to examine recruitment and hiring practices for positions within these occupational groups to ensure that all applicants from the official employment equity groups (women, visible minorities, indigenous people, and persons with disabilities) have equitable access without barriers or bias.

This was based on a broader policy introduced in 2017 to address the overall labour and skills shortages within the transportation sector, which had four main objectives: increasing research, data, and analysis of the issue; promotion and outreach especially to underrepresented groups; leveraging, expanding and establishing transportation-specific programs while ensuring to mitigate barriers to recruitment and retention of underrepresented groups; and encouraging a modernised approach to regulations. The final objective required that all regulatory changes in Canada go through a GBA+ analysis to determine their effects on various demographics including women using an intersectional approach.

In terms of other data collected by the government that relate to gender mainstreaming in the transport sector, more than half of the economies collect data on barriers and challenges faced by women in the transportation sector. Seven out of 15 economies responded that they collect data on the gender wage gap. On the other hand, fewer economies collect data on barriers and challenges faced by employers in promoting gender equality in the transportation sector, which might suggest the need for greater collaboration between economies and firms to develop a more comprehensive understanding of challenges. Five economies collect data on factors positively influencing women’s participation in the transportation sector, which might warrant further examination given these economies have achieved 20% or greater representation of women in the sector. Chile and the Philippines are the only economies that collect data on gender-related policies & practices of transportation sector employers, which might provide an opportunity to study how the introduction of more inclusive practices influences the gender equality in the sector more broadly.

Figure 5: Other data collected by the government related to gender equality in the transportation sector



4.2.4 Economy-level strategies to promote gender equality in the transportation workforce

With regard to economy strategies for gender equality in the transportation sector, strategies that specifically address the transportation workforce were less common (six out of 15) than strategies for the transportation sector in general, which also cover issues relating to women as users of transport services (nine out of 15). The relative lack of strategies addressing workforce issues specifically may constitute a challenge for broader gender equality goals in transportation systems, given that women’s perspectives and experiences rarely receive adequate consideration in policy design.

Figure 6: Presence of overarching strategy for promoting gender equality in the transportation sector (including women as users of transportation services)

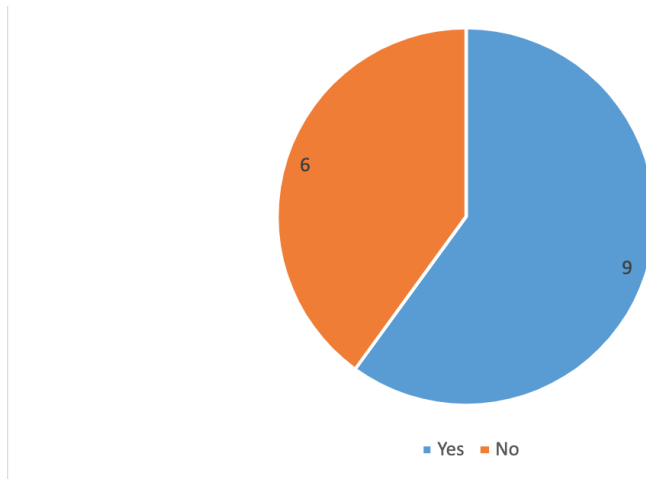
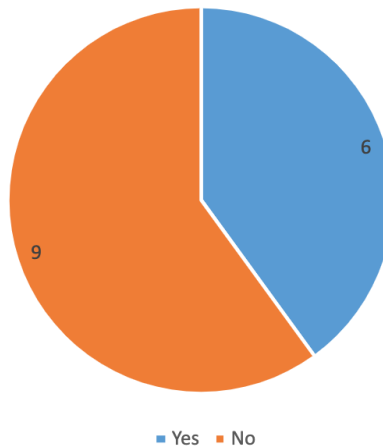


Figure 7: Presence of strategy for promoting women’s participation in the transportation workforce



The following table summarises the existing strategies that either address gender issues in the transportation sector as a whole, or strategies that specifically address the transportation workforce that were listed by the survey respondents.

Table 5: Summary of strategies or policies related to gender mainstreaming in the transport sector in surveyed economies

Economy	Name of strategy or policy
Australia	Women in Aviation industry initiative (2019) ³⁷

³⁷ Australia’s initiative directly targets workforce issues, while the policies in the other economies aim to address gender issues in the transport sector as a whole.

Chile	Gender Equity Policy in Transport (2018) ³⁸
Japan	Guidelines for Creating a Work Environment Conducive to Women in the Automobile Maintenance Industry (2017)
Malaysia	Creating Gender Focal Teams (GFTs) (2022)
Mexico	Strategic Plan Gender and Mobility (2019)
Papua New Guinea	Gender Equity and Social Inclusion (GESI) Policy (2021)
The Philippines	Women in Development and Nation Building Act (1992), Magna Carta of Women (2009), and the Safe Spaces Act (2019)
The Russian Federation	The National Action Strategy for Women (2017)
United States	White House National Strategy on Gender and Equity (2021), Department of Transportation Equity Action Plan (including gender justices) (2022)
Viet Nam	National strategy on gender equality (2021)

4.2.5 Legal framework

The question on the legal framework was included to establish a baseline of understanding regarding the existing laws in APEC economies that protect women in the workplace from various challenges that may hinder their well-being and career development.

Maternity/Parental leave was the most common law present (14³⁹ out of 15 economies).⁴⁰ Workplace anti-discrimination laws were the second most common (11 out of 15 economies), followed by equal pay laws (10 out of 15), and laws on childcare provision being the least common (eight out of 15 economies). Japan; Mexico; the Philippines; the Russian Federation; the United States; and Viet Nam have in place all four legal protections, with all but Mexico demonstrating higher than average representation of women in the transportation sector.⁴¹

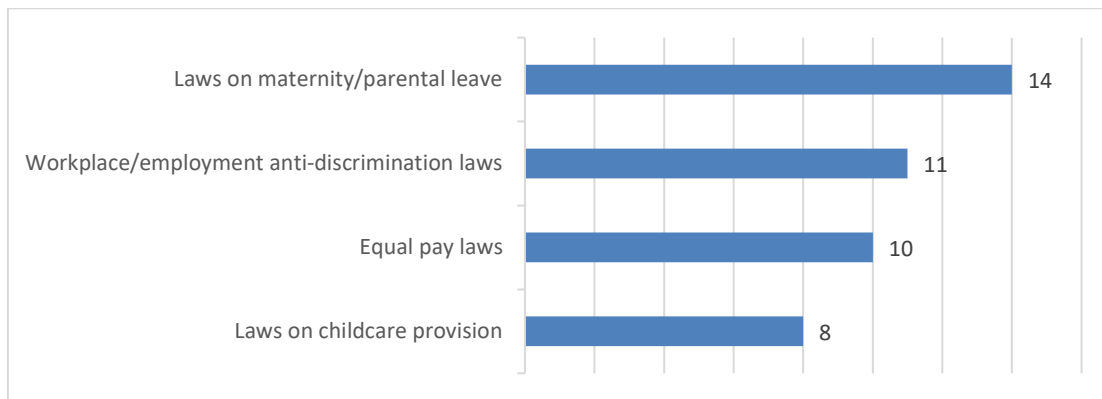
³⁸ The name and year of the policy was obtained through follow up research, since the survey respondent did not specify the name of the strategy. The respondent described that Chile's work on gender mainstreaming in the transport sector began in 2017 when Paola Tapia became the economy's first female Minister of Transportation, placing gender equality at the core of every action carried out by the Ministry including studies, data collection, and specific programs. Some examples of initiatives are the implementation of bus stops with a gender perspective, measures against sexual harassment in the subway, and measures to increase the number of women drivers.

³⁹ The survey response from Chinese Taipei did not specify that the economy has a law mandating maternity/parental leave. However, sources indicate that the economy does have active laws relating to parental leave. For details, see: <https://www.bli.gov.tw/en/0015949.html>; <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=N0030018>

⁴⁰ It is important to note that the United States' law on parental leave only provides twelve weeks of *unpaid* maternity leave. The United States is the only OECD economy to offer no statutory entitlement to paid leave on a national basis. https://www.oecd.org/els/soc/PF2_1_Parental_leave_systems.pdf

⁴¹ As seen in Table 4, Japan did not present data on the average representation of women in the transportation sector.

Figure 8: Presence of employment regulations or laws concerning women in APEC economies



4.2.6 Challenges and barriers to gender mainstreaming

Challenges and barriers faced by women

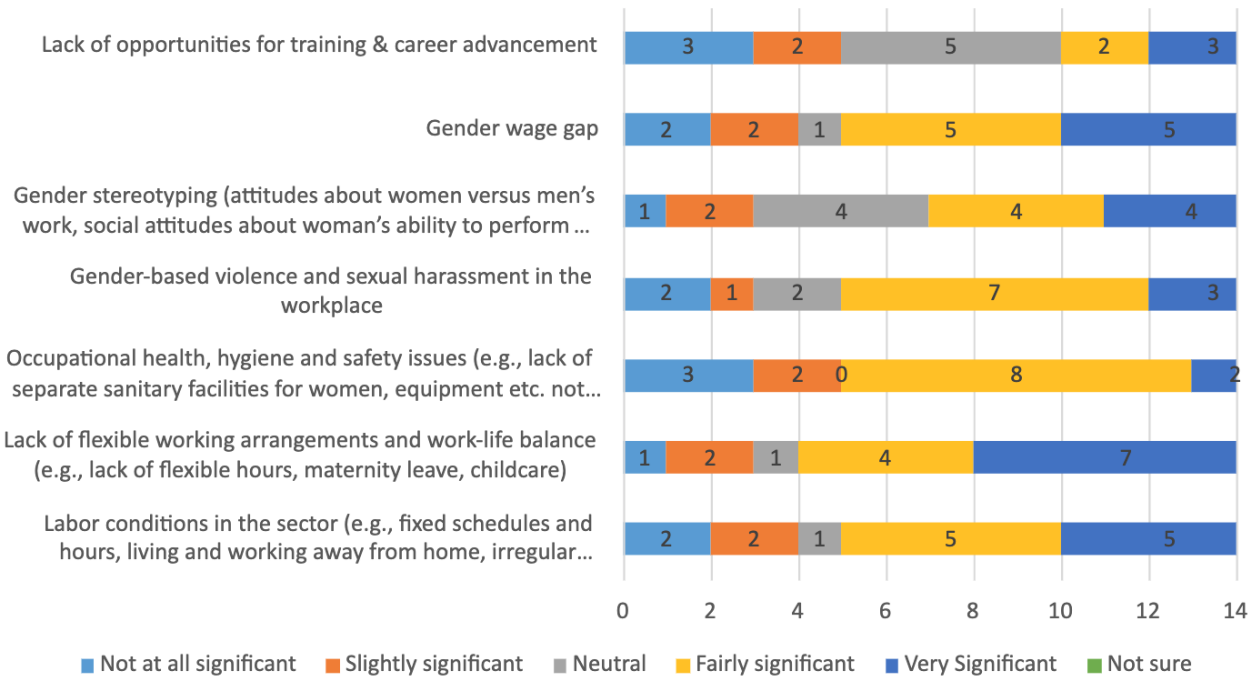
Among the seven challenges/barriers faced by women in advancing gender equality in the transportation workforce listed in the survey, lack of flexible working arrangements and work-life balance (e.g., lack of flexible hours, maternity leave, childcare), the gender wage gap, labour conditions in the sector, occupational health, hygiene and safety issues, and gender-based violence and sexual harassment in the workplace were frequently rated very significant or fairly significant by the survey respondents (seven rated the lack of flexible working arrangements and work-life balance as very significant, while five out of 15 economies rated gender wage gap and labour conditions in the sector as very significant).

Notably, data on the gender wage gap in transportation was relatively commonly collected by APEC economies responding to the survey (seven out of 15 responding economies), while the majority of respondents identified some type of equal pay law. This may suggest an opportunity for better application and enforcement of equal pay measures, as previous research has suggested the possibility for inequity to persist due to uneven application of legal measures.

Gender-based violence and sexual harassment in the workplace was rated as very significant by three out of 15 economies and fairly significant by seven economies, while labour conditions in the sector (e.g., fixed schedules and hours, living and working away from home, irregular contracting arrangements) was rated as very significant by five economies, and fairly significant by five economies. Broadly, conditions in the workplace (gender-based violence and sexual harassment, occupational health & hygiene, lack of flexible working arrangements, and labor conditions in the sector) were rated as fairly significant or very significant by 10 or more economies.

There was variation in how economies rated the significance of gender stereotyping (attitudes about women versus men’s work, social attitudes about woman’s ability to perform the job) and lack of opportunities for training & career advancement.

Figure 9: The significance of challenges/barriers faced by women in advancing gender equality in the transportation workforce



A follow-up question sought input from economies on any additional challenges not covered in the previous question to identify gaps in current research and discover potentially unique challenges. The results were largely categorised under the challenges used as options in the survey, although they offered additional local context:

- Papua New Guinea and the Philippines raised traditional culture and values as a unique challenge in their economy. For example, in the Philippines, men are often associated with jobs requiring physical strength while women are associated with jobs requiring mental strength and stability. This challenge largely fits under “gender stereotyping (attitudes about women versus men’s work, social attitudes about woman’s ability to perform the job),” with the added context that it stems from traditional culture and values. This reveals how actors may interpret different challenges and barriers based on where they manifest, similar to research that examines challenges based on how they present at the individual, firm, industry and societal level. In this case, Papua New Guinea and the Philippines seem to suggest gender stereotypes disadvantage women in the transportation sector at a societal level, which may suggest a role for policy interventions that address these stereotypes among the public at large.
- Australia pointed out that there is an unconscious bias towards women in hiring and promotion practices. This would also fit under “gender stereotyping (attitudes about women versus men’s work, social attitudes about woman’s ability to perform the job),” as well as “lack of opportunities for training & career advancement,” but in the context of the human resources practices of firms. This might suggest a role for economies in collaborating with firms to promote the adoption of more inclusive hiring, retention and promotion strategies.
- The United States raised equal opportunity and access for indigenous and disadvantaged people and women with disabilities, and the limited availability of private areas and equipment for lactating mothers as a challenge. This first portion might imply how challenges faced by woman in the transportation sector intersect with those experienced by other vulnerable groups, and how gender issues may intensify these challenges. The second portion about facilities for mothers is closely related to “occupational health, hygiene and safety issues (e.g., lack of separate sanitary facilities for women, equipment etc. not adapted for women),” while it should be noted that as of 2023, breastfeeding breaks are not yet mandated in about 50 economies across the world.⁴²

⁴² <https://www.un.org/en/un-chronicle/breastfeeding-and-work-balancing-act>

- Chile raised public security issues as a significant challenge faced by women in the economy. This seems related to gender-based violence and sexual harassment in the workplace, although the response seems to characterise it as an economy-wide issue.
- Japan pointed out that the economy faced challenges in creating an environment where female seafarers can continue work as they move through different life stages including marriage and childbirth.

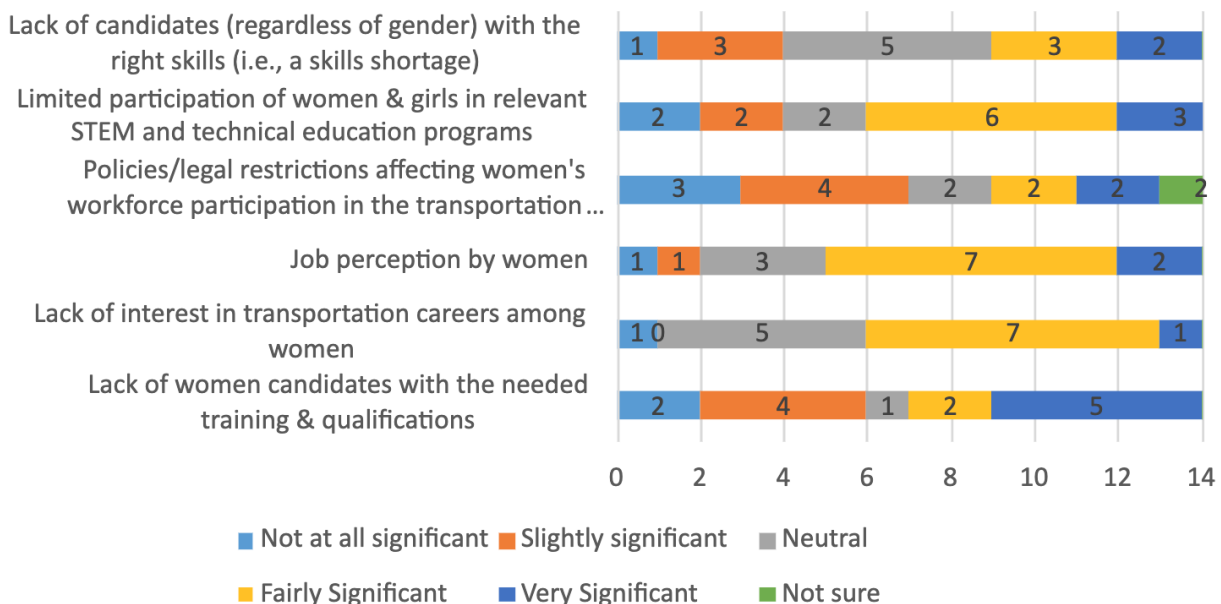
Challenges and barriers faced by transportation employers

The survey also sought respondents’ views on the significance of challenges and barriers faced by transportation employers in advancing gender equality in the transportation workforce.

Overall, there was significant variation in how economies rated the significance of challenges/barriers faced by employers. Five out of 15 economies rated the lack of women candidates with the needed training & qualifications as very significant, while six economies rated it as either slightly or not at all significant. Job perception by women, limited participation of women & girls in relevant STEM and technical education programs, and lack of interest in transportation careers among women were rated either very or fairly significant by a majority of the responding economies. There was variation in how economies rated the other factors.

Overall, the job perception of women was most often cited as a very or fairly significant barrier closely followed by lack of interest in transportation careers among women, which is in agreement with previous work on the subject suggesting the perception of transportation jobs (inconvenient, male-dominated, physically strenuous, etc.) as a major factor that limits women’s desire to pursue in transportation careers in the first place. Similarly, factors related to the qualifications and participation by women in relevant education and training programs were the often cited as fairly or very significant, indicating a potential role for governments in addressing factors that hinder women’s participation in transportation-related education and training.

Figure 10: Significance of challenges/barriers faced by employers in advancing gender equality in the transportation workforce



Example 2: The Russian Federation’s policy reform to remove legal barriers affecting women’s workforce participation in the transport sector

In 2022, the Russian Federation revised its list of “occupations not recommended for women for health reasons” to newly allow women to work as metro operators (engine drivers). The revision was carried out in conjunction with providing secure and safe conditions of work to women who seek employment in this occupation.

This is one example of a simple structural reform to ensure that women have equal access under law to the full range of transportation-related jobs, which may also have the long-term effect of combatting gender stereotyping and discrimination in the sector.

A similar follow-up question was included to evaluate any economy-specific challenges faced by transportation employers in achieving greater gender equality:

- Papua New Guinea noted a lack of resources and commitment to advance gender equality in the transport workforce. Notably, many of the best practices for employers identified in previous research do require additional resources and expertise that carry costs (such as targeted recruitment campaigns, advertisements, hiring for new roles focused on gender equality, new facilities or uniforms to accommodate women, etc.), which indicates a potential role for economies in supporting the adoption of these practices.
- The Philippines pointed out that many women prefer jobs in other industries and their job choices are also informed by gender biases and stereotypes rooted in society. This challenge evokes the overlapping nature of the perception of transportation jobs among women, women’s job preferences, and stereotyping, which suggests the need for deliberate strategies that address gender bias as it relates to transportation careers at the individual and societal levels.
- Chile pointed out that there remains a challenge for employers to implement good practices and other actions that are not necessarily made mandatory although legal and contractual requirements have been established. Similar to Papua New Guinea, this response may be indicative of challenges for economies to facilitate change in employer practices through the use of “carrots” rather than “sticks”.

4.2.7 Policy interventions

Existing policy interventions

This section of the survey sought to capture existing policy interventions by economies designed to address the lack of gender balance in the transportation sector.

The most common policies/measures currently in place were programs to increase women’s participation in relevant training & qualification programs (nine out of 15 economies) and measures to raise awareness of career opportunities for women in the transportation sector (eight out of 15 economies), which are essentially oriented towards creating a more robust pipeline of qualified female candidates. Five out of 15 economies also have programs to promote STEM education and career awareness among girls.

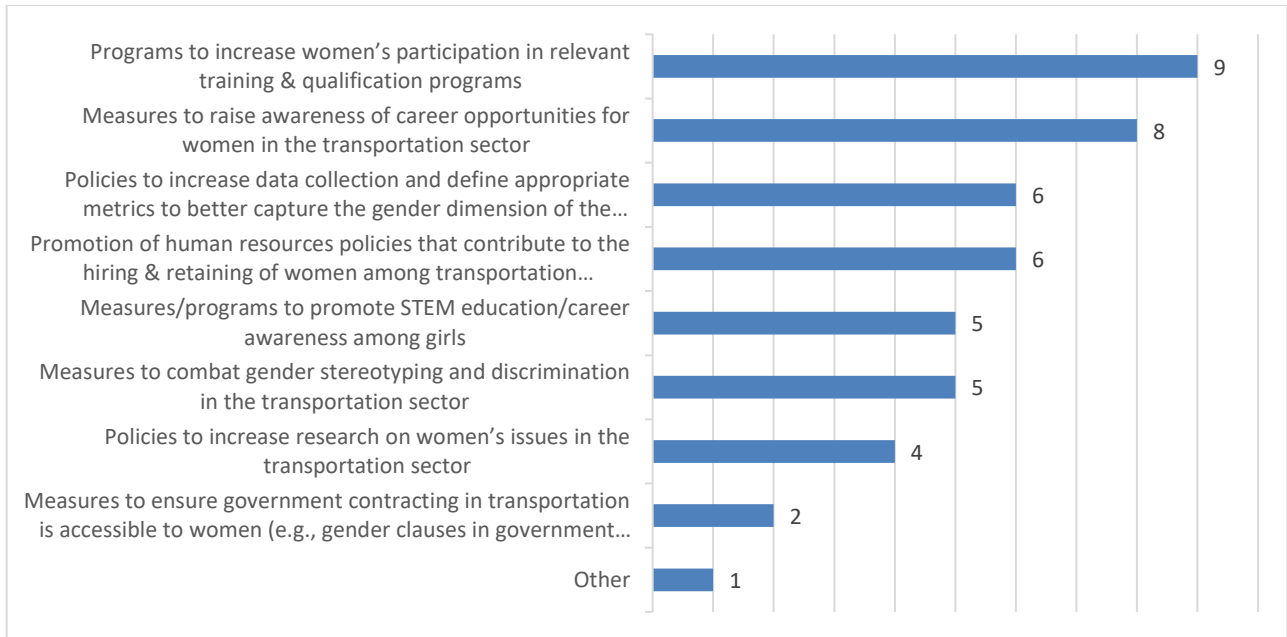
Six out of 15 economies reported policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce, while only four out of 15 indicated they have policies to increase research on women’s issues in the transportation sector. Economies that both lack access to gender-disaggregated data on the transportation workforce and do not conduct research on the challenges to women’s participation in transportation employment may struggle to target policy interventions effectively.

Six out of 15 economies indicated that they promote human resources policies that contribute to the hiring & retaining of women among transportation employers. Meanwhile, challenges related to workplace policies (e.g., the gender wage gap, lack of flexible working arrangements and work-life

balance) were rated as among the most significant in the previous section, perhaps revealing economies could work more closely with firms to facilitate the transformation of practices.

Measures to facilitate female participation in the transportation sector via government contracting were only present in Canada and the United States. Chinese Taipei was the only economy to report on the “other” option, mentioning that committees within the Civil Aviation Authority (CAA) requires at least 1/3 of committee members be female.

Figure 11: Existing policies or measures concerning gender equality in the transportation workforce



Example 2: Australia's "Women in the Aviation Industry Initiative" and "National Women in Transport Initiative"

In recent years, Australia has launched several economy-wide initiatives to increase gender inclusiveness in the transport workforce as well as recognise and celebrate female leadership in the sector.

The AUD8 million Women in the Aviation Industry Initiative was launched in March 2019 and is funded through June 2026. Since it began, the initiative has invested AUD3.1 million to support a range of activities to boost awareness of careers in aviation amongst girls and retain talented women in the industry. Activities have included a research study, mentoring programs, workshops, career events and experience days.

Furthermore, at the Infrastructure and Transport Ministers' Meeting (ITMM) in May 2021, Australia's Infrastructure and Transport Ministers agreed to establish the National Women in Transport Initiative, a partnership between government and industry with the aim to showcase, support and increase the number of Australian women working in transport. The National Women in Transport Initiative has now established itself with a clear brand and network, which includes the following components:

- **Extensive Speaker Bureau:** The Speaker Bureau showcases female leaders in transport across a range of transport modes and specialties from every state and territory across Australia. The bureau now features nearly 80 in-depth speaker profiles, with more in development.
- **Strong online presence:** The official website (www.womenintransport.gov.au) features the Speaker Bureau, news, events, and resources. The initiative also runs an active LinkedIn page with nearly 2,500 followers and high levels of engagement and sends out a quarterly e-newsletter.
- **Partnering and hosting events:** The initiative has expanded its reach by co-branding several events with partners including Roads Australia, Australasian Railway Association, ITS Australia, and Terrapin. The initiative also hosted a webinar with over 100 people in attendance, including attendees from Australia, New Zealand, and South Africa. Recently, National Women in Transport has partnered with the Australasian Railway Association to fund a Gender Diversity in Rail research project that aims to better understand the barriers and challenges hindering diversity efforts and develop new initiatives.
- **Supporting and celebrating women in transport:** The initiative has undertaken work to support and promote women working in transport, including funding six scholarship positions for women to attend professional development courses through a partnership with Skillsy, and getting more women nominated for formal recognition through transport sector awards. Raising awareness of women in transport and training or career opportunities has been a core element of social media

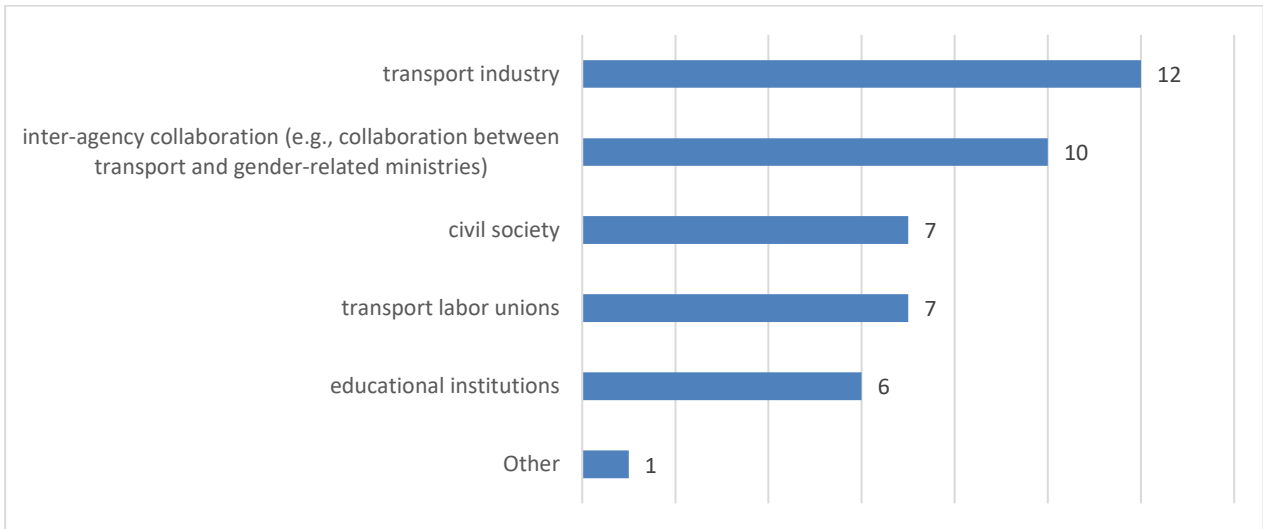
Stakeholder engagement and collaboration

Given that much of the relevant literature concludes there is a need for greater coordination and collaboration among relevant actors within the sector to maximise the effectiveness of policy interventions, respondents, most of which were the Ministry/Department of Transport of the respective economies, were asked to assess the degree to which they work with outside actors to achieve gender equality goals for the transportation workforce.

The survey results show that collaboration with stakeholders is widespread across the responding economies, with 12 economies reporting coordination with the transport industry, and 10 economies

reporting that there is inter-agency collaboration between different branches of government within their economy. Seven economies reported collaboration with civil society and labour unions, and six reported working with educational institutions.

Figure 12: Reported collaborations between the government and other stakeholders to promote gender equality in the transportation workforce



Measuring success

The survey revealed that a majority of economies (nine out of 15) regularly evaluate the progress of policy interventions.

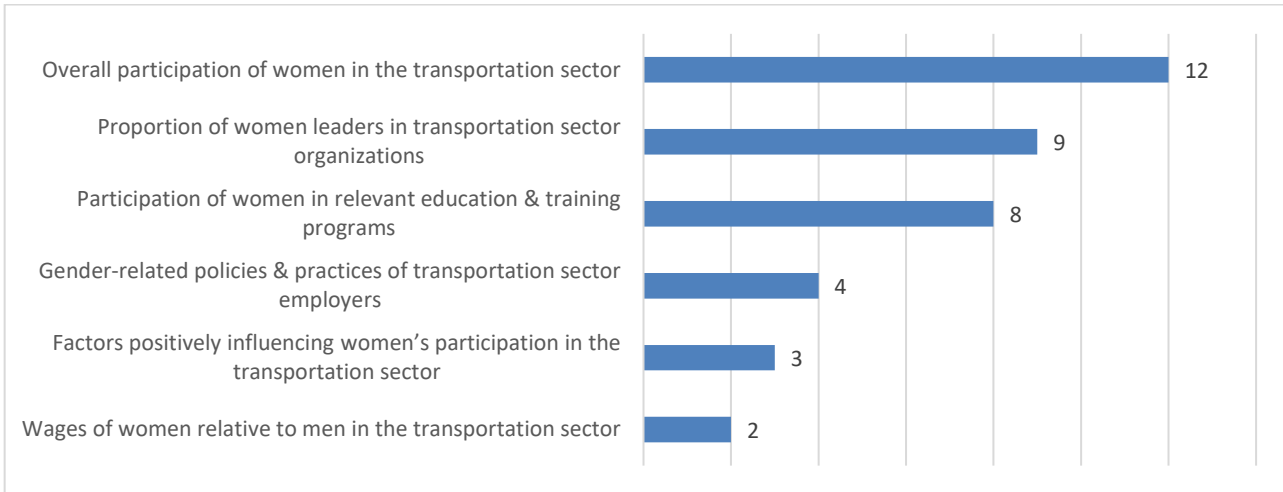
A large majority of survey respondents (12 out of 15) uses overall participation of women in the transportation sector to measure the success of policy interventions to promote gender equality in the transportation workforce.⁴³

Eight out of 15 economies use participation of women in relevant education & training programs and the proportion of women leaders in transportation sector organisations as an indicator/metric in assessing progress, which is consistent with results in an earlier section that showed that many economies emphasised participation in education and training programs. Gender-related policies & practices of transportation sector employers were less popular as an indicator of success (four out of 15), which is also consistent with findings that indicated fewer economies actively promote these practices by transportation employers.

Chile and the United States are the only economies that use the indicator of wages of women relative to men in the transportation sector as an evaluative metric for policies, in spite of the fact that the majority of economies rated the gender pay gap as a fairly or very significant challenge.

⁴³ While Australia did not select this option, it noted that annual statistics are captured on women’s participation in the transport sector.

Figure 13: Indicators or metrics used by the government to demonstrate the success of policy interventions to promote gender equality in the transportation workforce



Economies were also asked to evaluate the effectiveness of their efforts to-date to address gender equality issues in the transportation sector. Notably, none of the surveyed economies responded that interventions to-date have been very effective. Three out of 15 of the economies rated their interventions as fairly effective, four were neutral, and eight of the surveyed economies rated their interventions as slightly effective. Overall, this result seems to indicate that transport policymakers in many APEC economies feel that there is still much work left to achieve gender mainstreaming in the transport sector as a whole.⁴⁴

As a step to begin identifying best practices, economies were asked to select up to 3 policies or measures that have so far been the most effective in promoting gender equality in the transport sector. The same list of policies/measures reported in Figure 9 was used.

While there was significant variation in the policies or measures deemed effective by different economies, the most popular were measures to raise awareness of career opportunities for women in the transportation sector (seven out of 15 economies), programs to increase women's participation in relevant training & qualification programs (five economies), and policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce (five economies). These results also suggest that economies are primarily focused on addressing a perceived deficit in awareness, skills and qualifications related to transportation careers.

4.2.8 Future steps

Finally, economies were asked to select policies that their governments are considering adopting in the coming years to gain an understanding of future direction.

The results revealed that seven out of 15 of the surveyed economies were considering newly adopting measures to combat gender stereotyping and discrimination in the sector. Also popular were measures focused on data and research, which would seemingly help fill in gaps in data to accurately capture the status of gender equality in the sector revealed in the first section. Six out of 15 economies are considering crafting policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce, and five out of 15 economies are considering policies to increase research on women's issues in the transportation sector.

Relatively speaking, measures to grow the pipeline of qualified women in the transportation sector were popular, with six out of 15 economies selecting programs to increase women's participation in relevant

⁴⁴ <https://www.oecd-ilibrary.org/docserver/0610184a-en.pdf?expires=1705105964&id=id&accname=guest&checksum=EFC0AE06031C009A41839AB1CDF97405>

training & qualification programs, and five out of 15 economies selecting the following: measures to ensure government contracting in transportation is accessible to women (e.g., gender clauses in government procurement, certifying women-owned enterprises); measures/programs to promote STEM education/career awareness among girls; and measures to raise awareness of career opportunities for women in the transportation sector.

Example 3: Peru to ease license requirements to reduce barriers of entry for female professional drivers

The Peru Ministry of Transport and Communications (MTC)'s Land Transport Policy and Law Directorate is planning to introduce a special license regime for professional female drivers in the land transport sector beginning in 2024. The initiative is a response to a growing deficit in land transportation operators and aims to address the talent shortage through removing existing barriers for females seeking professional driving jobs. Under this proposed change, the required length of experience to upgrade a driver's license to a professional license will be reduced to one year (which was previously at least two years) with additional requirements for driving skills training, including training programs through agreements with passenger or cargo transportation companies.

This is an example of a policy that aims to remove barriers for women entering the sector.

Five out of 15 economies indicated future plans to make government contracting for transportation more accessible to women, reflecting how a relatively small proportion of economies consider this as an important future goal in spite of the lack of results to-date revealed in the previous section.

5 Discussion

Major themes that emerged from the survey results reported in detail in the previous section are summarised below.

5.1 Policy frameworks for gender mainstreaming in transportation

Responses revealed that only a handful of APEC economies have in place economy-level policy frameworks/strategies that are needed to fully understand the nature and magnitude of challenges for gender equality in the transport workforce and coordinate an effective response. A review of previous APEC work and other best practices has suggested such frameworks are essential to effectively target interventions.

5.2 Challenges and barriers

Economies perceived that the most significant challenges faced by women in the transportation sector were the lack of work-life balance, the gender wage gap, and challenges related to conditions in the workplace (e.g labour conditions, occupational health, hygiene and safety issues, gender-based discrimination and harassment).

Despite many economies identifying these as significant, there are some notable gaps in the data that APEC economies collect related to these issues. For example, only two economies collected data on gender-related policies and practices of employers. In a free response, a different economy mentioned a lack of capacity among transportation organisations to pursue gender equality goals. Data collection and deeper study of issues could be valuable in discovering such gaps and targeting state support.

When asked about challenges employers may face in pursuing gender equality goals, factors related to skills, education and training were indicated as significant most frequently. This may indicate an

opportunity for economies to take a greater role in addressing challenges that limit women's participation in relevant education and training.

5.3 Policy interventions, effectiveness, and future steps

The most common interventions currently active in economies were also related to creating a more robust pipeline of women qualified to work in the transportation sector. Meanwhile, fewer economies had promoted practices designed to increase recruitment and retention of women to transportation employers. Again, this may present an opportunity for deeper involvement by economies to collect data on how employer practices impact women's participation, as well as how transportation agencies can facilitate the adoption of best practices among firms.

When asked to rate the effectiveness of current interventions, many economies considered measures related to skills, education and career awareness as the most impactful, reflecting a continued emphasis on expanding the pipeline of women for transportation careers. Notably, none of the economies thought that their policy interventions had been very effective thus far, which suggests a need for expanded efforts to achieve a greater gender balance in the transportation sector.

The most common responses regarding measures economies plan to pursue in the future were related to countering gender stereotyping and discrimination in the sector, as well as data and collection and research. This may suggest an acute need to address a significant barrier that could negatively impact women's safety and well-being in the sector, as well as a recognition of the need for deeper understanding of the various factors that result in low female representation in the transportation workforce.

6 Mainstreaming Gender Workshop

6.1 Purpose

The Mainstreaming Gender for the Transportation Workforce for Sustainability workshop was held in Ha Noi, Viet Nam on 7-8 March 2024, coinciding with International Women's Day. The workshop was held to share knowledge among different APEC member economies regarding measures to build the capability of the transport sector workforce by enabling easier participation in the workforce by women.

Following two presentations summarizing the existing challenges and barriers for women in the transport industry given from an academic and industry point of view and an introductory session on past efforts in gender mainstreaming in transport undertaken via APEC, the project team shared findings from the commissioned gender mainstreaming survey and research, which highlighted challenges and policy interventions for increasing women's participation in the transportation sector workforce. Selected speakers from government and industry were then invited to present cases on the situation in their economies and successful practices or initiatives. Speakers and participants were also invited to share perspectives on topics such as persistent policy gaps and types of interventions based on the required resources and expected impact.

Approximately 40 participants from a total of 11 economies (Australia; Chile; Japan; Malaysia; New Zealand; Papua New Guinea; The Republic of the Philippines; Singapore; Thailand; the United States; and Viet Nam) participated in the workshop. More than 90% of the workshop participants self-identified as female. The participants represented a wide range of organizations and roles, with transport planners in government (DOT, MOT and equivalents) being the largest group. There were also participants from local governments, academia, and the private sector.

6.2 Summary of Workshop Presentations

6.2.1 APEC past work on women in transportation

Ms. Ronale Taylor of the United States Department of Transportation shared a summary of past APEC work on the subject of gender mainstreaming in the transport workforce, looking forward towards the goal of developing an effective policy framework for gender mainstreaming in the transportation sector.

Ms. Taylor offered an overview of the APEC Women in Transportation (WiT) Data Framework, which pushes economies to collect data on challenges and barriers facing women in transport across topics such as education and training, access to jobs, incentives for retention, leadership, and mentoring. This data is intended to benchmark conditions for women in the transportation sector and guide economies towards identifying measures that prepare women for transport jobs as well as increasing retention, growth and leadership opportunities. Furthermore, the effort aligns with broader APEC goals related to gender, such as goals related to workforce skills and access to capital in the La Serena Roadmap for Women and Inclusive Growth⁴⁵ and objectives related to inclusive growth in the APEC Putrajaya Vision 2040.⁴⁶

Women have achieved many 'firsts' in the transportation sector, although further progress is needed on gender equality for women to be considered a key part of the transportation workforce across the APEC region. Education and career development programs have demonstrated some success, although retention of women in transport roles remains a challenge due to lack of mentorship, opportunities for advancement, and flexible working policies (e.g., maternity leave). Additionally, the role of women as users of transportation is often not adequately considered in planning of transportation systems, exacerbating challenges in balancing work and family life.

Ms. Taylor closed her presentation discussing next steps, including:

- Collaborate between the APEC Women in Transport (WiT) task force and expert groups to advance the overarching agenda for women in transportation employment, including through producing further workshops.
- Highlight the role of transportation and emerging technologies to improve accessibility, inclusivity and mobility options for women, as well as other groups such as the disabled (address issues surrounding intersectionality).
- Reignite APEC work on gender-based capacity building.
- Create more opportunities and incentives to attract and retain women in transport, such as scholarships.
- Improve access to safe and affordable systems for women and women with disabilities, including safe and affordable mobility options.
- Collect relevant data to support strategies to further address challenges for women.
- Strengthen cooperation between relevant line ministries/government offices on issues such as transport accessibility.
- Assist member economies to develop effective policies.

6.2.2 Women's challenges in transport: an academic perspective

Dr. Sheilah Gaabucayan Napalang, Professor and Director of the Office of Research and Publication at the University of the Philippines provided an overview of existing challenges and barriers for women in the broader transport ecosystem, while drawing on illustrative examples from her economy. The presentation centered on how to empower women in the transport sector (both as workers and users) with a focus on statistics that reveal the nature of the current challenges.

Dr. Napalang began with a discussion of global statistics around gender equality, specifically a 2023 study that examined the gap via four aspects: political empowerment, economic participation, educational attainment, and health. The study found that, at the current rate of progress, it would take

⁴⁵ https://www.apec.org/meeting-papers/annual-ministerial-meetings/2019/2019_amm/annex-a

⁴⁶ https://www.apec.org/meeting-papers/leaders-declarations/2020/2020_aelm/annex-a

131 years for women to reach equality with men across various indicators associated with the four aforementioned topics. Regionally, Europe leads in gender parity, followed by North America, Latin America, Eurasia and Central Asia, then East Asia and the Pacific (with the Philippines and Australia leading that region). In the transport sector, an ITF study places the global representation of women in the workforce at around 17%, with representation lower in certain sub-categories such as civil engineering (12%).

Meanwhile, in the Filipino maritime sector, only 2% of workers are female, with the economy containing 25% of the world's 1.6 million seafarers. In the early 1990s, legislation facilitated the extension of admissions to maritime academies for women, while an economy-wide plan for Gender Responsive Development was launched in 2004.

In 2013, the 'She to Sea' campaign was launched by the Women in Maritime Association of the Philippines (WIMAPHIL), in response to the goal of increasing women's representation in the Filipino maritime sector, including an online forum for exchange of information and responding to the concern of new female cadets. The effort found that the most common challenge faced by women seafarers was sexual harassment and discrimination in the workplace, although there was also generally low turnout and participation in the online forum itself; the forum only had 24 members in total. Dr. Napalang concluded that while the establishment of the forum was an important step in itself, there was little momentum to grow the initiative; in short, the effort was gender sensitive, but not gender responsive, in that it did not effectively respond to the factors hindering women's participation in the sector.

The second half of the presentation concerned women as commuters. Women are more likely to be responsible for children (e.g., accompanying them to school), with many women defined by the International Labour Organization (ILO) as "unpaid contributing family workers." This means that women have distinct travel patterns relative to men due to the gender division of work in the household; women take shorter and more frequent trips during the workday to multiple destinations, while men tend to take longer direct trips to and from employment. Most transportation systems are designed primarily with male transport patterns in mind, in spite of the fact that the majority of public transit users tend to be female. This often leads to women declining work opportunities further from home due to the need to balance domestic responsibilities, and thus accepting lower paid local or informal opportunities. These challenges can be exacerbated by intersecting disadvantages, such as physical disabilities or poverty.

To close, Dr. Napalang called for continued collaboration between member economies to develop policies that address the ongoing challenge of unsafe and discriminatory workplaces for women in transport, create supports for female heads of household to access job opportunities with flexible hours, as well as to expand the understanding of intersectionality in the context of gender issues.

6.2.3 Women's challenges in transport: an industry perspective

Ms. Doreen Tan, Senior Vice President Legal and General Counsel at FedEx, provided an overview of existing challenges and barriers for women in the transport workforce from an industry standpoint. Ms. Tan's case study focused on efforts to increase gender equality.

Ms. Tan began by sharing various challenges faced by women encountered by the multinational transportation and logistics firm through its efforts to increase recruitment and retention of women; for example, couriers in economies such as Malaysia have faced stereotypes stemming from cultural norms around women and driving in addition to safety and security issues.

Programs to support women at FedEx include mentorship programs, with the added feature that these deliberately involve men to increase buy-in and understanding of the relevant issues by men, reduce potential backlash to gender-related efforts, and ensure that these initiatives aren't just "women talking to women." To create a more supportive and inclusive workplace, FedEx also conducts unconscious bias training, engages male allies, supports female entrepreneurs, and promotes youth entrepreneurship.

Ms. Tan organized her takeaways from her observations of transport workforce gender equality from an industry perspective by “why”, “what”, and “how”:

- Why does this matter: Diversity leads to good business (better decision-making, greater innovation); improved gender equality is necessary with changing demographics and labor shortages; new technologies (automation, digitization, technologies that reduce the need for physical strength) and new business models (ride hailing, gig economy) introduce new opportunities for women.
- What needs to be done: Addressing these issues must extend beyond gender towards an intersectional outlook (age, ethnicity, social class); overall, a safe, respectful and gender-neutral workplace should be strived for.
- How is this achieved: some form of accountability is needed (e.g., benchmarks or measurement methodologies); best-in-class hiring and retention models must be developed; harassment and discrimination policies need to be strictly enforced; flexible working arrangements and pay parity are desperately needed.

Ms. Tan closed her presentation with potential next steps:

- Establish regulations or norms relating to an inclusive and gender safe workplace.
- Quantify unpaid/underpaid work of women and compensate through tax or other measures.
- Create incentives for further sharing of unpaid caring duties.
- Devise educational initiatives to challenge persistent gender stereotypes.
- Develop policies to support flexible work, such as guidance on flexible scheduling and measures to ease childcare and domestic burdens for women.
- Address the ‘leaky pipeline’ for women in STEM.
- Improve access to affordable and safe mobility.
- Incorporate gender perspectives in policy design.
- Enhance stakeholder collaboration between research organisations, companies, unions, government, etc.

6.2.4 Case Study 1: Directorate of Metropolitan Public Transport, Ministry of Transport and Telecommunications, Chile

Ms. Carolina Aylwin, Strategic Institutional Coordinator of the Directorate of Metropolitan Public Transport, Ministry of Transport and Telecommunications of Chile, offered a case study that largely focused on work by the Directorate of Metropolitan Public Transport to enhance gender equality in the transport workforce and transit system more generally in the capital city of Santiago.

In a video address, the Minister of Transport of Chile, Paola Tapia, discussed how Chile was one of the first economies with an economy-wide gender and mobility policy, which was launched in 2018. The policy, involving civil society, academia and public and private sectors, has a focus on safety and harassment. The plan seeks to stimulate new gender-related policies and consolidate existing ones, and includes measures addressing women as workers in the transport sector, with concrete results achieved so far in a program to increase female bus drivers in Santiago.

In addition to measures around electrification and public safety, the Ministry has sought to address transport in the capital through a gender perspective, which began with an origin-destination survey in 2012 that demonstrated how women tend to take more frequent yet shorter trips on off-peak hours compared to men, and that most of these were care-related trips. Other studies found that 9/10 of women experienced harassment on public transportation, and almost three quarters of women felt unsafe aboard public transport. In addition to women, campaigns around this issue also addressed the safety of the elderly and children, in part to avoid backlash due to some anti-feminist sentiments that have emerged in the public in response to policies that focus on the gender perspective.

The Directorate of Metropolitan Public Transport within the Ministry has also incorporated gender concerns on an institutional level with four components: anti-harassment campaigns; acknowledgement of the diverse ways in which different users utilize transit (“diverse mobilities”); internal mainstreaming in the form of institutionalization, capacity building and training for leadership; and de-masculinization via programs including scholarship for women drivers.

A specific program that Ms. Aylwin highlighted in the presentation was a program to encourage more women to become drivers in the metropolitan bus system. The goal of the program was to address the gender disparity and labor shortages in the sector, as well as provide jobs for women that were close to home and allowed flexibility between their personal and professional lives. It included assistance with attaining relevant driving licenses, linkages to employment with transport companies, and training. The program demonstrated positive results, with the percentage of women drivers in the system increasing from less than 1% to 8.5% between 2013 and 2023, with other benefits including women users of the system reporting that they felt safer with female drivers.

The presentation also discussed the creation of a new multi-economy network known as the Gender and Mobility Observatory (OBGEM)⁴⁷, a group that brings together transport workers and representatives of government, companies, academia, and international organizations to create a permanent networking space to expose the reality of mobility and gender in different economies and promote female leadership.

To close her case study, Ms. Aylwin offered the following recommendations:

- First generate institutional guidelines for gender equality, then move on to developing actions (for example, Chile’s gender and mobility policy).
- Ensure that stakeholders are included in the process of developing such policies and actions, such as transport companies, workers, women, the disabled, and other groups.
- Endeavor to generate policy that will resist shifts in government administration via institutionalization and mainstreaming.
- Collect data in the field from users of transport systems to monitor the success of policies and programs.

6.2.5 Case Study 2: Ministry of Transport, Viet Nam

The second case study was presented by Ms. Nguyen Thi Phuong Hien of the International Cooperation Department of the Ministry of Transport of Viet Nam. Mrs. Nguyen’s case study focused on gender mainstreaming activities undertaken at the Vietnamese Ministry of Transport with a review of the institutional framework. In Viet Nam, there is a Law on Gender Equality that requires a gender impact assessment in government documents. The Ministry of Labor, Invalids and Social Affairs is the line ministry assigned responsibility for gender-related issues, while every other ministry also has committees that work on women’s advancement. The current economy strategy for gender in Viet Nam is the National Strategy on Gender Equality (2021-2030), which includes goals to increase women’s leadership in government, increase the number of women employed in the formal economy and as owners and business leaders.

Mrs. Nguyen then shared results of the Action for Women’s Advancement in Transportation (2011-2020), which sought to improve the proportion of women leaders in the sector. This included measures to increase the number of women working in the Ministry of Transport through establishing recruitment parity. In spite of these efforts, there is still a disparity between men and women in access to on-the-job training, and women remain concentrated in academia and research-oriented roles in the transport sector.

⁴⁷ <https://www.generoymovilidad.org/>

6.2.6 Case Study 3: Department of Infrastructure, Transport, Regional Development, Communications and the Arts, Australia

Ms. Bronwyn Giese is responsible for the Women in Aviation program at the Department of Infrastructure, Transport, Regional Development, Communications and the Arts of Australia, with her case study focusing on lessons learned from the program to date.

While women are typically better represented in the aviation sector than other transport sub-sectors, this is largely due to the concentration of women in the feminized cabin attendant role, with their representation lower in higher-level managerial and technical roles. Meanwhile, there is a severe shortage of airline engineers due to retirement and an insufficient pipeline of new trainees via trade schools.

To address this challenge, The Department of Infrastructure has worked with industry bodies to fund research examining barriers experienced by women in the pipeline for aviation sector jobs (Barriers to the Pipeline Research Project⁴⁸) that surveyed a range of people working in the industry. The study ultimately sought to change the male-dominated working culture in the industry by designing a strategic action plan that addressed: 1) increasing job awareness among young women and attracting them to aviation roles; 2) fundamental cultural issues that harm retention of qualified women, and 3) increasing the proportion of women leaders. The effort led to the creation of a Speakers Bureau funded by the Australian government including a list of experienced women in transport that serves as a centralized resource to find women who can speak about their leadership experiences in the transport sector.⁴⁹

To close the case study, Ms. Giese called for a more holistic way of looking at women's needs, which will require including women in design and policymaking processes for transport. For example, addressing the gender pay gap in transport requires looking deeper than pay disparities and acknowledging gender segregation within the industry's subsectors and certain roles, while addressing the gender perspective in transport design requires examining how women's travel patterns differ from those of men. Government can serve the role of setting clear expectations for these topics for industry and employers to follow. In conclusion, Ms. Giese stressed that:

- Low-cost initiatives like the Women in Aviation program can also be effective at creating role models and addressing negative stereotypes.
- Collaboration with industry is essential.
- Data transparency can help women make more informed choices, while also encouraging industries to establish targets for change.

6.3 Outcomes: Results of Post-Workshop Survey Analysis

After the workshop, the attendees were invited to complete a post-workshop survey to provide their feedback on their experience of and learnings from the event, along with their personal and demographic information. The post-workshop survey was designed to evaluate the outcomes of the workshop as well as support APEC in making future improvements through suggestions on possible topics for the future workshops and other initiatives.

The survey consisted of a series of multiple-choice (required) and free response (optional) questions. The results from the multiple-choice questions suggest that the attendees of two workshops were generally satisfied with the overall outcomes of the workshop. The findings are also summarized below.

The following sections include an analysis of the post-workshop survey responses collected from workshop participants. In total, 18 responses were received. The goal of the survey was to seek feedback from economies on how well the event addressed the central objectives of the research, such as developing a greater understanding of relevant challenges and barriers, the existing policy

⁴⁸ <https://www.aviationaerospace.org.au/pages/women-in-aaa/barriers-to-the-pipeline-research-project>

⁴⁹ See also p.9 and p.31 for more information on the Women in Aviation initiative.

landscape around gender mainstreaming in the transport workforce, approaches to address challenges, policy gaps, and recommendations.

6.3.1 Workshop administration

n = 18	Strongly agree	Agree	Disagree	Strongly disagree
The pre-workshop notification and communications facilitated your seamless participation in the workshop.	6 (33%)	12 (67%)	0	0
The organisation of the workshop (agenda, activities, speakers) supported the overall objectives.	10 (56%)	8 (44%)	0	0
The length and order of the sessions was appropriate.	10 (56%)	8 (44%)	0	0
The workshop organisers were knowledgeable and capable of tailoring the workshop to meet participants' needs.	15 (83%)	3 (17%)	0	0
Overall, the workshop organisers were friendly and helpful.	15 (83%)	3 (17%)	0	0

According to the survey results summarized in the above table, all responding participants agreed that the workshop communication facilitated their participation, the overall agenda supported the objectives of the workshop, and that the workshop organisers were knowledgeable and supportive of participants' needs. Participants more often strongly agreed that the organisers were knowledgeable relative to statements regarding the communication and agenda of the workshop.

6.3.2 Workshop content

The first section of the post-workshop survey directly addresses the content of the workshop, asking respondents to rate the effectiveness of the proceedings in fostering a better understanding of the following topics:

- Challenges and barriers to gender mainstreaming in the transport workforce.
- The existing policy landscape surrounding gender mainstreaming in the transport workforce.
- Challenges to implementing gender mainstreaming policies in practice.
- How these challenges can be addressed.
- Policy gaps that need to be filled to further promote gender mainstreaming in the transport workforce.
- Examples of approaches/policies/practices pursued by other economies related to gender mainstreaming in the transport workforce.
- Best practices and recommendations that could be applied in participants' own economies.

Participants were asked to rate their agreement with statements speaking to above-mentioned topics (Agree/Strongly Agree, Disagree/Strongly Disagree).

The results showed broad agreement among responding participants that the workshop sufficiently addressed its objectives and provided an effective overview of challenges, policies and best practices for gender mainstreaming in the transport sector. Relative differences in the proportion of 'strongly agrees' versus 'agrees' seem to suggest that economies have a solid grasp of challenges and policy gaps, which may suggest that future work should focus on development and piloting of policies, exchanging information on success stories, and monitoring and evaluation to validate promising approaches.

Challenges and barriers

n = 18	Strongly agree	Agree	Disagree	Strongly disagree
The workshop helped me better understand the existing challenges and barriers to gender mainstreaming in the transport workforce.	15 (83%)	3 (17%)	0	0
The presentations provided valuable insights on how these challenges can be addressed.	12 (67%)	6 (33%)	0	0

When asked if the workshop built understanding regarding the challenges and barriers to gender mainstreaming in the transport workforce, no respondents disagreed. 83% (15 respondents) strongly agreed, while 17% (3 respondents) agreed.

Meanwhile, only 67% of respondents (12 respondents) strongly agreed that the workshop provided insights on how these challenges can be addressed, which may suggest the need for greater work by economies and APEC as a whole on exploring effective policy approaches for gender mainstreaming in the transport workforce.

Existing policy landscape

n = 18	Strongly agree	Agree	Disagree	Strongly disagree
The workshop helped me better understand the existing policy landscape surrounding gender mainstreaming in the transport workforce in the APEC region.	12 (67%)	6 (33%)	0	0
The presentations provided valuable insights on how these challenges can be addressed.	12 (67%)	6 (33%)	0	0
The presentations helped me understand the challenges to implementing gender mainstreaming policies in practice.	12 (67%)	6 (33%)	0	0
The workshop highlighted useful examples of approaches/policies/practices pursued by other economies related to gender mainstreaming in the transport workforce.	11 (61%)	7 (39%)	0	0

67% of respondents (12 respondents) strongly agreed that the workshop built their understanding of the existing policy landscape for gender mainstreaming in the transport workforce, with 33% (6 respondents) agreeing. No respondents disagreed with the statement.

The same proportion of participants strongly agreed that the workshop built their understanding of the challenges to implementing gender mainstreaming policies in practice, with 67% (12 respondents) strongly agreeing and 33% (6 respondents) agreeing. No respondents disagreed with the statement. Similarly, 67% of respondents (12 respondents) strongly agreed that the workshop provided insights on how these challenges can be addressed.

Within questions regarding current policies, the smallest proportion of respondents (61%, eleven respondents) strongly agreed that the workshop provided useful examples of policies and practices from other economies. The smaller proportion of respondents strongly agreeing with statements regarding policy approaches seems consistent with results of the pre-workshop survey, where few economies felt confident their existing policy measures were effective or indicated that they lacked strategies to address gender mainstreaming in the transport workforce.

Policy gaps and recommendations

n = 18	Strongly agree	Agree	Disagree	Strongly disagree
The workshop helped me better understand policy gaps that need to be filled to further promote gender mainstreaming in the transport workforce.	14 (78%)	4 (22%)	0	0
The best practices and recommendations discussed during the workshop could be helpful in figuring out next steps to be taken in my own economy.	10 (56%)	8 (44%)	0	0

78% of respondents (14 respondents) strongly agreed that the workshop helped them understand current policy gaps, while 22% agreed (four respondents), with no respondents disagreeing.

Meanwhile, only 56% of respondents (ten respondents) strongly agreed that the workshop provided best practices and recommendations that could be pursued in their own economies, with 44% of respondents (eight respondents) agreeing.

These results seem to indicate that participating APEC economies have a solid grasp of current policy gaps, while the smaller proportion of candidates strongly agreeing that best practices could be helpful in their economies is perhaps indicative of further work that needs to occur within individual economies and collaboratively via APEC to identify promising approaches that can be readily adapted to economy circumstances.

6.3.3 Participant understanding before and after the workshop

Participants were asked to rate their level of knowledge on the workshop content before and after the workshop. The results demonstrate there is no participants with ‘low’ knowledge left the workshop as such, with almost all of the five ‘medium’ knowledge participants moving to higher levels of knowledge, and three even advancing from ‘high’ to ‘very high’. Overall, the workshop resulted in no participants in the ‘low’ or ‘very low’, and over 90% of respondents in the ‘high’ or ‘very high’ category.

Knowledge level	Before workshop	After workshop
Very low	0	0
Low	3	0
Medium	5	1
High	10	14
Very high	0	3

6.3.4 Insights from the workshop, future topics to cover, and application of knowledge

In an optional section, respondents were asked to identify: the most useful insights that they gained from the workshop; related topics that were not covered in this workshop for discussion in future workshops; and how they will apply the content and knowledge from the workshop at their own workplaces.

Some themes emerged among what participants identified as the most valuable insights from the workshop, which included:

- The multi-dimensional nature of challenges for women in the transport workforce, as well as success factors for policy interventions such as balancing policy mandates with incentives.
- The need for better data and approaches to measure the effects of gender-related policies in the transport sector to track progress and identify areas for improvement.
- The need for work that addresses soft skills, culture, (physically and psychologically) safe workplaces, and work-life balance for women in transport (e.g., parental leave), in addition to existing programs that address technical and job skills.

- The need to examine gender mainstreaming in the transport workforce through deeper perspectives, such as: the concept of intersectionality across sectors, public/private sector collaboration, societal concerns, and the exploration of equity versus equality along with challenges beyond the gender gap.

Items that participants noted for potential discussion in future workshops are summarized below:

- The challenges and experiences of women in specific segments of the transportation sector. The maritime sector was mentioned several times, in addition to the public transportation sector.
- The need for an improved methodology and data analysis to demonstrate the value of gender mainstreaming in transportation broadly (including organizational and economic perspectives), within sub-sectors, and among professional ranks (entry level, professional roles, managerial level, and leadership).
- The need to examine the issue from perspectives beyond gender equity, such as intersectionality, women with disabilities, and sustainability.

A summary of items shared by participants regarding how they would apply workshop insights at their workplaces is included below:

- Planning, implementation, and monitoring of policies designed to encourage women's participation in the transport workforce.
- Sharing knowledge from the workshop among their organization such as examples of successful policies to increase buy-in, as well as building off workshop topics via organizing internal events and inviting speakers to share best practices.
- Initiating collaboration with colleagues in APEC economies to further generate opportunities for women that benefit transportation and its sub-sectors, especially public/private sector collaboration.

6.3.5 Next steps

Participants were also asked to share any ideas on how future APEC workshops may be organized to better serve their objectives. Their responses are summarized below:

- Earlier notification of the workshop would be helpful to allow participants more time to seek approval for attendance. Another participant mentioned the workshop would benefit from more economies' attendance, with earlier notification of the workshop feasibly making it easier for more delegates to attend.
- Greater involvement of professionals in transportation sub-sectors, especially the maritime sector.

They were also asked to identify future areas of work in which APEC could better address economies' needs in the subject matter, with common themes including:

- Support for economies to collect data and regularly evaluate the effectiveness of existing policies.
- Energize the TPTWG Women in Transportation Initiative and create connections between the different working groups to maximize best practices in labor, finance, etc. that benefit and impact transportation, including measures that allow economies to receive support from other economies that have demonstrated success in certain policy areas. Further workshops on gender mainstreaming in the transport workforce were also suggested.
- Support for capacity building among female transport sector workers (including professional and soft skills), as well as awareness raising for male workers on gender equality.

7 Recommendations

The Mainstreaming Gender for the Transportation Workforce for Sustainability workshop served as an opportunity for transport stakeholders across the APEC region to share best practices to address the gender gap in the transport industry and seek out any remaining policy gaps. Active discussion

between the participants was carried out in the form of a series of panel discussions and a breakout session involving all participants.

The following sections summarize the best practices currently adopted in the APEC region to overcome gender-related workforce challenges in the transport industry, as well as policy recommendations for future work in gender mainstreaming, derived from the literature and survey research results and the workshop findings.

7.1 Best Practices

The pre-workshop survey results suggested that the most common interventions currently active in economies were related to creating a more robust pipeline of women qualified to work in the transportation sector. Further, when economies were asked to select the top policies or measures that have so far seen the most success in promoting gender equality in the sector, the most popular were measures to raise awareness of career opportunities for women, programs to increase women's participation in training & qualification programs, and policies to increase data collection and define metrics to better capture the gender dimension of the transportation workforce.

At the Mainstreaming Gender for the Transportation Workforce for Sustainability workshop, participants engaged in a collaborative activity to map out the policies and programs that currently exist in the APEC region by weighing two factors: feasibility and impact. The following graphic provides a summary of the best practices identified through this activity.

Figure 14: Best practices identified in the Mainstreaming Gender Workshop



7.2 Recommended Policy Initiatives

This section lists policy recommendations for future work in gender mainstreaming in the transport workforce, derived from the literature review on existing policy measures, survey research results, and discussions during the workshop on remaining policy gaps.

Increase international collaboration in data collection

The review of previous work on the topic of gender mainstreaming in the transport workforce as part of the policy analysis study found that government has a key role to play in addressing the gender gap through fundamental work to uncover the nature of current challenges and barriers, evaluate existing policies, and target future interventions through effective data collection and analysis.

The pre-workshop survey found gaps in the collection of relevant data among APEC economies, but results also showed that most economies planned to pursue further research and data efforts commonly coordinated with industry stakeholders and other relevant government agencies. Further data and research were also recognized as good steps forward in the workshop, with acknowledgement by participants that the availability of data showing the concrete benefits of gender mainstreaming could be effective in promoting action by employers.

The literature and survey findings as well as discussions in the workshop pointed to the importance of implementing an integrated and collaborative approach to close data gaps with the goal of holistically understanding what discourages women to enter and remain in the transportation workforce, and what policies or practices show promise. This often involves addressing data silos and data fragmentation issues due to the dispersed nature of gender-related transport data.

Another key consideration as economies work to strengthen their data collection efforts is the importance of reliable data points and metrics. A challenge that came up in the pre-workshop survey which was echoed in the literature was the absence of shared metrics or indicators both within and across economies, which poses a challenge to accurate data analysis. The APEC Women in Transport (WiT) Data Framework has been a key effort by APEC to achieve the level of visibility needed for benchmarking, setting goals and measuring progress related gender mainstreaming, and there is further potential for APEC to serve as a forum for developing best practices for effective data collection.

The discussion in both the literature and the workshop pointed to the importance of increased stakeholder engagement beyond the transport sector in recognition that challenges and gaps are present across the transport ecosystem (education, transportation firms, government) and society at large. As discussed in the point above, coordination between multiple stakeholders within an economy is required to overcome data silos that present a roadblock to accurately capturing the existing challenges and current status of gender mainstreaming.

This is also key for the development of policies and programs designed to address the problem. For example, educational institutions may play a role in raising awareness or combatting negative stereotypes, while public and private transport employers could pilot new human resources practices and standards to pilot their effectiveness and produce success stories.

Policy frameworks and institutionalization

The development of policy frameworks and institutionalization of gender mainstreaming in the transport workforce also represents an opportunity, given that fewer economies in the survey had such a strategy for the workforce specifically while the majority had some type of strategy for transport in general. The development of strategies and institutionalization was also repeatedly highlighted as a role for economies in the Workshop, serving roles such as:

- Establishing goals, targets and mechanisms for accountability.
- Coordinating efforts and sharing information with relevant government ministries (such as labor and education).
- Preserving continuity for efforts across changes in government.

It is also important to align economy-level policies with international policy frameworks or standards with an eye to achieving the goal of establishing laws and regulations on key issues affecting women in all sectors, such as equal pay, family leave and anti-discrimination laws. Uneven implementation or enforcement may be responsible for the lack of an apparent relationship between these laws and better gender parity in the sector.

Build a robust talent pipeline: education and training

Literature research suggested that education and training programs aimed at increasing participation of women in the transportation sector requires work beyond simply targeting female recruits; for example, programs should address gender stereotypes that shape how such programs are advertised, and increase clarity around skills and qualifications that are necessary for currently available roles. The survey revealed that such measures are relatively common among responding economies (e.g., raising awareness of available opportunities for women, driving participation in education and training).

In spite of the important role that education and skills play, some workshop participants questioned how effective measures to build a robust pipeline would be absent a transformation in the male-dominated culture of the transportation sector. Others suggested that addressing harmful stereotypes would need to begin at childhood and continue through adolescence and adulthood, which would necessitate coordination of educational institutions at several levels. Participants also discussed the need to formalise mentor/mentee relationships so that more women have access to good role models. A participant from academia in Viet Nam suggested the possibility for APEC to explore the creation of an online mentorship forum for female students seeking transport careers.

One participant from an economy reporting relatively high enrollment of female students in transportation universities shared that women were largely concentrated in policy and economics programs, whereas engineering programs were dominated by men, suggesting that gender segregation in certain types of roles can persist even with broader female participation in education programs. Stakeholders seemed to agree that broader cultural and societal issues called for measures that encourage women and address barriers at multiple stages of educational and career development.

Explore HR and workplace practices for recruitment and retention

While literature of women in the transport workforce placed a strong emphasis on the roles and practices of transport employers related to recruitment, retention and career advancement (both as challenges and areas for intervention), the survey results revealed that measures related to increasing the pipeline of qualified workers via education and training were more common compared to policies targeting employers. Given that working conditions in the sector were frequently noted as challenges in the survey and workshop proceedings, there is perhaps a greater opportunity for economies to work with industry on how human resource practices could be transformed to better support the needs of women.

One recommendation that repeatedly came up during the workshop was the need to swiftly address acute concerns of safety and wellbeing for female workers in certain roles or work conditions. Some examples raised were strictly enforcing sexual harassment and discrimination rules and requiring inclusive facilities such as separate dressing rooms and bathrooms and nursing facilities.

Several participants in the workshop also raised the challenges of utilizing government mandates on private business to facilitate change. Meanwhile, literature suggests existing economy-wide legal measures to protect women's interest in the workplace (anti-discrimination, paid leave, etc.) may be enforced inadequately. If APEC economies have limited capacity or desire to intervene with firm practices that shape how women experience transportation workplaces, they may need to rely on incentives, guidance or assistance to firms to facilitate change.

Coordinate with policymaking efforts for women as transport users

While the literature research and survey for the present study primarily focused on gender issues pertaining to the transportation workforce, the topic of inadequate consideration of women's needs as users of transportation services frequently emerged alongside discussions of workforce issues during the workshop. Lack of reflection of women users' perspectives in transportation policy and limited representation of women in the transport workforce are two challenges that can build on and reinforce each other, causing a vicious cycle. It has been well documented that having fewer women in leadership roles in transport planning is leading to a lack of reflection of women's perspectives in transport policy design. Conversely, transportation systems designed primarily around male transport patterns and needs are also becoming a limiting factor for women seeking certain transport careers.

Given the majority of economies have some type of gender policy or strategy for the transportation sector generally, there may be an opportunity for economies to coordinate policy efforts that target improving gender equality for women as transport users and policies to promote gender mainstreaming in the transport workforce.

Design future policies through an intersectional lens

At the workshop, several panelists and participants raised the need to further explore the intersection of gender with age, ethnicity, race, disability status, class, and other categories that create unique challenges for certain subsections of women within the transport workforce. Gender mainstreaming in the transport workforce may present an opportunity to pursue broader inclusivity by examining how challenges faced by women are intensified or overlap with those faced by other groups. This is an important area to explore in the future in order to design transport workforce policies that are truly equitable and inclusive.

8 Limitations

This section describes the limitations of the present study that may have influenced the outcomes and conclusions of the research. The limitations are discussed to provide further context for readers of the report and to aid future investigation of the topic.

- **Data comparability.** Data limitations pose a challenge in the accurate and detailed analysis of gender issues in the transport workforce across the APEC region. One challenge is that there are yet no clear-cut, agreed-upon metrics to evaluate the various aspects of the transport workforce as well as the policies and programs and their effectiveness across economies and often even within a single economy. Data concerning key variables that influence the level of women's participation in the workforce are often missing detailed nuances (e.g., data by types of roles, employment status (full vs. part-time), and level of employment (entry-level vs. management)), and the frequency and scope of data collection may differ across economies. In addition, there may be significant differences in how economies define various concepts and metrics, which may add to the challenge of data comparability. The APEC Women in Transport (WiT) Data Framework published in 2015 and updated in 2017 is an important step towards aligning data metrics within the APEC region to increase the reliability of data collection and analysis.
- **Modal and regional differences.** A challenge experienced when filling out the survey that was pointed out by a few economies was the considerable variation in the progress of gender mainstreaming even within a single economy. Challenges and barriers can vary substantially based on transport divisions (ground, air, maritime), sub-sector (public transport, commercial aviation, logistics), roles (policy, services, engineering), job-level, and region. This level of complexity complicates the role of government in achieving sector-wide change. This was apparent during the workshop, especially in discussions concerning the unique experience of women in the maritime sector.
- **Overlapping authorities.** Addressing the issue of gender diversity in the transport workforce typically involves the work of different levels of government (e.g., federal and local) and several line ministries (e.g., transport, labor, education). This could lead to overlapping mandates and

unclear lines of policy-making authority, especially in the absence of an effective coordinating mechanism. Several respondents to the survey (which was mostly directed at MOT, DOT or equivalents) mentioned the challenge of formulating a single response for their economy due to this fact. In some cases, the MOT/DOT coordinated with other government departments to come up with an economy-level response, and in other cases, respondents chose the “not sure” option to questions that required input from other stakeholders. One economy noted that the survey request revealed the fact that the government was missing a clearly defined policy-making authority concerning gender issues in transportation. While this may be considered a limitation of this study, it is important to note that the survey request seemed to also shine a light on the issue of overlapping jurisdiction and in some cases served as a starting point for discussion and coordination among relevant authorities.

- **Capacity challenges.** Literature, survey and workshop proceedings all included acknowledgement that transportation organizations have variable capacity (expertise, resources) to adopt industry best practices for gender mainstreaming. While large firms may readily adopt HR practices or address gender disparities in facilities or equipment, smaller firms may simply lack the knowhow or finances to pursue such goals. These capacity disparities are also present across federal, regional and local levels of government and across different geographies (e.g., rural vs. urban), meaning that economy-wide policies and programs may struggle to generate results outside of direct intervention by line ministries or outside of major cities. Several economy representatives also pointed out that gender issues were given a lower policy priority by their government. This could also lead to a limitation of resources and capacity for economies to participate in research and knowledge-sharing activities like the present study.
- **Addressing gender diversity.** While the study revealed that there is still much work to do to increase women’s representation in the transport workforce, it is important to note that most transportation research to date defines gender as binary, excluding the experiences of transgender, non-binary, and gender nonconforming individuals. As in any other policy area, it is important to examine the unique barriers that exist for gender minorities, as well as policy considerations that may be needed to include all groups.
- **Politicization and backlash to gender-related efforts.** Certain workshop participants noted a growing backlash to gender and diversity-related efforts in their economies, with programs using language such as “gender perspective” generating political opposition even for rather simple initiatives (e.g., a government effort to construct bathrooms for women fishermen). In a context where gender mainstreaming becomes politically controversial, economies must exercise caution in how policies and programs are advertised and design them in such a way that reduces the likelihood that they inspire public backlash or that they are repealed by future political administrations.

9 Conclusions and Potential Next Steps for APEC Economies

The goal of this project was to build on past APEC work concerning women's workforce participation in the transportation sector, namely by increasing visibility into existing challenges and barriers to gender equality in the transport workforce, evaluating existing policies and initiatives carried out across APEC economies, and identifying best practices as well as policy gaps to address in the coming years.

The policy analysis frequently highlighted working conditions in the sector as key barrier, including a lack of work-life balance and the gender wage gap, and conditions in the workplace related to occupational health, hygiene safety issues, gender-based discrimination and harassment, and a dominant culture of masculinity. These challenges make it difficult to not only recruit but retain women in transport jobs. While survey results also found working conditions to be the most severe challenges as experienced by women, it was also found that economies were less likely to collect data on gender-related practices of employers. Participants in the workshop frequently emphasized how a lack of support mechanisms at the workplace led to women leaving the sector or discouraged them from pursuing transportation work in the first place.

Cultural stereotypes about transportation as "men's work," and those regarding the abilities and roles of women, have also been found to shape women's (and men's) attitudes about transportation jobs and may contribute to limited outreach to younger women for relevant education and training beginning at a young age. The survey largely reflected this, with economies most commonly finding factors related to qualifications, training and job perceptions as the most severe. Some workshop participants noted that while some education and training programs were starting to show value, retention remains a challenge due to limited mentorship and career development opportunities.

The survey revealed that the most common policy interventions currently active in the APEC region were related to creating a more robust pipeline of women qualified to work in the transportation sector, while policies targeted at improving HR or workplace practices to boost the recruitment and retention of women were much more limited in scope. When asked to rate the effectiveness of existing interventions, many economies named measures related to education and career awareness as the most impactful; however, notably, none of the economies thought that their policy efforts had been very effective thus far, signaling a widespread sentiment that there remains much work to be done to achieve gender mainstreaming in the sector.

Between the pre- and post-workshop surveys and the workshop itself, several themes emerged among participants' statements regarding future steps APEC economies can take to achieve gender parity goals for the transport workforce:

- The value of continued discussion and collaboration among APEC economies to build on the current understanding of challenges and momentum in discussions was highlighted frequently. Future discussions could focus more closely on experiences with policy frameworks and successful programs to create examples for economies to adapt to their local circumstances.
- Continued data collection and research on the issue of women in the transportation workforce was framed as key to understanding where and how challenges manifest, suggesting potential interventions, and evaluating their effectiveness. APEC could serve as a venue to define and refine shared metrics and indicators that are foundational to these data collection efforts. APEC can also promote and support data collection efforts across the region, especially in economies that are lacking resources or expertise.
- Greater institutional and stakeholder coordination is a potential area for economies to explore given how key challenges manifest at the individual, firm, industry and societal level. A greater understanding of how firm practices impact the recruitment and retention of women may reveal best practices, which economies could promote and refine via industry bodies. Given barriers can be traced to areas outside of the direct remit of transportation line ministries, such as the education sector and society at large, collaboration should extend beyond transportation stakeholders.
- The conditions for women in transportation workplaces, and specifically discrimination, harassment and safety, were often framed as critical challenges that need immediate attention via approaches such as enhanced regulations or norms, broader cultural education addressing

misogyny and stereotypes, and exploring approaches to more closely involve male allies. Even if some recruitment and awareness-raising efforts are initially successful, retention of women will suffer absent cultural change.

- While not exclusively related to the transport industry, flexible working arrangements in the context of childcare and unpaid household labour were considered among the most important aspects impacting women in transport roles. Potential future areas of discussion in venues like APEC include expanded government support for childcare or incentives for sharing of unpaid caring duties typically fulfilled by women.
- The role of new technologies in facilitating more inclusive workplaces and reducing barriers for women can be explored more deeply, as well as emerging demand for new skills relate to these technologies.

10 Annex

The following survey was distributed to transportation public policy officials in APEC economies between November 2023 and March 2024.

Mainstreaming Gender in the Transport Workforce for Sustainability Pre-Workshop Survey

The following questions aim to examine barriers and challenges to women’s participation in the transport workforce and identify promising policies and approaches in APEC to close the gender gap.

By completing and returning this form, I consent to the collection, use and disclosure of the personal data provided below to the APEC Secretariat, for the purposes of project administration and evaluation and to be handled in accordance with the APEC Secretariat Personal Data Protection Policy.

Questions about the respondent

1. Name of APEC Economy

2. Name of Organization

3. Gender of Respondent

4. Name of Respondent (optional)

5. Job Title of Respondent (optional)

6. How knowledgeable are you about the topic of gender equality in the transportation industry?

- Not at all knowledgeable
- Slightly knowledgeable
- Neutral
- Fairly knowledgeable
- Very knowledgeable

Status of gender mainstreaming in the transportation sector

7. Approximately what percentage of the transportation workforce in your economy are women? (select one)

- 0 - 5%
- 6 - 10%
- 11 - 15%
- 16 - 20%
- 21 - 25%
- More than 25%
- Not known

8. Does your government conduct a periodic review of the status of gender equality in the transportation workforce? (select one)

- Yes
- No

9. What data is collected by the government of your economy related to women’s workforce participation in the transportation sector? (select all that apply)

- Overall participation of women in the transportation sector
- Participation of women in different divisions of the transportation sector (e.g., airlines, marine, road and rail, etc.)
- Participation of women in different job types within the transportation sector (e.g., operator, dispatcher, transportation planner, etc.)
- Participation of women in different employment categories (i.e., part-time, full-time, flexible-time, temporary, etc.) in the transportation sector
- The share of women in different job levels (e.g. entry, middle, senior management, etc.) in the transportation sector

10. What other data is collected by the government of your economy, if any, related to gender equality in the transportation sector? (select all that apply)

- Gender wage gap
- Barriers and challenges faced by women in the transportation sector
- Barriers and challenges faced by employers in promoting gender equality in the transportation sector
- Factors positively influencing women’s participation in the transportation sector
- Gender-related policies & practices of transportation sector employers
- Other, please specify

Challenges/barriers for gender equality in the transportation workforce

11. How significant are the following **challenges/barriers faced by women** in advancing gender equality in the transportation workforce in your economy?

	Not at all significant	Slightly significant	Neutral	Fairly significant	Very Significant	Not sure
Labor conditions in the sector (e.g., fixed schedules and hours, living and working away from home, irregular contracting arrangements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of flexible working arrangements and work-life balance (e.g., lack of flexible hours, maternity leave, childcare)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occupational health, hygiene and safety issues (e.g., lack of separate sanitary facilities for women, equipment etc. not adapted for women)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gender-based violence and sexual harassment in the workplace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gender stereotyping (attitudes about women versus men's work, social attitudes about woman's ability to perform the job)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gender wage gap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of opportunities for training & career advancement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. If there are any other significant **challenges/barriers faced by women** in advancing gender equality in the transportation workforce in your economy not listed above, please provide a brief description.

13. How significant are the following **challenges/barriers faced by employers** in advancing gender equality in the transportation workforce in your economy?

	Not at all significant	Slightly significant	Neutral	Fairly significant	Very Significant	Not sure
Lack of women candidates with the needed training & qualifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of interest in transportation careers among women	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Job perception by women	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Policies/legal restrictions affecting women's workforce participation in the transportation sector (e.g., restrictions on women's night work)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited participation of women & girls in relevant STEM and technical education programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of candidates (regardless of gender) with the right skills (i.e., a skills shortage)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. If there are any other significant **challenges/barriers faced by employers** in advancing gender equality in the transportation workforce in your economy, please provide a brief description.

Policies to advance gender equality in the transportation workforce

15. Which of the following employment regulations or laws concerning women exist in your economy? (select all that apply)

- Equal pay laws
- Laws on maternity/parental leave
- Laws on childcare provision
- Workplace/employment anti-discrimination laws

16. Does your economy have an overarching strategy for promoting gender equality in the transportation sector (including women as users of transportation services)? (select one)

- Yes
- No

17. If yes, what is the name of the strategy, and when did it go into effect?

18. Does your economy have a strategy for promoting women's participation in the transportation workforce? (select one)

- Yes
- No

19. If yes, what is the name of the strategy, and when did it go into effect?

20. Which of the following policies or measures concerning gender equality in the transportation workforce are **currently active** in your economy? (select all that apply)

- Policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce
- Policies to increase research on women's issues in the transportation sector
- Measures to raise awareness of career opportunities for women in the transportation sector
- Promotion of human resources policies that contribute to the hiring & retaining of women among transportation employers (e.g., target-setting, targeted recruitment drives)
- Measures to combat gender stereotyping and discrimination in the transportation sector
- Measures/programs to promote STEM education/career awareness among girls
- Programs to increase women's participation in relevant training & qualification programs
- Measures to ensure government contracting in transportation is accessible to women (e.g., gender clauses in government procurement, certifying women-owned enterprises)
- Other, please specify

21. Does your government regularly evaluate the progress of policy interventions to promote gender equality in the transportation sector? (select one)

- Yes
- No

22. Which of the following indicators or metrics are used by the government in your economy to demonstrate the success of policy interventions to promote gender equality in the transportation workforce? (select all that apply)

- Overall participation of women in the transportation sector
- Participation of women in relevant education & training programs
- Proportion of women leaders in transportation sector organizations
- Wages of women relative to men in the transportation sector
- Gender-related policies & practices of transportation sector employers
- Factors positively influencing women's participation in the transportation sector
- Other, please specify

23. How effective have policy interventions to promote women's participation in the transportation sector in your economy been to-date?

- Not at all effective
- Slightly effective
- Neutral
- Fairly effective
- Very effective

24. Which of the following policies or measures have been the most effective in promoting gender equality in the transportation sector in your economy to-date? (**select up to 3**)

- Policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce
- Policies to increase research on women's issues in the transportation sector
- Measures to raise awareness of career opportunities for women in the transportation sector
- Promotion of human resources policies that contribute to the hiring & retaining of women among transportation employers (e.g., target-setting, targeted recruitment drives)
- Measures to combat gender stereotyping and discrimination in the transportation sector
- Measures/programs to promote STEM education/career awareness among girls
- Programs to increase women's participation in relevant training & qualification programs
- Measures to ensure government contracting in transportation is accessible to women (e.g., gender clauses in government procurement, certifying women-owned enterprises)
- Other, please specify

25. Which of the following policies or measures concerning gender equality in the transportation workforce is your economy considering **newly adopting in the future**? (select all that apply)

- Policies to increase data collection and define appropriate metrics to better capture the gender dimension of the transportation workforce
- Policies to increase research on women's issues in the transportation sector
- Measures to raise awareness of career opportunities for women in the transportation sector
- Promotion of human resources policies that contribute to the hiring & retaining of women among transportation employers (e.g., target-setting, targeted recruitment drives)
- Measures to combat gender stereotyping and discrimination in the transportation sector
- Measures/programs to promote STEM education/career awareness among girls
- Programs to increase women's participation in relevant training & qualification programs
- Measures to ensure government contracting in transportation is accessible to women (e.g., gender clauses in government procurement, certifying women-owned enterprises)
- Other, please specify

26. Does the government in your economy work with any of the following stakeholders to promote gender equality in the transportation workforce? (select all that apply)

- civil society
- transport industry
- transport labor unions
- educational institutions
- inter-agency collaboration (e.g., collaboration between transport and gender-related ministries)
- Other, please specify

Best practices to advance gender equality in the transportation sector (optional)

As part of this research project, the research group is seeking to identify examples of leading policy initiatives (best practices) in the APEC region to advance gender equality in the transportation sector. A selection of these policy initiatives will be showcased in the knowledge sharing workshop to be held in February/March 2024 and the resulting final report.

Please respond to the following questions if your economy is interested in sharing a leading policy initiative from your economy with the research group and other APEC economies for the purpose outlined above.

27. What is the name of the policy or initiative?

28. When was it launched?

29. Please provide a brief description of the policy initiative (purpose, activities, achievements to date) and/or links to publicly available information.

30. Who can be contacted for further information? (Please provide the name & email address of the contact person).

31. Would your economy be interested in sending a speaker to showcase a policy initiative in the Workshop to be held in Ha Noi, Viet Nam in February/March 2024? (If yes, please provide the name & email address of the contact person).