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## **APEC Women in Transportation Data Framework and Best Practices Report**

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Asia-Pacific  
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# APEC WOMEN IN TRANSPORTATION DATA FRAMEWORK AND BEST PRACTICES REPORT

October 2015

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# APEC WOMEN IN TRANSPORTATION DATA FRAMEWORK AND BEST PRACTICES

US-APEC Technical Assistance to Advance Regional Integration  
(US-ATAARI)

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# CONTENTS

<b>Acronyms</b>	<b>i</b>
<b>Foreword</b>	<b>iii</b>
<b>Acknowledgements</b>	<b>v</b>
<b>Executive Summary</b>	<b>vii</b>
<b>Introduction</b>	<b>I</b>
WiT: A methodology for strengthening conditions for women in the sector	I
The case for more women in transportation	3
Data on gender and transportation: Dispersed, Imprecise, Elusive	5
<b>Part I. Data Framework</b>	<b>9</b>
<b>1. Education</b>	<b>11</b>
Awareness and First Steps	11
Secondary Education and TVET	12
Higher Education	13
Apprenticeships	14
<b>2. Entry into Sector</b>	<b>17</b>
Stereotypes and Perceptions	17
Equality and Eligibility	18
Recruitment	19
Entrepreneurship	20
<b>3. Retention</b>	<b>23</b>
Compensation	23
Flexibility	24
On-the-Job Safety	25
Technology	27
<b>4. Leadership</b>	<b>29</b>
Investment in Women	30
Opportunity	31
Recognition	32
<b>5. Access and Use</b>	<b>33</b>
Data	33
Planning and Investment	34

Passenger Safety	35
<b>Part II. Best Practices</b>	<b>37</b>
<b>References</b>	<b>62</b>
<b>Appendix A. Suggestions for WiT Programs and Activities</b>	<b>A-1</b>
<b>Appendix B. Introduction to data framework May 2015</b>	<b>B-1</b>

## Illustrations

### Figures

Figure 0-1. The WiT Framework: 5 Pillars and 18 Priority Outcomes	vii
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### Exhibits

Exhibit 0-1. <i>Why More Women Are Needed in Transportation</i>	5
Exhibit 3-1. Impact of Unsafe Truck Stops on Retaining Female Drivers	26

### Tables

Table 1-1. Education: Actions and Indicators for Awareness and First Steps	12
Table 1-2. Education: Actions and Indicators for Secondary Education and TVET	13
Table 2-1. Entry into Sector: Action and Indicator for Stereotypes and Perceptions	18
Table 2-2. Entry into Sector: Actions and Indicators for Equality and Eligibility	19
Table 2-3. Entry into Sector: Actions and Indicators for Recruitment	20
Table 2-4. Entry into Sector: Actions and Indicators for Entrepreneurship	21
Table 3-1. Retention: Actions and Indicators for Compensation	24
Table 3-2. Retention: Actions and Indicators for Flexibility	25
Table 3-3. <i>Retention: Actions and Indicators for Safety</i>	27
Table 3-4. Retention: Actions and Indicators for New Technology	27
Table 4-1. Leadership: Actions and Indicators for Investment in Women	30
Table 4-2. Leadership: Actions and Indicators for Opportunity	31
Table 4-3. Leadership: Actions and Indicators for Recognizing Women as Leaders in Sector	32
Table 5-1. Access and Use: Actions and Indicators for Data on Women as Passengers	34
Table 5-2. Access and Use: Actions and Indicators for Integrating Women's Views	35
Table 5-3. Access and Use: Safety Improvements for Women as Passengers	35
Table 6-1. Women in Transportation: Illustrative Best Practices	37

# ACRONYMS

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
GDP	Gross domestic product
ICT	Information and communications technology
ILO	International Labor Organization
ILOSTAT	ILO Statistics Database
ISIC	International Standard Industrial Classification
M&E	Monitoring and evaluation
NGO	Nongovernmental organization
OECD	Organization for Economic Cooperation and Development
PPWE	Policy Partnership on Women and the Economy
SME	Small and Medium-size Enterprises
STEM	Science, Technology, Engineering, and Mathematics
TPTWG	Transportation Working Group
TVET	Technical Vocational Education and Training
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
US-ATAARI	US-APEC Technical Assistance to Advance Regional Integration
USDOT	United States Department of Transportation
WiT	Women in Transportation







## **U.S. Department of Transportation**

*Message from U.S. Department of Transportation, Assistant Secretary for Aviation and International Affairs, Susan Kurland*

# **Women's inclusion in transportation is crucial to its continued development and success.**

On behalf of U.S. Department of Transportation Secretary, Anthony Foxx, I am proud to introduce the Women in Transportation Framework, a guide for APEC economies, the private sector, multilateral organizations and non-profits to increase women's inclusion in the transportation sector.

While women make up over half of the human population, they do not have the same economic opportunities as men. This disparity is even more pronounced in traditionally male dominated sectors, like transportation, where in the United States women only make up 13 percent of transportation workers. In addition to workforce issues, women do not have equal access to transportation systems across the APEC region – due to proximity to public transit, increasing costs, and safety concerns.

The WiT Framework addresses these issues through five pillars: education, hiring and entrepreneurship, retention, leadership and user access. It pairs desired outcomes with specific actions and metrics, providing APEC economies and partners a menu of options to increase women's inclusion.

The APEC Transportation Ministers have acknowledged the importance of this initiative, and through the work of the Women in Transportation (WiT) Task Force, are tackling them head on. The publication of the WiT Framework reflects the Task Forces' sustained and substantial efforts up to this point and, over the next few years APEC, economies will continue to lead the charge by piloting this framework at home.

This framework and best practices compendium will be a living document, and its prescriptions are not set in stone. As economies begin implementation, this document will grow and change as we learn what works.

I am proud of the United States' leadership in this initiative, and am extremely grateful to our partner economies in APEC, particularly the WiT Task Force co-chairs, the Philippines and Vietnam. I hope that all 21 APEC economies will embrace the challenge this framework puts forward, and I look forward to our continued efforts to increase women's inclusion throughout the transportation sector.



# ACKNOWLEDGEMENTS

Under the leadership of Susan Kurland, Assistant Secretary for Aviation and International Affairs, U.S. Department of Transportation, the APEC Women in Transportation Data Framework and Best Practices initiative has benefited from the contributions of many dedicated individuals and organizations. Working closely with Ann Shikany, a Senior Advisor at the U.S. Department of Transportation, the US-APEC Technical Assistance to Advance Regional Integration (US-ATAARI) project, as implemented by Nathan Associates Inc., prepared the Data Framework and Best Practices compendium. Louise Williams and Tess Perselay of US-ATAARI were principal authors, while the project was managed by Ann Katsiak, US-ATAARI Deputy Chief of Party. Valuable assistance was also provided by Victoria Waite, US-ATAARI Chief of Party; Susan Chodakewitz, CEO of Nathan Associates; and US-ATAARI staff members Ekaterina Lvin, Caroline Rubin, Turner Shaw, and Leanne Sedowski. The team also relied on support from Bryna Helfer and Christopher Clement of the U.S. Department of Transportation and Deanne De Lima, Emily Fischer, and Greta Schettler of the U.S. Department of State. Barbara Hazzard from the National Center for APEC and Jeffrey Hardee of the APEC Business Advisory Council also provided invaluable assistance.

The whole team is grateful for the gracious contributions, ideas, and submissions shared by hundreds of individuals, agencies, companies, and associations from across the APEC region.

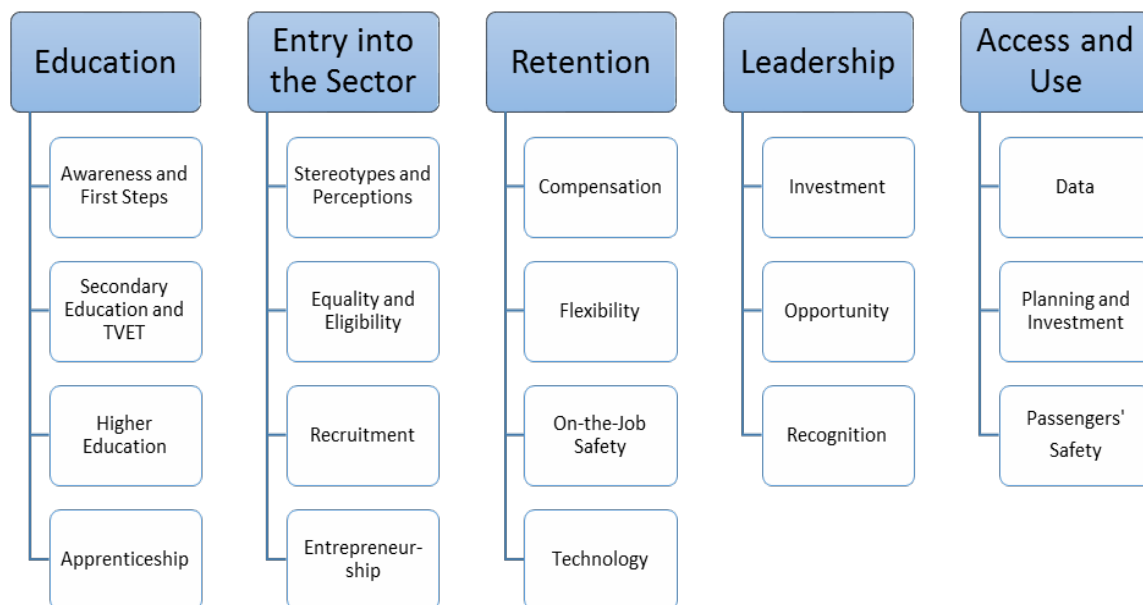


# EXECUTIVE SUMMARY

In support of the Women in Transportation (WiT) initiative of the Asia-Pacific Economic Cooperation (APEC) forum, this document presents **a framework for benchmarking and tracking the participation and influence of women as transportation workers, entrepreneurs, leaders, and travelers.** Along with a set of illustrative best practices, the framework aims to inspire and inform opportunities to improve the rate at which women access the transportation sector, the conditions under which they work and travel, and, ultimately, their ability to contribute to economic growth and prosperity in the APEC region.

Based on research and input from people and institutions involved in transportation worldwide, the WiT framework is made up of five key issues, or “pillars” (Figure 0–1). The first four pertain to the career continuum of women in the sector: **education, entry into the sector, retention, and leadership.** The fifth, **access and use,** emphasizes tracking of women’s experiences, needs, and safety as passengers and travelers.

**Figure 0-1. The WiT Framework: 5 Pillars and 18 Priority Outcomes**



The WiT framework links 18 desired outcomes—defined through surveys of government and transportation firms, interviews, expert consultations, and desk research—with activities that economies, firms, and other institutions may undertake to achieve those outcomes:

- **Education**

- Awareness among girls and young women of careers in transportation, and more first steps toward those careers
- Strengthened participation of girls and young women in secondary education and TVET courses and programs that qualify them for careers and leadership in transportation
- Greater opportunities and direction toward transportation careers in higher education

- Increased representation of women in transportation-related apprenticeships

- **Entry into the Sector**

- Elimination of stereotypes and perceptions that dissuade women from seeking jobs in transportation

- Equality under law, and formal eligibility and certification, with respect to employment

- Better recruitment and hiring practices

- Enhanced opportunities for successful women's entrepreneurship in the sector

- **Retention**

- Equality of compensation between men and women

- Flexibility in work conditions throughout the sector

- Workplace safety conditions that are responsive to and compatible with women's needs

- Effective use of new technologies to improve conditions for women working in transportation

- **Leadership**

- More investment in women's professional growth in the sector

- Increased opportunities for women to become transportation leaders

- Greater recognition of women as leaders in the sector

- **Access and Use**

- Improved data on women as transportation passengers and travelers

- Meaningful integration of the views of women in the planning and investment phases of building transportation systems

- Evidence of tangible improvements in transportation safety conditions for women as passengers

Following a full description of the data framework, this report sets forth illustrations of how economies may strengthen conditions for women in transportation, increasing their overall presence and influence. This collection of best practices is intended to be dynamic and to grow over time, as additional experience is accumulated. As economies, agencies, and firms recognize how their efforts have contributed to the expansion of women in transportation, they may, through the WiT Task Force, share their experiences and lessons learned.

The data framework challenges economies, agencies, and firms to commit to regular collection of and sharing of data on women in transportation. The framework identifies actions that can strengthen the presence of women in the field, along with metrics for tracking whether these outcomes are achieved. The proposed activities and metrics are drawn from a cross-section of experiences and perspectives about the best ways for increasing inclusion of women in nontraditional fields.

In October 2015, in Cebu, Philippines, the WiT framework will be submitted for consideration and endorsement of all APEC economies. Beginning in 2016, at least three economies will participate in a pilot program in which they select and commit to certain priorities for strengthening conditions for women in transportation. The pilot economies will commit to benchmarking their status on the priorities they have identified. Additional stakeholders—that is, individual firms, agencies, and others—will similarly and simultaneously be encouraged to act on recommendations in the framework. After taking reform-oriented actions, the stakeholders will measure and report on their results. The economy-based pilot activities will last for three years, and lessons from the process will be reported and shared during future WiT Task Force activities.

Table 0–I summarizes the WiT framework.

**Table 0-I**

*WiT Framework Summary*

Action	Indicator(s)	Source(s)	Availability in APEC Economies
<b>EDUCATION</b>			
<b>Awareness and First Steps</b>			
Promote awareness of transportation professions among primary and secondary school-aged girls (general and mode-specific)	Primary or middle school-aged girls reached through awareness programs, as indicated by number of participants; “hits” or video views for online content; or surveys of girls	Ministry of Transportation; private firms; sector associations; universities and research institutes; unions	TBD
Encourage tangible introductions and “first steps” into transportation sector for girls (including school visits, workplace fieldtrips, mentoring activities, etc.)	Primary and middle school-aged girls reached through awareness programs, as indicated by number of participants; “hits” or video views for online content; or surveys of girls	Ministry of Transportation; private firms; sector associations; universities and research institutes; unions	TBD
<b>Secondary Education and TVET</b>			
Narrow gender gaps in math participation and achievement	<i>Participation:</i> Benchmarks and measures of girls participation in higher-level secondary math courses	Departments of Education	TBD
	<i>Achievement:</i> Gender gap in math scores	OECD Program for International Student Assessment (PISA)	I 5
Increase opportunities for young women to prepare for leadership roles, especially in non-traditional sectors	Young women reached through programs oriented toward leadership generally and in the transportation sector, as indicated by number of events; number of participating institutions; or number of individual participants	United Nations	TBD



Action	Indicator(s)	Source(s)	Availability in APEC Economies
Increase participation of girls and women in non-traditional TVET programs.	Percentage of female secondary education vocational pupils (overall); Representation of female secondary vocational pupils in “nontraditional” areas of study	Technical Vocational Education and Training, World Bank data portal; Domestic TVET authorities	<ul style="list-style-type: none"> <li>• 16 (overall TVET)</li> <li>• TBD (nontraditional TVET)</li> </ul>
<b>Higher Education</b>			
Encourage women university students to pursue STEM-related courses of study	Percentage of women as STEM-related: <ul style="list-style-type: none"> <li>a. Bachelor degree students</li> <li>b. Ph.D. students</li> <li>c. Researchers</li> </ul>	UNESCO Institute for Statistics, Science, Technology, and Innovation and Women in Science; Domestic sources, including education ministries	16
Increase presence of women as STEM faculty within universities	Representation of women within full-time STEM faculties	Ministries or Departments of Higher Education	TBD
<b>Apprenticeships</b>			
Increase presence of women in formal apprenticing programs	Representation of women in formal apprenticing programs (by mode)	Government authority overseeing mode; sector association representing mode; unions; research institutes	TBD
<b>ENTRY INTO SECTOR</b>			
<b>Stereotypes and Perceptions</b>			
Strive to counter gender stereotypes that may inhibit women’s full participation in the transportation sector	Current measures of stereotyping and sexism as available through 21 <sup>st</sup> century methodologies	Firm, agency, and union data; universities and research institutions; self-reporting	TBD
<b>Equality and Eligibility</b>			
Ensure that women may lawfully work the same hours as men	Economy showing on representative “Working Hours and Industry Restrictions” indicator, specifically whether nonpregnant and nonnursing women can work the same night hours as men	World Bank, Women, Business and the Law	20

Action	Indicator(s)	Source(s)	Availability in APEC Economies
Ensure that women have equal access under law to the full range of transportation-related jobs	Economy showing on representative “Working Hours and Industry Restrictions” indicators, specifically: a. Whether nonpregnant and nonnursing women can do the same jobs as men under the law b. Whether nonpregnant and nonnursing women can work in construction in the same way as men c. Whether nonpregnant and nonnursing women can work in jobs requiring lifting weights above a threshold in the same way as men	World Bank, Women, Business and the Law	20
Increase rate at which women seek full certification to serve as unrestricted drivers, pilots, or captains in their respective transportation modes	Representation of women among holders of certifying documents or licenses within their respective modes of transportation	Government authority issuing key licenses or certifications for mode	TBD
<b>Recruitment</b>			
Orient recruitment efforts toward an increased presence of qualified women in transportation jobs	Increased representation of women in transport jobs (by firm, mode, or economy)	Firm and agency statistics; local, regional, and domestic labor data; ministries and departments of transportation; universities and research institutions	TBD
Hold transportation companies and leaders accountable for workplace inclusion and diversity	Examples of HR practices that include achievements in diversity and inclusion among factors toward CEO compensation and accountability	Data maintained by individual firms; university and research institutes; unions; employee self-reporting	TBD
<b>Entrepreneurship</b>			
Embrace APEC priorities as they pertain to Women in the Economy	APEC Women in the Economy Dashboard	APEC	21
Strengthen conditions for SME access to credit	World Bank, Doing Business, “Getting Credit” scores and rankings	World Bank	21
Ensure transparency, equal opportunity, and accessibility of government procurements in the transportation sector	Percentage of transportation contracts, by value or number, awarded to woman-owned enterprises	Data maintained by domestic and local public procurement agencies; ministries of transportation and local transportation authorities	TBD

Action	Indicator(s)	Source(s)	Availability in APEC Economies
Facilitate access of women-owned enterprises to transportation supply chains	Number of transportation enterprises certified as woman-owned	WEConnect or other international certification authorities	21
<b>RETENTION</b>			
<b>Compensation</b>			
Monitor and address wage equality between men and women (by firm and mode)	Gender gaps in wages (by job, firm, or mode), benchmarked and measured over time	ILO surveys; data maintained by regulatory agencies; individual firm statistics; universities and research institutes; unions; self-reported data	TBD
Track changes in wages earned by women before and after entering transportation sector	Changes in income experienced by women successfully trained to enter transportation sector	Government agencies; training institutions; universities and research institutes; unions; self-reported data	TBD
<b>Flexibility</b>			
Ensure that the law does not penalize workers who take time off when they become parents	<p>How the economy fares on representative “Getting a Job and Incentives to Work” indicators, specifically whether:</p> <ul style="list-style-type: none"> <li>• It is illegal for an employer to ask about family status during a job interview</li> <li>• There are laws penalizing or preventing the dismissal of pregnant women</li> <li>• Employers must give employees an equivalent position when they return from maternity leave</li> <li>• The law mandates paid or unpaid maternity leave</li> <li>• The law mandates paid or unpaid parental leave</li> <li>• Payments for childcare are tax deductible</li> </ul>	World Bank, Women, Business and the Law	20
Develop flexible work schedules in all transportation modes, for all workers (men and women) without compromising benefits or opportunities for promotion	Presence of flexible work schedules, daily flextime, and part-time work within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD

Action	Indicator(s)	Source(s)	Availability in APEC Economies
Encourage transportation firms to support employees' needs for childcare services	Presence of employer support for childcare, such as through presence of on-site childcare centers or flexible spending accounts for childcare	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
<b>Safety</b>			
Monitor and address workplace safety issues of particular concern to women	Evidence of employer safety interventions oriented toward women	Data maintained by regulatory agencies, including labor, occupational safety, and transportation; individual firm or agency reporting	TBD
Create mechanisms for reporting and addressing gender-related workplace harassment or violence	Evidence of formal mechanisms within firms and government agencies for reporting and addressing gender-based harassment or violence at work	Data maintained by regulatory agencies, including labor, equal opportunity, or transportation; individual firm or agency reporting	TBD
Compare safety statistics between men and women for purposes of studying advantages and differences	Accident statistics across modes	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
<b>Technology</b>			
Integrate technologies that make transportation jobs more accessible to women	Examples of new technologies, including number of new technologies or value of technology investments, along with quantitative evidence of greater accessibility	Firm and agency data; ministries and departments of transportation; universities and research institutions; unions; employee self-reporting	TBD
Integrate technologies that respond to the personal security concerns of women working in various modes of transportation	Examples of new technologies, including number of new technologies or value of technology investments, along with quantitative evidence of greater confidence on-the-job personal security	Firm and agency data; ministries and departments of transportation; universities and research institutions; unions; employee self-reporting	TBD

Action	Indicator(s)	Source(s)	Availability in APEC Economies
<b>LEADERSHIP</b>			
<b>Investment</b>			
Offer career counseling to women in the transportation sector	Evidence of informal and formal career counseling programs within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Develop and implement formal policies that encourage greater inclusion and development of women employees	Evidence of formal gender policies within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Provide women in transportation with mentors	Evidence of informal and formal mentoring programs within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Support women's participation in formal leadership programs	Evidence of firm or agency support of women's participation in formal leadership positions	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
<b>Opportunity</b>			
Promote qualified women into executive leadership positions in the public sector	Women's share of executive leadership positions in domestic, regional, and local transportation agencies	Individual economy statistics; representative agency statistics	TBD
Promote qualified women into executive leadership positions in the private sector	Women's share of executive leadership positions in largest private sector transportation firms	Individual economy statistics; representative firm statistics	TBD
Encourage women's leadership in transportation labor unions	Women's share of top leadership positions of representative labor unions	Labor unions	TBD
Ensure participation of women on the governing boards of transportation companies	Women's share of seats on boards of publically held transportation firms	Individual economy statistics; representative firm statistics	TBD

Action	Indicator(s)	Source(s)	Availability in APEC Economies
<b>Recognition</b>			
Encourage economy-wide and mode-based awards for women in transportation, for individuals and employers	Evidence of firm, agency or mode-based leadership awards, both for individuals and employers in transportation	Data maintained by regulatory agencies; individual firm and agency statistics	TBD
<b>ACCESS AND USE</b>			
<b>Data</b>			
Commit to the development of reliably maintained statistics on the use of each transportation mode, disaggregated by sex, including with respect to <ul style="list-style-type: none"> <li>• Access</li> <li>• Safety</li> <li>• Affordability</li> <li>• Reliability</li> </ul>	Number of sets of reliably maintained, sex-disaggregated statistics on transportation use (all modes)	Regulating authorities (all modes); Household surveys	TBD
<b>Planning and Investment</b>			
Ensure that transportation policies, systems and regulations are “gender informed” including with respect to: <ul style="list-style-type: none"> <li>• Access</li> <li>• Safety</li> <li>• Cost</li> <li>• Facilities</li> <li>• Additional needs</li> </ul>	Evidence of formal design and policy consultations of women stakeholders by public agencies engaged in delivering transportation services	Data maintained by regulatory agencies; individual firms; university and research institutes; unions	TBD
<b>Passengers’ Safety</b>			
Promote the personal safety of women as passengers in both public and private modes of transit transportation	Evidence of efforts to strengthen safety conditions and features for women who access public and private transportation services	Data maintained by regulatory agencies; individual firms; university and research institutes; unions	TBD



# INTRODUCTION

Across APEC and throughout the world, women are far less likely than men to work in transportation. Both in absolute numbers and compared with their overall rates of labor-market participation, women are vastly underrepresented in each of the major modes of transportation—airplanes, ships, trains, and trucks—as well as in highway construction, road maintenance, and ground-passenger transportation. Although many transportation jobs offer relatively high pay, flexible working schedules, and opportunities for training and advancement, these jobs often fail to attract more than a token presence of women. Women are less likely than men to choose careers in transportation, and are more likely to leave after a few years (Watt and Eccles 2008). The transportation industry thus misses out on the talent, insights, and leadership that more women could bring to the field, at an untold cost to the industry.

*Women bring a unique perspective to the issues facing a modernizing global transportation system. When women are given an equal opportunity to succeed in transportation careers, they unlock new pathways for growth and profitability.*

—U.S. Assistant Secretary, Susan Kurland

Moreover, in most APEC economies, women are overlooked as consumers of transportation services. Over the past generation, there have been efforts to apply a gender lens specifically to access to transport, traffic patterns and choices, and safety and security (ADB 2013). Still, the development of knowledge has proceeded unevenly, and there is a dearth of information about gender and mobility in rural areas, long-distance (intercity, or rural-to-urban) travel, nonwork-related travel, and air and maritime travel, particularly in less-developed societies (Wachs 2009). Without information distinguishing how women experience transportation differently from how men do—for example, with respect to transport affordability, personal safety, limitations in mobility, and the conventional role of women as caregivers—the sector cannot meet their needs.

## WIT: A METHODOLOGY FOR STRENGTHENING CONDITIONS FOR WOMEN IN THE SECTOR

APEC has long recognized that the economic participation of women, particularly in nontraditional sectors, is constrained by low expectations, insufficient awareness, limited access to critical skills, inadequate advancement opportunities, and unequal policy structures (APEC 2011). Although transportation makes up 10–20 percent of jobs in APEC economies, women's share of employment in the sector typically falls below 25 percent (DevTech Systems 2012). In 2012, APEC's Transportation Working Group (TPTWG) launched the WiT initiative to expand opportunities for women in the sector across the APEC region. In 2013, the U.S. Department of Transportation supported the initiative through research into conditions for women's employment in transportation. The initiative included significant outreach to transportation stakeholders, such as an APEC/WiT Forum in Tokyo and a special APEC/WiT Forum at the White House in Washington, D.C. In addition, the TPTWG formed a WiT Task Force, jointly chaired by the Philippines, the United States, and Viet Nam.



Beginning in 2015, this task force began a two-part activity aimed at addressing the dearth of women in the field through the following activities:

- Preparation of a **data framework** that benchmarks conditions for women—particularly with respect to the transportation career continuum and as consumers of transportation services – to set goals, measure progress, and ultimately improve women’s participation in transportation; and
- Collection of illustrative **best practices** from across APEC economies and transportation firms that show how they can bolster the presence of women.

The purpose of this activity is to develop, through testing ideas and reporting results, guidance for economies that seek to increase the rate at which women participate in transportation. It also aims to help firms broaden their recruitment, retention, and promotion of women, as well as their refinement of services as they pertain to women.

The latest WiT activity was announced in conjunction with the 41st meeting of APEC’s TPTWG in Jeju Island, Republic of Korea in May 2015 (Appendix B). Facilitated by the U.S. Department of Transportation and the US-APEC Technical Assistance to Advance Regional Integration program (US-ATAARI), the following research has since been conducted:

- In May 2015, circulation of an APEC/TPTWG survey to all 21 APEC economies, which as of September 2015 had been completed by nine economies
- From May 2015 through September 2015, circulation of an APEC/TPTWG survey to firms across APEC, along with direct outreach to transportation professionals, firms, agencies, and other stakeholders
- A July 2015 consultation over a draft framework in Washington, D.C., with data professionals representing the World Bank, the Inter-American Development Bank, the Millennium Challenge Corporation, the U. S. Department of Labor, and others
- A broad literature review of information from across APEC and throughout the world.<sup>1</sup>

The WiT framework now comprises five pillars: (1) education; (2) entry into the sector (including through recruitment and entrepreneurship); (3) retention; (4) leadership; and (5) access and use for women as consumers of transportation services. The process also distilled a consensus of 18 key outcomes sought by various transportation stakeholders—governments, firms, sector organizations, and others—in the field. As detailed in this report, these outcomes may be pursued through a variety of actions. The framework also proposes a set of representative indicators designed to track change brought about by each action. Although no metric proposed in the framework purports to show direct causality between an activity and an outcome, metrics are recommended as likely indicators of change. Also, the proposed actions are broadly stated—that is, they allow for a range of interventions to achieve a general outcome. Potential activities that support the proposed actions are listed in Appendix A.

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<sup>1</sup> The research further draws on the lengthy process of developing the Women in the Economy Dashboard for APEC’s Policy Partnership on Women and the Economy (PPWE), implemented by US-ATAARI in 2014. Compilation and vetting of the dashboard produced insight into the state of data on economically active women in APEC member economies. Details underlying the preparation of the dashboard can be found in *APEC Women and the Economy Dashboard: Introduction and Analysis* (USAID 2014).

Vetting of the data framework and best practices began with circulation of the framework in July 2015. Comments and suggestions were taken into consideration. Early in September 2015, the United States shared a new draft with TPTWG Heads of Delegation for the purposes of endorsement. Thereafter, a limited number of changes have been added to the framework, which is scheduled for introduction and discussion at a Forum on Women and Transportation on October 8, 2015, to take place on the margins of the annual transportation ministerial meeting in Cebu, Philippines. The framework will be presented in November 2015 for endorsement by all APEC leaders.

After endorsement by APEC leaders, the WiT initiative will start a pilot program in at least three economies. This program will enable economies to identify priorities for change in their own environments, using indicators proposed by the data framework to benchmark and measure results. The experiences from these economies will inform how others may pursue similar changes. Data from the broad economy experiences will be supplemented by additional metrics maintained through firm or mode-level interventions. The long-run goal is to create an evidence-based roadmap for encouraging women to work in transportation. The roadmap will include new data analysis and measures of change.

## THE CASE FOR MORE WOMEN IN TRANSPORTATION

The transportation sector in APEC is massive geographically and in its contribution to economic activity. The sector encompasses municipal commuter systems; local, regional, and international aviation infrastructure; transport and logistical management of goods; and more. Under-representation of women in transportation amounts to a missed opportunity for employers, for consumers, for entire economies, and for women themselves.

*Only if women are considered to have less aptitude than men does it make sense that more men are hired. However, that is not the case, and therefore men are being hired over more qualified women. In effect, you are shutting off 50% of the population. Those companies that consider the entire population when hiring will have a higher level of talent than those that don't.*

—Janine Prime, Vice President, Research, Catalyst and WSJ Women in the Economy Executive Task Force Member, APEC Women in Transportation, White House Forum, April 2013 (U.S. Department of Transportation)

**Employers overlook a huge segment of the labor pool, thus diminishing opportunities to hire employees offering the highest level of skills and best fit for demanding jobs.** This loss is particularly acute as population growth, increased trade, and greater movement of people for work and personal travel create demand for transportation workers throughout APEC economies. In less tangible ways, public and private sector employers miss out on the talents and perspectives of women that strengthen employers' ability to respond to consumer demand. A lack of women diminishes the ability of transportation firms to benefit from women as business leaders and executives, which include documented improvements to the bottom line (McKinsey 2007).

**Consumers do not benefit from the perspectives and experience that women bring—as workers, managers, and leaders—to transportation. In services, scheduling, safety, community impact, and more, women as workers may be able to anticipate the needs of women as transportation consumers better than their male**

**counterparts can.** Women's scarcity in the sector diminishes their influence and, by extension, the competitiveness of individual firms and agencies. In addition, an overwhelming lack of sex-disaggregated data about user experiences means that opportunities for better serving women cannot be reliably assessed and addressed.

**Economies fail to reach their economic potential when they under-employ women.**

The Asian Development Bank (ADB) and International Labour Organization (ILO) have estimated that women's limited access to employment causes a loss in economic growth to the Asia-Pacific region of US\$42–47 billion each year (OECD 2014). Conversely, reduced gaps between women's and men's labor force participation have been shown to result in faster economic growth (UN Women 2015). In most APEC economies, the demand for transportation labor is increasing, while the representation of women remains steady or is even falling (Turnbull/ILO 2013). Higher wages for transportation jobs than for jobs in other fields indicate that the sector misses opportunities to contribute to the indirect benefits of employing women, including better health and education outcomes in families.

**Women are deprived of the conditions necessary to realize their economic and human potential.** Economic empowerment of women is a critical aspect of gender equality, which itself is increasingly accepted as a moral imperative (OECD 2014). Without adequate transportation, women lack the infrastructure of mobility, including access to school and better opportunities for work. When women are systematically excluded from or simply cannot reach opportunities—whether due to cultural forces, societal norms, or overt discrimination—they are more likely to be poor or otherwise vulnerable. According to the OECD, “the challenge for policymakers is to find ways and means to reduce barriers to greater gender equality in employment, thereby providing more opportunities to pursue individual aspirations and boost economic growth” (OECD 2014, p.32).

Since 2013, the WiT Task Force has led an APEC-wide conversation about the importance of increasing the presence of women in transportation. Exhibit 0-1 shows the reasons cited by stakeholders from across the region.

**Exhibit 0-I***Why More Women Are Needed in Transportation*

**Productivity and performance.** As validated through research in a number of sectors, a link exists between gender balance in a workforce and company performance. Inclusion of women brings more qualified workers into the transportation sector, thus allowing firms to meet their demands for labor and strengthen their bottom lines.

**Firm competitiveness.** With more women working at all levels, the transportation sector can better reflect and respond to the needs of its customers. Where firms do not integrate perspectives of women into their offerings, their brands suffer.

**Sustainability.** Given transportation's importance to the productivity and domestic security of economies, women need to play a greater part in the sector's long-term development and direction. Women's understanding of and commitment to the sector can help drive its sustainability over time. Inclusion of women's perspectives in transport planning also may result in greater emphasis on environment-friendly travel options in the future.

**Safety.** The particular safety concerns of women when they access any type of transportation—automobiles, street cars and buses, long-distance and commuter trains, ferries and more—is a matter of international concern. Where women do not feel safe on various modes of transportation, they may forgo accessing them, and thus experience diminished economic opportunity. This outcome deprives their families and communities of their critical economic and social contributions.

**Upward mobility.** As the infrastructure of mobility, transportation facilitates the movement of people to where they need to be in order to learn, work, and contribute to society. Transportation is often the critical link between women and school and women and work—in other words, women and opportunity.

**Economic growth.** Women's limited access to employment can diminish an economy's potential for growth. Because transportation is among the top contributors to most economy-wide GDPs, the scarcity of women in the sector has clear economic repercussions.

## DATA ON GENDER AND TRANSPORTATION: DISPERSED, IMPRECISE, ELUSIVE

According to the ILO, “detailed and accurate statistics on the employment of women in the transport sector are hard to come by, especially for specific transportation modes such as maritime, ports, inland waterways, civil aviation, roads, and railways” (Turnbull/ILO 2013). Throughout APEC, no shared set of indicators with common definitions allows for comparison across economies in the transportation sector. Although data maintained by some economies are aggregated and maintained by the ILO using the International Standard Industrial Classification (ISIC) system, these data have significant limitations with respect to comparison of economies and gender analysis in particular. The ISIC statistics bundle transport with communications—which in some economies is

*In the area of gender equality and women's empowerment, data illuminate the extent to which men and women experience their shared environments differently, and how those differences translate into gaps in economic opportunity, participation, and empowerment. Without numbers that substantiate their case, advocates of gender equality often face skepticism and disbelief when they try to explain how, especially in the economic sphere, women face far more legal, institutional, and cultural constraints than those experienced by men.*

—US-ATAARI, *APEC Women and the Economy Dashboard*

predominantly female—and storage, making interpretation of gender-focused results virtually impossible. Also, since its inception, the ILO has published ISIC revisions that often include adjusted sector parameters and definitions. Because ISIC data rely on economies' census data, these revisions are not aligned with actual data-gathering periods. Thus, there is no direct numerical comparison across economies between men and women in the sector, no single indicator on transportation, and different standards for data collection.

Table 0–2 provides limited insight, while also showing the weakness of sex-disaggregated information about transportation workers. It shows the calculations of the percentage of women compared to the total employed under the ISIC “transport, storage, and communications” category. These are the most recent data available from the UN in APEC and demonstrate variation in collection dates and ISIC categories.

**Table 0-2**

*Most-Recent APEC Data on Women as % of Total Employment in Transport, Storage, Communications*

APEC Economy	Source Year	ISIC Revision	Women as % of Sectoral Employment
Australia	2011	ISIC Rev.3/3.1: Section I	28.25
Canada	2011	ISIC Rev.4: Section H	25.59
Hong Kong, China	2011	ISIC Rev.4: Section H	21.59
Indonesia	2010	ISIC Rev.2: Major Division 7	5.98
Japan	2010	ISIC Rev.4: Section H	18.68
New Zealand	2006	ISIC Rev.3/3.1: Section I	33.84
Peru	2007	ISIC Rev.3/3.1: Section I	9.90
Republic of Korea	2005	ISIC Rev.4: Section H	10.43
Singapore	2000	ISIC Rev.3/3.1: Section I	25.40
Thailand	2000	ISIC Rev.4: Section H	7.23

In addition to aggregated sources of data across economies, within the private sector, some sets of data are growing. Namely, to guide their own investments and development of services, transportation firms increasingly collect data about women as prospective workers, employees and consumers. This information can be highly illuminative, and in fact can change how companies attract workers, deliver services, or otherwise bolster productivity and economic success. However, these data are often closely held by firms and can be difficult to access. As reported by McKinsey (2015), this desire not to “give away the store” ultimately results in missed opportunity, particularly where firms do not collectively invest in so-called big data:

Transport infrastructure involves complex networks with many participants. An airport, for example, will have dozens of different airlines, ground-handling companies, and retailers, plus air-traffic control, customs, and the airport-operating company itself. Each player collects its own data and does not necessarily want to share it. That can sometimes make sense; no retailer wants to give away the store. But the ability to track passengers could benefit just about everyone. For example, knowing where foot traffic is and how it moves can help to optimize gate and asset allocation. That could not only increase airport capacity but also boost retail revenues. For that to happen, though, the data need to be pooled.

Several stakeholders asked how firms can be encouraged to use the data they have to contribute to the conversation about what works and what does not. Although no consensus exists on this issue yet, the WiT initiative presents an opportunity for transportation firms and agencies to participate in an APEC-wide effort to track and share the results of actions intended to include more women.

In all, the insufficiency of data on women in transportation is a missed opportunity that the WiT initiative seeks to remedy. Attentive monitoring of data and evidence enables other stakeholders in the field to learn about the most promising and high-potential interventions, as well as to adjust the design of their own initiatives.<sup>2</sup> The proposed WiT data framework suggests a variety of opportunities for pilot economies and individual firms and agencies to track their progress in such areas as workplace flexibility, worker safety, and respect for and investment in workers. The illustrative best practices set forth in this report further show how economies, firms, agencies, international institutions and others have set out to strengthen the representation and influence of women in transportation or, in some cases, nontraditional jobs for women. These ideas, which may be supplemented with others over time, represent potential programmatic launching points. They tend not, however, to show the demonstrable, quantitative results that this WiT activity aims to develop and share.

For the purposes of WiT's pilot activities, the types of indicators that may be used to benchmark and measure change fall into three categories:

- Metrics that are broadly accessible through international sources, or individual economy statistics (such as data from the ILO, other UN institutions, or the World Bank);
- Metrics that share a common international definition and are maintained in a limited number of economies (such as wage data), but may not yet be tracked by the pilot economy; or
- Indicators of change that are targeted toward certain outcomes and require a focused effort to benchmark and track individual results, including through program-specific monitoring and evaluation.

Although access to metrics that are widely available through credible and reliably maintained international sources is desirable, implementation of this framework necessarily calls for economies, firms and other stakeholders to strengthen their internal collection of sex-disaggregated data. Nearly all institutions associated with transportation can commit to strengthened methods of data collection. Even self-reported employee or user data can be tracked for insights on change, including surveys administered through third parties or “big data” resources. Future pilot economies and firms will commit to benchmarking where they currently stand among a selected set of priorities. After implementing reform-oriented activities, they will measure and report on their results. The pilot activities are projected to begin in 2016 and will last for three years.

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<sup>2</sup> One prominent and successful example of a broad-based data initiative is the Roadmap for Promoting Women's Economic Empowerment sponsored by the UN Foundation and ExxonMobil and published in 2014. This activity supported 19 inquiries into 5 areas of women's economic empowerment (entrepreneurship; farming; farmers and rural entrepreneurs; wage employment; and young women's employment). After a period of research and data collection, the roadmap then reported on the major lessons learned from empirical evidence, which provided the basis for recommendations. (United Nations/ExxonMobil Foundation 2013).



# PART I. DATA FRAMEWORK





# I. EDUCATION

Economies cannot begin too soon preparing women and girls for careers in transportation. An abundance of literature recommends beginning exposure as early as possible and continuing well into higher education. Opportunities for exposure include developing awareness among girls that, not only is a range of careers in transportation available to them, but also they are *capable of choosing these paths and succeeding along the way*. Moreover, throughout their formal education, girls need greater preparation in nontraditional skills, including leadership and math, which allow them to move forward as workers, professionals, and leaders in the field.

## AWARENESS AND FIRST STEPS

When children imagine what they want to be when they grow up, they usually draw from their own experience: What do my parents do? What do the families of my friends do? What do I read about in books, and what do I learn about in school?

Whether unintentionally or deliberately, the message that transportation jobs are “no place for a woman” is communicated early. Children are typically imbued with the expectations and gender stereotypes that they find around them, and jobs that are physically arduous, remote, and demanding of time at all hours of the day, and which may require significant time away from home, are almost invariably seen as “male.” The status quo is often reinforced at home and in early years of schooling, where girls rarely encounter role models in transportation or “open invitations” for them to consider such a path. In addition, a variety of negative perceptions persist concerning how women fit into transportation sector. For example, girls may assume that transportation jobs are unwelcoming, isolating, inflexible, or unsafe.

*It wasn't something I was discouraged to do, but I wasn't actively encouraged.*

—Helen McNamara, Pilot  
(BBC 2015)

As noted in an ILO report in 2013,

Many of the barriers that women face in the world of work have already been erected before they enter the workplace ... [V]ery few girls make the transition from school to employment in the transport sector because they are not actively encouraged to consider the available options, despite the fact that such options include a wide range of (often well paid) manual jobs and professional occupations. (Turnbull/ILO)

For the WiT data framework, proposed actions generally entail creating awareness (including through traditional media-based outreach, such as newspapers or television announcements, as well as online resources); and encouraging girls to take their “first steps” toward careers in transportation. Measuring change requires dedicated M&E tactics that are closely aligned to the activities and the outcomes they aim to achieve (Table I–I).

**Table I-1***Education: Actions and Indicators for Awareness and First Steps*

Action	Indicator(s)	Source	Availability in APEC Economies
Promote awareness of transportation professions among primary and middle school-aged girls (general and mode-specific)	Primary or middle school-aged girls reached through awareness programs, as indicated by number of participants; “hits” or video views for online content; or surveys of girls	Ministry of Transportation; private firms; sector associations; universities and research institutes; unions	TBD
Encourage tangible introductions and “first steps” into transportation sector for girls (including school visits, workplace fieldtrips, mentoring activities, etc.)	Primary and middle school-aged girls reached through awareness programs, as indicated by number of participants; “hits” or video views for online content; or surveys of girls	Ministry of Transportation; private firms; sector associations; universities and research institutes; unions	TBD

## SECONDARY EDUCATION AND TVET

A student’s years of post-primary education present critical moments of choice. After early childhood, girls tend to make “gendered educational choices” that, whether unwitting or deliberate, may exclude them in the long run from pursuing careers in transportation and other nontraditional jobs. (Watt and Eccles 2009). Restricted career opportunities are a consequence of limited participation in coursework and other educational opportunities—including technical and vocational education and training (TVET)—that lead to traditionally male-dominated professions, such as careers in road transport, maritime, aviation, and rail transport.

To achieve a greater range of career choices for secondary school students in nontraditional fields, the predominating challenge lies in getting girls to take math. While the study of advanced math relates directly to higher status careers and greater pay, in most economies, girls tend to “self-select themselves out of math coursework” (Ma and Johnson 2008). In fact, differences in math coursework between males and females become pronounced during the high school years. Over the past generation, there has been considerable effort in some economies to encourage girls to persist with math, so that they are qualified to move forward at the university level in such areas as engineering, ICT, research in the sciences, and design. Still, there is more to learn about “what works and what doesn’t” in terms of helping girls keep their career options open by continuing with math and reaching parity with boys in terms of their test scores and achievements.

A second critical learning area emphasized by transportation stakeholders during the research for this activity is that of leadership. Anecdotally, it was noted by a variety of sources that, even as women enter transportation as professionals, they may not yet share the belief held by their male counterparts that they are well positioned to rise in their firms or areas of expertise. The value of women in leadership extends from the benefits they offer private firms to the public sector, where women can participate as elected leaders and stewards of good transportation practices.

In technical and vocational education and training (TVET), the challenge again is to successfully encourage girls to study nontraditional areas, in particular those related to work in the

transportation sector, such as mechanics, mode-related disciplines, and other technical skills. Progress can be marked by increasing representation of girls in these nontraditional programs, as opposed to traditionally “female” courses, such as beauty services or office administration. Although general statistics on participation in TVET are widely available, fewer statistics that disaggregate according to sex *and* particular course of study are available in APEC economies (Table I–2).

**Table I-2**

*Education: Actions and Indicators for Secondary Education and TVET*

Action	Indicator(s)	Source	Availability in APEC Economies
Narrow gender gaps in math participation and achievement	Participation: Benchmarks and measures of girls participation in higher-level secondary math courses	Ministries and departments of education	TBD
	Achievement: Gender gap in math scores	OECD Program for International Student Assessment (PISA)	I5
Increase opportunities for young women to prepare for leadership roles, especially in nontraditional sectors	Young women reached through programs oriented toward women in the transportation sector, as indicated by number of events; number of participating institutions; or number of individual participants	Ministries and departments of labor, education, transportation, etc.	TBD
Increase participation of girls and women in nontraditional TVET programs.	Percentage of female secondary education vocational pupils (overall); Representation of female secondary vocational pupils in “nontraditional” areas of study	<i>Technical Vocational Education and Training</i> , World Bank data portal; domestic TVET authorities	<ul style="list-style-type: none"> <li>• I6 (overall TVET)</li> <li>• TBD (nontraditional TVET)</li> </ul>

## HIGHER EDUCATION

Across APEC, women are increasingly well represented in tertiary education. In several APEC economies, women even make up the majority of university students, both undergraduate and graduate. Women remain underrepresented, however, among students and graduates with degrees in disciplines encompassing science, technology, engineering, and math (STEM). Women also are underrepresented as faculty in STEM disciplines, thus depriving female students from experiencing women as role models in the field. These facts contribute to the “leaky pipeline” that represents the route of girls from academic study, beginning in childhood, to full engagement in STEM-related careers, including STEM-related jobs in transportation.

Economies can encourage study of STEM disciplines among university women in a number of ways. These include encouraging public and private universities to support scholarships for women in STEM; student organizations that support, tutor, and mentor university women; close counseling of women in STEM disciplines that ensure that they are not discouraged from completing their degrees; and connections to internships, certification programs, and job opportunities upon graduation. Statistics for measuring the overall success of these collective efforts are generally available through individual APEC economies, as well as through UNESCO's Institute for Statistics, Science, Technology, and Innovation and Women in Science.

#### Transportation Study Areas in Higher Education

- Transportation Design
- Engineering (Civil; Mechanical; Electrical)
- Rail Transportation Engineering
- Urban Planning
- Rural Infrastructure
- Civil Infrastructure
- Marine Transportation
- Business Management, Logistics
- Logistics and Supply Chain Management
- Operations Management
- Aviation or Airport Management
- Aeronautics

In addition, a strong case can be made for increasing women among STEM-related faculty. Approaches for doing so include family-friendly work conditions; mentoring opportunities in the university; and opportunities for women to head STEM departments (Stewart and Lavaque-Monty 2008). Measuring the presence of women among STEM faculty requires economies to access statistics already maintained by their own universities or to begin tracking them. Table I–3 gives a pair of actions and indicators for women's access to and participation in higher education.

**Table I–3**

*Education: Actions and Indicators for Higher Education*

Action	Indicator(s)	Source	Availability in APEC Economies
Encourage women university students to pursue STEM-related courses of study	Percentage of women as STEM-related: <ul style="list-style-type: none"> <li>• Bachelor degree students</li> <li>• Ph.D. students</li> <li>• Researchers</li> </ul>	UNESCO Institute for Statistics, Science, Technology, and Innovation and Women in Science; Domestic sources, including education ministries	I 6
Increase presence of women as STEM faculty within universities	Representation of women within full-time STEM faculties	Ministries or Departments of Higher Education	TBD

## APPRENTICESHIPS

In the transportation sector, apprenticeships can be as important a component of a woman's career cycle as formal education. Besides training, formal apprenticeships in many instances give opportunities to fulfill requirements for formal certification or "journeyman licensing" in certain fields, such as maritime mechanics or piloting. Apprenticeships typically pay a salary, thus smoothing the career path after high school. Although sex-disaggregated statistics on to apprenticeships are rare, qualitative research suggests that women are underrepresented in this important avenue toward a career the transportation.

APEC economies vary in their integration of formal apprenticeships into transportation careers. For the purposes of WiT, economies engaging in pilot programs may choose to emphasize the increased presence of women in apprenticeships within individual modes of transportation. Measuring progress would likely require dedicated monitoring and evaluation of programs undertaken. Table I–4 gives an action and indicator for apprenticeship programs.

**Table I–4**

*Education: Action and Indicator for Apprenticeships*

Action	Indicator	Source	Availability in APEC Economies
Increase presence of women in formal apprenticeships	Representation of women in formal apprenticeships	Government authority overseeing mode; sector association representing mode; unions; research institutes	TBD



## 2. ENTRY INTO SECTOR

Transitioning from school to work is a process that is arguably more complex in the transportation sector than in various other fields. Women must consider factors in the sector that affect all workers—markets for labor, general qualifications, licensing and certification requirements, and such intangibles as their own job preferences and “fit”—while also being mindful of issues particular to their gender. These may include stereotypes and perceptions about women; particular health and safety concerns; and even their legal or rule-based eligibility for certain jobs.

### STEREOTYPES AND PERCEPTIONS

Women often develop a sense that they are not especially welcome in nontraditional transportation jobs. Although conditions are changing gradually, “paradigms and the worldviews regarding professional, public, and media perceptions and representations of transport are linked to a masculine identity” (Polk 2009). In more basic terms, the images of transportation workers found in advertising, marketing materials, and other widely circulated texts—including airline pilots, truck drivers, ship captains, rail engineers, construction workers, and so forth—tend to be of men. One prominent exception, of course, is that of flight attendants. Similarly, men in the sector are imbued with expectations and stereotypes that transportation is not “women’s work” (Turnbull/ILO 2013).

Imagery, stereotypes, and perceptions are evolving. Public agencies increasingly encourage a change in how women perceive themselves. For example, the Canadian province of Alberta directs a human resources outreach program to women considering nontraditional careers, specifically addressing the “myths and reality” of work fields such as mining and construction, including issues of feminine stereotypes, attitudes of men, physical requirements, and qualifications for the work. The message is that the opportunities, pay, and benefits supported by nontraditional careers are often worth the obstacles that arise (Alberta Government 2013).

The private sector is also working to counter stereotypes. For example, in March 2015, AirAsia widely publicized the all-women crew for a resumed route between Manila and Davao, Philippines, and public photographs showed the full group of flight attendants and the pilot, the first officer, and even the firm’s CEO, all women (AirAsia 2015). In the United States, UPS includes women drivers in its recruitment videos, showing how they have both been fully incorporated into traditional male jobs and how both sexes have opportunities for more flexible and family-friendly work (UPS 2015).

Although measuring changes in self-perception and stereotypes is challenging, many approaches to doing so have been developed. They can identify not only traditional measures of hostile sexism, but more subtle manifestations of bias as well (Fiske and North 2014). Table 2–1 gives a proposed action and indicator combating stereotypes and altering perceptions.



**Table 2-1***Entry into Sector: Action and Indicator for Stereotypes and Perceptions*

Action	Indicator	Source	Availability in APEC Economies
Strive to counter gender stereotypes that may inhibit women's full participation in the transportation sector	Current measures of stereotyping and sexism as available through 21 <sup>st</sup> century methodologies	Firm, agency, and union data; universities and research institutions; self-reporting	TBD

## EQUALITY AND ELIGIBILITY

To legally work in transport, women must be authorized to do so, under both laws that address workforce equality and regulations on licensing and certification.

**Equality.** Some APEC economies still restrict conditions under which most women—that is, nonpregnant, nonnursing women—may work. These restrictions are typically based the same stereotypes discouraging women from nontraditional jobs. Even as women become increasingly educated and qualified to hold positions previously dominated by men, they may still find that the law closes many doors.

The World Bank's Women, Business and the Law initiative reviews restrictions on hours that women may work and the types of industries they can work in. These restrictions are often motivated by a desire to protect women but in fact limit their opportunities to realize their earning potential. For example, in a number of APEC economies, the law bars women from working the same hours as men—particularly at night—and participating in occupations that may involve underground work and heavy lifting. This means that women do not have even a chance to show that they are as capable as men in performing the essential functions of the job. The two proposed “equality” indicators for the WiT data framework, below, are drawn from Women, Business and the Law, which is updated every two years.

**Eligibility.** Another juncture in the “leaky pipeline” of women accessing jobs in transportation is that of their government-sanctioned eligibility to participate—that is, their seeking and obtaining formal licenses or certifications from their respective regulating authorities. In discussions and literature on women in transportation, very little is made of this juncture. Yet it may be significant: As noted by the ILO, for example, the rate at which female aviation trainees in the United States underwent conversion from a medically certified student pilot's license to an unrestricted license in 2010 was less than 35 percent. In the 1990s, it was closer to 65 percent (Turnbull/ILO 2013). Licensing and certification represent important steps for workers seeking transportation jobs, and, where licensing and certification are offered and supported by employers, a means of helping workers stay.

Accordingly, the proposed “eligibility” metric for WiT concerns the representation of women holding unrestricted licenses in certain of the most visible positions of their respective modes of transportation—that is, as truck drivers, rail drivers and engineers, commercial airline pilots, or vessel captains. Although such data are unavailable under a single definition across APEC, economies can track them on a sex-disaggregated basis through their pertinent licensing authorities. The proposed indicator applies to jobs that hold special significance in their respective modes. That is, pilots, drivers, and captains are generally perceived as important leaders and potential mentors in their fields, which reinforces the value of tracking women's certification to hold these jobs. Table 2–2 gives a set of proposed actions and indicators.

**Table 2-2***Entry into Sector: Actions and Indicators for Equality and Eligibility*

Action	Indicator(s)	Source	Availability in APEC Economies
Ensure that women may lawfully work the same hours as men	Economy's showing on representative "Working Hours and Industry Restrictions" indicator, specifically whether nonpregnant and non-nursing women can work the same night hours as men	World Bank, Women, Business and the Law	20
Ensure that women have equal access under law to the full range of transportation-related jobs	Economy showing on representative "Working Hours and Industry Restrictions" indicators, specifically: <ul style="list-style-type: none"> <li>• Whether nonpregnant and nonnursing women can do the same jobs as men under the law</li> <li>• Whether nonpregnant and nonnursing women can work in construction in the same way as men</li> <li>• Whether nonpregnant and nonnursing women can work in jobs requiring lifting weights above a threshold in the same way as men</li> </ul>	World Bank, Women, Business and the Law	20
Increase rate at which women seek full certification to serve as unrestricted drivers, pilots, or captains	Representation of women among holders of certifying documents or licenses	Government authority issuing key licenses or certifications for mode	TBD

## RECRUITMENT

Recruitment of women is one area in which larger transportation employers, in particular, have made considerable headway in recent years. They do so in a variety of ways, including the following:

- Directing their recruitment campaigns to places where women are likely to see them;
- Removing stereotype-based images and content from company recruitment materials;
- Eliminating unnecessary employment requirements that may favor men (such as military service or strength requirements made obsolete through new technologies);
- Engaging more women as recruiters;
- Training interviewers and managers about special concerns of potential women recruits and how they may be addressed;
- Cooperating with local/regional work agencies or schools and universities to attract young women to the sector or mode;
- Offering family-friendly work benefits that may be of particular interest to women;

- Holding managers accountable for advancing inclusion and diversity in the agency or firm through annual reviews and salary considerations.

In addition to serving the firms and agencies that strengthen efforts to recruit women, these efforts also may have a multiplier effect on the transportation sector. Recruitment of qualified women may serve a longer-term purpose of changing attitudes and stereotypes about women holding certain jobs. Where men are more accustomed to working among women, they are less inclined to make assumptions about their capabilities and more inclined to accept women as colleagues, thus creating a more welcoming work environment, which potential recruits are more likely to choose.

Indicators of progress can be found in whether firms or leaders of companies are held accountable for actually bringing more women into the sector. Where a CEO's compensation is tied to achieving recruitment targets, the CEO may be more inclined to dedicate resources to the effort. See Table 2–3.

**Table 2-3**

*Entry into Sector: Actions and Indicators for Recruitment*

Action	Indicator	Source	Availability in APEC Economies
Orient recruitment efforts toward increased presence of qualified women in transportation jobs	Increased representation of women in transport jobs (by firm, mode, or economy)	ILOSTAT UN data; individual economy statistics; or representative firm statistics	20
Hold transportation companies and leaders accountable for workplace inclusion and diversity	Examples of HR practices that include achievements in diversity and inclusion among factors toward CEO compensation and accountability	Data maintained by individual firms; university and research institutes; unions; employee self-reporting	TBD

## ENTREPRENEURSHIP

Tracking the challenges of women as entrepreneurs in all sectors is a priority that APEC, in particular through its Policy Partnership on Women and the Economy (PPWE), has tackled in various ways in recent years. The PPWE has enunciated five priorities for women's economic empowerment, inclusive of entrepreneurship: (1) access to capital and assets; (2) access to markets (for both labor and goods); (3) skills, capacity building, and health; (4) leadership, voice, and agency; and (5) innovation and technology. In 2014, APEC leaders endorsed the Women and the Economy Dashboard, a mechanism for tracking the relative status of women in each of these areas and inspiring reform. Also in 2014, the PPWE launched the APEC Women and Entrepreneurship (WE-APEC) initiative, an effort to support woman-owned enterprises through shared information and activities on business networks, private sector initiatives, and government services.

These activities began with the understanding that companies started by women tend to be smaller and less likely to join the formal sector than those owned by men. Woman-owned enterprises also experience slower growth, due not only to specific financial barriers, but also to nonfinancial barriers such as the legal and regulatory environment, women's access to public spaces and community infrastructure, and personal characteristics, including financial literacy, use of networks, and expectations about women's role as primary providers of family care. In nearly all of these respects, women's entrepreneurship in the transportation sector is likely even more challenging. Most transport firms require significant outlay of capital—an area in which women are particularly disadvantaged—to pay for equipment and skilled labor. Their owners also require access to key networks that will connect them to the networks that they seek.

#### How can buyers identify women-owned companies? The WEConnect solution

WEConnect International, a non-profit organization that works all over the world, trains and supports woman-owned businesses to succeed in global value chains. WEConnect International is most known for its woman-owned business certification: it identifies, educates, registers, and certifies businesses based outside of the U.S. that are at least 51 percent owned, managed, and controlled by one or more women, and then connects them with multinational corporate buyers. WEConnect is present on 6 continents and in more than 20 major markets. Through strategic partnerships with local organizations, WEConnect expands its outreach and informs women about the opportunity of being a female-owned business. WEConnect also partners with multinationals to assist women in accessing new markets for their products and services.

Thus, while this section only scratches the surface of entrepreneurship in transportation, it underscores for the sector the key issues that arise for women entrepreneurs generally. It also calls attention to two key issues cited by stakeholders consulted for this WiT data framework activity: first, the need for government purchases in transportation to be accessible to all potential bidders, including women, and, second, the utility of having female-owned enterprises certified as such, so that other companies seeking female-owned suppliers have a readily available mechanism for doing so. See Table 2-4 for the range of actions and indicators on women's entrepreneurship.

**Table 2-4**

*Entry into Sector: Actions and Indicators for Entrepreneurship*

Action	Indicator(s)	Source	Availability in APEC Economies
Embrace APEC priorities as they pertain to Women in the Economy	APEC Women in the Economy Dashboard (75+ individual indicators)	APEC, Policy Support Unit (discussed in Best Practice section of this report)	21
Strengthen conditions for SME access to credit	World Bank, Doing Business, "Getting Credit" scores and rankings	World Bank	21
Ensure transparency, equal opportunity, and accessibility of government procurements in the transportation sector	Percentage of transportation contracts, by value or number, awarded to female-owned enterprises	Data maintained by Ministries of Transportation and local transportation authorities	TBD
Facilitate access of women-owned enterprises to transportation supply chains	Number of transportation enterprises certified as female-owned	WEConnect (discussed in Best Practice section of this report)	21



### 3. RETENTION

More than in most other fields, getting women transportation workers to stay in the sector—which can be isolating, difficult for families, and in many instances unsafe—is enormously challenging. For the most difficult jobs—those requiring the highest degree of skills or the most sacrifice—wage scales in transportation tend to be higher than most, and good pay provides an incentive to remain. But for most women, money is usually not enough. Even in jobs where their wages and earning potential are equal to those of their male counterparts, women experience a number of constraints that may lead them to leave earlier than men. These include an inability to balance their typically higher burdens of family care with their work, along with heightened concerns about on-the-job safety hazards and sexual harassment, bullying, or even violence. To increase retention of women in the field, APEC economies—as represented by both the public sector and private firms—must work to address each of these concerns.

#### COMPENSATION

In certain modes of transportation, such as trucking, one incentive for women to participate is the promise of wage equality. There is a widespread practice of paying professional truckers by the distance traveled, in kilometers or miles, measures that (in theory) cannot be distorted by gender perceptions. Even though men who have worked longer in the field may be eligible for better routes than their junior colleagues who are women, trucking companies can emphasize the full equality of their wage structures. See Table 3–1.

For most other jobs in the sector, however, wage differences between men and women that plague most industries may be a continuing problem. If women do the same jobs as men—whether as bus drivers, highway maintenance workers, construction equipment operators, mechanics, and so forth—but believe they are not paid equally, their incentives to stay diminish.

In fact, little is known beyond small, isolated studies about wage differences in transportation. As verified by research underlying the development of APEC's Women and the Economy Dashboard in 2014, wage information generally is not reliably maintained consistently in the 21 APEC economies.

Still, with a commitment to learning more about women in transportation, including through monitoring similarities and differences in wages by sex, economies, and firms may ensure that issues of compensation do not drive women from the field. The WiT activity also provides the opportunity to highlight increases of wages earned by women who, trained as adults, shift jobs into the transportation sector.

**Table 3-1***Retention: Actions and Indicators for Compensation*

Action	Indicator	Source	Availability in APEC Economies
Monitor and address wage equality between men and women (by firm and mode)	Gender gaps in wages (by job, firm, or mode), benchmarked and measured over time	ILO surveys; data maintained by regulatory agencies; individual firm statistics; universities and research institutes; unions; self-reported data	TBD
Track changes in wages earned by women before and after entering transportation sector	Change in income experienced by women successfully trained to enter transportation sector	Government agencies; training institutions; universities and research institutes; unions; self-reported data	TBD

## FLEXIBILITY

Considerable attention has been devoted in recent years to the question of why, after just a few years, women who may have qualified for and at one time worked in nontraditional jobs decide to leave. Again and again, the reality of work-life balance arises: for transportation jobs in particular, there is both the perception, and in many cases the reality, of incompatibility between work and family. All over the world, including in the APEC economies, women devote far more time than men to childcare, housework, and overall care of families (OECD 2014). Accordingly, women strongly value flexibility in employment and are more likely to leave jobs that are rigid in hours and other conditions of work.

Where jobs lack flexibility for employees to work nonconventional hours or part-time—or routinely require workers to be away from home for long periods without adequate breaks—they become less attractive to women, particularly women with children. (Unlike other sectors, most transportation jobs do not allow for telecommuting.)

The presence or absence of employer-supported childcare can make the difference in woman's willingness to stay in the field. More broadly, emphasizing opportunities that arise from shared family obligations—that is, encouraging men and fathers to assume more responsibilities in housework, childcare, and other family care—may also free more women to stay in nontraditional jobs that tend to pay more than sex-segregated jobs traditionally held by women. At the same time, as observed in one economy review of the draft framework, “the extent to which the private sector will get involved in [supplying childcare] will vary markedly between economies,” due to economy differences and traditions with respect to childcare—that is, whether it is chiefly provided by families, governments, or companies.

Studying “what works and what doesn’t” to achieve work-life balance in transportation is an imperative that can significantly affect whether employers are able to retain women in the field. In addition to retaining workers in the field, transportation firms and agencies may consider how they can bring back women who have taken a break from their careers for family or other reasons. See Table 3-2 for actions and indicators on improving flexibility.

**Table 3-2***Retention: Actions and Indicators for Flexibility*

Action	Indicator	Source	Availability in APEC Economies
Ensure that the law does not penalize workers who take time off when they become parents	<p>How the economy fares on representative “Getting a Job and Incentives to Work” indicators, specifically whether:</p> <ul style="list-style-type: none"> <li>• It is illegal for an employer to ask about family status during a job interview</li> <li>• There are laws penalizing or preventing the dismissal of pregnant women</li> <li>• Employers must give employees an equivalent position when they return from maternity leave</li> <li>• The law mandates paid or unpaid maternity leave</li> <li>• The law mandates paid or unpaid parental leave</li> <li>• Payments for childcare are tax deductible</li> </ul>	World Bank, Women, Business and the Law	20
Develop flexible work schedules in all transportation modes, for all workers (men and women) without compromising benefits or opportunities for promotion	Presence of flexible work schedules, daily flextime, and part-time work within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Encourage transportation firms to support employees’ needs for childcare services	Presence of employer support for childcare, such as through presence of on-site childcare centers or flexible spending accounts for childcare	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Demonstrate a commitment to re-employing workers, particularly women, who have taken time out from their careers for family and other reasons	Evidence of re-hiring workers who have taken extended periods of time off; evidence of engagement of companies that assist women’s reentry into the sector.	Data maintained by employers; university and research institutions; unions; employee self-reporting	TBD

## ON-THE-JOB SAFETY

Nearly all nonoffice and nonadministrative workers in the transportation sector face occupational hazards greater than the norm. Road traffic faced by truckers and highway maintenance workers requires constant vigilance, for example, as do most jobs involving rail, water, air, and public transit. In addition to these general considerations of worker safety,



women in transportation often face hazards—real and perceived—beyond those typically experienced by men.

First, that some women are in a tiny minority among their colleagues may make them feel extra vulnerable to harassment and crime. To an extent not typically sought by men, women may desire extra lighting and security at night, extra locks in their cabs or other workplaces, access to safety hotlines or panic buttons, or even training in self-defense.

### Exhibit 3-1

*Impact of Unsafe Truck Stops on Retaining Female Drivers: Excerpt from Lillian Miller, Women in Transportation are Moving the World (2014)*

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<p>The lack of good security is preventing carriers from retaining competent female drivers. Regular safety auditing of warehouses and truck stops must be made a number one priority. Research indicates that women are at a higher risk of experiencing violence.</p>	<p>maintenance, signs and maps, accessibility, sightlines, security, isolation, emergency protocols, entrapment sites.</p>
<p>From conversations with truck drivers, we may conclude that their perception of security will influence the decision where they park for the night. Some will only sleep in rest areas and not truck stops.</p>	<p>Practices, such as truck stops allowing prostitution must be stopped, attitudes and behaviors: feelings of being threatened or intimidated; experiences of disrespect.</p>
<p>Trucks stops fail to provide adequate security measures. They still allow the solicitation for prostitution on their premises. There is no panic button to pull anywhere on the parking lot.</p>	<p>Providing an escort similar to those in shopping malls may help or golf carts to take female drivers to and from truck parking would also provide more security.</p>
<p>Not feeling safe will affect any woman's behavior, cause undue stress, and may interfere with her ability to sleep in the truck.</p>	<p>Another suggestion would be to designate secured women parking areas that are closer to the truck stop and with a direct entrance to the women's bathroom accessed only by key, etc.</p>
<p>Therefore, it is recommended that both truck stops and trucking companies do safety audits for overall security.</p>	<p>Architectural design of truck stops may be also considered. Perhaps design similar to airports, with walkways from the parking area to restrooms and this way driver would be protected from the weather elements with electronic cards for entrance.</p>
<p>Examples of these would be physical features: lighting,</p>	<p>Also, truck stops need to provide a shuttle from parking.</p>

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A related issue concerns gender differences affecting safety on the job. For example, in some jobs, such as construction or maritime, personal protection equipment may not fit or suit women workers. Women may also find that sanitary facilities in their workplaces lack privacy and accessibility, and may be unsafe or unclean. Women who feel unsafe on the job are unlikely to stay. Employers can address the issue by conducting personal-safety audits and responding appropriately to needs as articulated by their women employees and occupational safety professionals.

Finally, important guidance may be drawn from sex-disaggregated statistics pertaining to transport accidents or risky on-the-job behavior. Where local stereotypes or perceptions may hold that women cannot perform transportation jobs as safely as men, such data may either counter these assumptions or identify opportunities to improve areas where women may be at a disadvantage. Table 3–3 gives actions and indicators for addressing safety.

**Table 3-3***Retention: Actions and Indicators for Safety*

Action	Indicator	Source	Availability in APEC Economies
Monitor and address workplace safety issues of particular concern to women	Evidence of employer safety interventions oriented toward women	Data maintained by regulatory agencies; individual firm or agency reporting; university and research institutions; unions	TBD
Create mechanisms for reporting and addressing gender-related workplace harassment or violence	Evidence of formal mechanisms within firms and government agencies for reporting and addressing gender-based harassment or violence at work	Data maintained by regulatory agencies; individual firm or agency reporting	TBD
Compare safety statistics between men and women for purposes of studying advantages and differences	Accident statistics across modes	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD

## TECHNOLOGY

Retention of women in transportation requires meeting other conditions that can make a difference in whether women feel welcome, fully integrated, and valued in their work and in the sector at large. Directly and indirectly, technological advancements in transportation can strengthen the position of women who work in this sector. For example, integration of technology advancements may counter the perception that women are physically incapable of doing certain transportation jobs. Information technology and connectivity can also reduce both general occupational hazards and personal security risks that women may feel while working.

Benchmarking and tracking the relationships between transportation, technology, and women's participation in the sector has not been widespread, whether in the public sector, private industry, or academia. Opportunities for learning in this area are considerable, and knowledge shared in the future can improve practices across APEC over time (Table 3-4).

**Table 3-4***Retention: Actions and Indicators for New Technology*

Action	Indicator(s)	Source	Availability in APEC Economies
Integrate technologies that make key transportation jobs more accessible to women	Evidence of technology upgrades or uses that have a primary or secondary impact of making one or more transportation jobs more accessible to women	Individual firm or agency reporting; universities; transportation research institutes; sector associations	TBD

Action	Indicator(s)	Source	Availability in APEC Economies
Integrate technologies that respond to the personal security concerns of women working in various modes of transportation	Evidence of technology upgrades or uses that have a primary or secondary impact of making one or more transportation jobs safer for women	Individual firm or agency reporting; universities; transportation research institutes; sector associations	TBD

## 4. LEADERSHIP

As a minority of workers in most transportation jobs, women are especially hard to find in leadership positions. Nevertheless, as noted at the APEC/WiT stakeholder meeting convened in 2013, there are some pockets of success:

- At least one-fifth of the largest airports in the United States are headed by women.
- Increasingly, women are found in leadership positions in trucking.
- Governments are increasingly willing to place women into senior leadership positions, including in domestic public transit agencies, ministries of transportation, and authorities overseeing specific modes of transportation. (USDOT 2013).

In addition to these trends, women are increasingly engaged in networks that are either directly or indirectly related to their ability to grow as leaders in the transportation sector. Although APEC-wide statistics are not readily available, women participate as leaders in academia and transportation research, major sector associations, and labor unions formed in support of individual transportation modes. Organizations such as Advancing Women in Transportation International (WTS), Women in Aviation, Women in Trucking provide women with many avenues to connect to learning, opportunities, mentors, and transportation leaders. Both types of groups, as well as public sector agencies and academic institutions, call attention to the accomplishments of women through award and scholarship programs.

Still, little is known about how, in general, women have risen to leadership positions within the transportation field. Among nontraditional sectors generally, there is some guidance about why women may be left behind. As articulated by Catalyst (2013), an organization dedicated to improving conditions for women and business.

Male-dominated industries provide particular challenges for women's advancement ....[T]alent management systems are frequently vulnerable to pro-male biases that inevitably result in less diverse employee pools. Because senior leadership teams, which tend to be dominated by men, set the tone for talent management norms, masculine stereotypes can creep into HR tools. Employees who meet criteria (potentially based on masculine stereotypes) are selected for promotion and/or tapped as future leaders and/or offered development opportunities. Because male-dominated industries and occupations tend to be particularly vulnerable to masculine stereotypes due to lack of diversity, women may find excelling in these industries or occupations to be particularly difficult.

In other male-dominated industries, such as finance, studies indicate that women, who enter at similar rates as men, often do not become leaders in the field because they see “few opportunities for advancement and [move] to other fields that let them have more of a life” (Colby 2015).

For the purposes of the proposed WiT data framework, issues of investment, opportunity and recognition are considered key outcomes necessary for women to advance as leaders in the transportation sector.

## INVESTMENT IN WOMEN

After a few years on the job, women face a series of choices that may make the difference between whether they stay in the transportation sector and advance in terms of leadership, influence, and pay, or whether they choose paths that strike them as more accessible, hospitable, or a “better fit.” These years can be critical, both for the women themselves and the firms that may miss out on their leadership in the future. The challenge has been articulated as a need not merely to develop sound “leave policies,” but also to implement good “stay policies” (Colby 2015).

The actions and indicators proposed here represent tangible ways in which employers can invest in women with the overall purpose of helping them grow and thrive, and, in the long run, become leaders. Employers begin with investing in career counseling for women in the transportation workplace, as well as encouraging women to participate in leadership programs. Also, firms are widely advised to encourage mentoring of their female employees. As Global Skills X-Change noted in a 2014 white paper on women in transportation:

The lack of female mentors provides a serious impediment for younger women in the industry. With the scarcity of women in transportation, younger women have few opportunities to observe the behaviors of other women in transportation and lack a model for success. The lack of older women in transportation poses a problem for young women who would benefit immensely from mentoring in non-traditional fields such as transportation.

A variety of sources consulted for this activity confirmed that women in transportation often lack mentors, whether male or female, who help them advance in their careers. Firms and agencies can do more to connect women to all types of mentors, whether men or women, and even, as available, in different modes (Table 4-1).

**Table 4-1**

*Leadership: Actions and Indicators for Investment in Women*

Action	Indicator	Source	Availability in APEC Economies
Offer career counseling to women in the transportation sector	Evidence of informal and formal career counseling programs within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Develop and implement formal policies that encourage greater inclusion and development of women employees	Evidence of formal gender policies within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD

Action	Indicator	Source	Availability in APEC Economies
Provide women in transportation with mentors	Evidence of informal and formal mentoring programs within transportation firms and agencies	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD
Support women's participation in formal leadership programs	Evidence of firm or agency support of women's participation in formal leadership positions	Data maintained by regulatory agencies; individual firms; university and research institutes; unions; employee self-reporting	TBD

## OPPORTUNITY

Beyond supporting women's professional development as managers and leaders, transportation employers from all modes should then actively encourage women to seek leadership positions. That is, they should help women identify and seek *actual opportunities to lead*. Encouragement should continue not only after a woman has achieved her leadership goal, but also – and especially – if she fails the first time.

Leadership is another area in which the link between activities and outcomes can be clearly indicated by relatively accessible statistics. That is, success can be measured by whether the representation of women in leadership positions in fact increases, both in the public and private sectors, as well as in unions and other organizations (Table 4–2).

**Table 4-2**

*Leadership: Actions and Indicators for Opportunity*

Action	Indicator	Source	Availability in APEC Economies
Promote qualified women into executive leadership positions in the public sector	Women's share of executive leadership positions in domestic, regional, and local transportation agencies	Individual economy statistics; representative agency statistics	TBD
Promote qualified women into executive leadership positions in the private sector	Women's share of executive leadership positions in largest private sector transportation firms	Individual economy statistics; representative firm statistics	TBD
Encourage women's leadership in transportation labor unions	Women's share of top leadership positions of representative labor unions	Labor unions	TBD
Ensure participation of women on the governing boards of transportation companies	Women's share of seats on boards of publically held transportation firms	Individual economy statistics; representative firm statistics	TBD

## RECOGNITION

One important way to encourage the leadership of women—and the work of firms and agencies that promote women—is to acknowledge their accomplishments through publicity and awards (Table 4-3). Recognition may reinforce a woman’s resolve to pursue her leadership ambitions. It may also attract the attention of other firms actively seeking new leaders.

**Table 4-3**

*Leadership: Actions and Indicators for Recognizing Women as Leaders in Sector*

Action	Indicator	Source	Availability in APEC Economies
Encourage economy-wide and mode-based awards for women in transportation, for individuals and employers	Evidence of firm, agency or mode-based leadership awards, both for individuals and employers in transportation	Data maintained by regulatory agencies; individual firm and agency statistics	TBD

## 5. ACCESS AND USE

Awareness is growing within and beyond APEC about how women use public infrastructure and transport differently or have different transportation-related priorities from men (ADB 2011). For example, women are more likely than men to miss work or drop out of the workforce because of transportation problems. Women often travel with children, or are more likely than men to require transport for their families, including the elderly. In rural economies, where women disproportionately work in agriculture, they are often excluded from more lucrative opportunities in transporting their products to market. Where women are a crucial source of labor in communities that depend on manufacturing and services, their need for safe transportation, including affordable public transportation, is often underserved.

As noted at the beginning of this report, however, women are overlooked as users of transportation. Their experiences as passengers and travelers—including in their commutes to work, their transport of family members, their experiences in waiting rooms, ports, and stations, and more—are only rarely considered in a way that is distinguished from those of men. Aside from some economy information gathered through household surveys, there are relatively few insights about women's transportation needs and habits supported by consistently maintained, reliable sex-disaggregated data. Moreover, although issues of women's transport safety are discussed, it is usually in the context of news reports about women's vulnerability or victimization while traveling. The perspectives and experiences of women are rarely sought to guide transportation policy, design, and implementation of services. Few public transit systems routinely survey or report on the relative representation of men versus women as their users and the different experiences they may have.

*Women are often the real experts of their neighborhoods, and they are the best to articulate their own needs and to identify the barriers they may encounter that limit their mobility. The incorporation of women's voices in planning and policy making regarding transportation issues through regular consultation with focus groups, targeted surveys of women passengers, and safety and gender audits would help diminish the current ambiguity of transit operators regarding gender-appropriate safety and security measures.*

—Martin Wachs (2009)

To date, WiT has focused almost entirely on the place of women as workers in the transportation industry. There is a common assumption that, if more women become workers and leaders in transportation, the industry will then become more mindful of and responsive to the interests of women. It is not enough, however, to rely on that long-term vision of a more gender-responsive transportation industry.

### DATA

A comprehensive review of data on women's participation and well-being throughout the world, sponsored by the UN Foundation and issued in March 2014 (Data2x), concludes that the design



of policies and programs to promote female advancement and expanded opportunities has been greatly hampered by lack of data. According to Data2X, the dearth of information is more severe in developing economies than in industrial economies, and in all economies, data on women's economic engagement is especially poor. The lack of data applies to women's economic empowerment generally, and to the transportation sector specifically.

Notwithstanding wide agreement that women have diverse and specific travel needs, women are rarely asked directly about the range of their experiences in transportation—such as their safety and security preferences, their ability to access services, or their needs as caretakers of others while traveling.

Without information that distinguishes how women experience transportation in ways that may be different from the ways men experience transportation—such as access to public transit and private modes, personal safety, and predominance as caregivers whose mobility may be limited—the sector cannot meet their needs. Accordingly, for the purposes of WiT, a fundamental challenge is to increase the collection of data on women as users of transportation services, so that better services can be designed and delivered in the future (Table 5–1).

**Table 5-1**

*Access and Use: Actions and Indicators for Data on Women as Passengers*

Action	Indicator	Source	Availability in APEC Economies
Commit to the development of reliably maintained statistics on the use of each transportation mode, disaggregated by sex, including with respect to access, safety, costs, facilities, and additional needs.	Number of sets of reliably maintained, sex-disaggregated statistics on transportation use (all modes)	Regulating authorities (all modes); household surveys; universities and transportation research institutes	TBD

## PLANNING AND INVESTMENT

To be fully responsive to the needs of the communities they serve, designers of transportation services need to understand the priorities and interests of all groups of users, including women. For example, as a Transportation Research Board study noted, “a review of the scant literature on women's time poverty finds that anything that increases the time costs or uncertainties of auto travel is likely to disproportionately affect women and that public transit provision has not ... provided an effective substitute” (Giuliano and Schweitzer 2009). In this and many other ways, transportation is not gender neutral, so planning and investing in transportation ought to take into account the different experiences of men and women.

Transportation planners and policymakers in long-term planning and investment are increasingly aware of the need to consult representative groups of women—whether commuters or transportation workers, professionals, and managers—on their needs (Table 5-2).

**Table 5-2***Access and Use: Actions and Indicators for Integrating Women's Views*

Action	Indicator	Source	Availability in APEC Economies
Consult representative groups of women on their particular recommendations and needs pertaining to transport design and policy, including with respect to access, safety, costs, facilities, and additional needs.	Evidence of formal design and policy consultations of women stakeholders by public agencies engaged in delivering transportation services	Data maintained by regulatory agencies; individual firm and agency statistics; universities and transportation research institutes; international donor institutions	TBD

## PASSENGER SAFETY

Across APEC and the world, safety issues associated with women and transportation are increasingly acknowledged. Although horrific and widely publicized crimes against women using public transportation have brought attention to the issue in recent years, these discussions have resulted in more broad-based discussion of how nearly all women prepare for a reduced sense of personal security when they enter public transportation systems. The breadth and nuance of the topic cannot be fully examined by the WiT data framework initiative; still, as economies seek to prioritize women's safety in transportation, they are increasingly aware of the many ways the issue may affect women and their families. The WiT pilot activities afford economies the opportunity to develop targets, activities, and lessons learned from interventions into the safety of women as transportation consumers (Table 5–3).

**Table 5-3***Access and Use: Safety Improvements for Women as Passengers*

Action	Indicator	Source	Availability in APEC Economies
Promote the personal safety of women as passengers in both public and private modes of transit transportation	Evidence of efforts to strengthen safety conditions and features for women who access public and private transportation services	Data maintained by regulatory agencies; individual firms; university and research institutes; unions	TBD



## PART II. BEST PRACTICES

Member economies, government agencies, private firms, donor institutions, and others have found the initiatives detailed in Table 6-1 promising for or successful in promoting women in transportation, women in nontraditional sectors, or women's economic empowerment in general. The examples are drawn from surveys conducted by the WiT Task Force; US-ATAARI interviews with transportation, gender, data, or international development professionals; and additional research. The list includes links to websites when available.

**Table 0-1***Women in Transportation: Illustrative Best Practices*

Education		
	Purpose	Description
<b>Awareness and First Steps</b>	Promote awareness of transportation professions among primary and secondary school-aged girls (general and mode-specific)	<p><b>Women in Trucking: Girl Scouts Transportation Patch (United States).</b> Women in Trucking is an international membership organization that encourages the employment of women in the trucking industry, promoting their accomplishments and seeking to minimize obstacles by women employed in the industry. The organization reaches out to women who might not be aware of trucking as a career path, beginning with a variety of services and activities oriented toward girls and young women.</p> <p>In 2014, Women in Trucking joined with a regional chapter of Girl Scouts of America (Chicago and Northern Indiana) to sponsor a Transportation Patch, awarded to scouts who fulfill a specially designed curriculum oriented toward careers for women in transportation. As part of this initiative, the planned a one-day event entitled “Trucks are for Women,” hosted by Olive-Harvey College, located around southeast Chicago. At the event, 84 girls, ages 4 through 13, had the opportunity to examine and learn from exploring two tractor-trailers. Their parents were also included. <a href="#">According to a description of the event</a>, the keynote speaker “talked about her job as Chief Technical Engineer at Navistar, specifically explaining the importance of truck cab design and how it relates both to comfort for the driver as well as aerodynamics and fuel efficiency. Upon examining the tractor-trailers, the scouts learned about the parts of the vehicle and the importance of maintaining the equipment for efficiency and safety. Additional activities included teaching the scouts to examine maps.</p> <p>The transportation patch provides critical exposure to young girls about the variety of employment opportunities in the transportation sector, including trucking, through fostering an important partnership with a popular local youth organization.</p>
	Encourage tangible introductions and “first steps” into transportation sector for girls (including school visits, workplace fieldtrips, mentoring activities, etc.)	<p><b>Women in Aviation International: Girls in Aviation Day (Worldwide).</b> Women in Aviation International chapters scheduled an international Girls in Aviation Day to take place on September 26, 2015, promising “to bring all of the passion, exploration, learning, and excitement of aviation and aerospace” to girls and women around the world. The event aimed to connect girls with others who share their interests; help them explore opportunities for working in the aviation and aerospace industry; and share the fun that aviation offers. Activities allowed girls to meet women with careers in aviation, control a pretend air traffic control tower, learn about jobs at the airport, learn the official aviation alphabet (alpha, bravo, Charlie, delta), hear the professional pilot’s job, explore different kinds of airplanes, use tools that an aircraft mechanic uses, fly a flight simulator, test</p>

their aeronautical designs, and navigate using an aviation sectional chart. Participants came from chapters around the world, including Cameroon, Canada, China, Kenya, Nigeria, Switzerland, and the United States.

**U.S. Department of Transportation: Transportation YOU (United States):** The United States Department of Transportation (USDOT) and the Women in Transportation Seminar (WTS) jointly implemented Transportation YOU, a career exploration program for girls ages 13 to 18. Since the launch of Transportation YOU in 2012, over 600 girls have participated in the program, coordinated by 30 WTS chapters across the U.S. In addition, USDOT and WTS jointly host a leadership summit in Washington, D.C. focused on helping seniors in high school focus on post-secondary opportunities. Approximately 80% of the girls who have participated in the Leadership Summit reported that the program has had an impact on their career aspirations and their focus of study as they enter college.

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Strengthen awareness and acceptance of girls and women as participants and leaders in nontraditional sectors

**Supporting and Linking Tradeswomen, Skill Women program (Australia).** Founded in 2009, SALT is a not-for-profit, all-volunteer organization that provides networking, services and support to current and potential tradeswomen and apprentices in nontraditional occupations for women. For women of all ages, including high school students, SALT offers guidance on how to become a tradeswoman, including how to find an apprenticeship. SALT represents a number of trades, including carpenters, electricians, and mechanics. In 2012, during Australia's National Skills Week and in conjunction with the government of New South Wales, SALT began the Skill Women program to expose young women to the trades. [The activity introduced a Try-a-Trade trailer at a New South Wales high school](#), offering lessons in the use of hand tools and power tools. SALT mentors shared information about how learning a skilled trade offers opportunities in higher-wage jobs that have been traditionally occupied by men.

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**Secondary  
Education and  
TVET**

Narrow gender  
gap in math  
participation and  
achievement

**Development of APEC-wide Guidelines for Women's Involvement in Science, Technology, and Innovation (Russia).** Within APEC, the need for more tangible information addressing how economies are developing human capital in STEM-related areas, including math, has been identified. Beginning in 2015, the Ministry of Economic Development of the Russian Federation was leading an APEC-wide review of barriers to developing human capital and gender equality in science, technology, and innovation. Implemented through APEC's Policy Partnership on Women and the Economy, this initiative will include a report, action plan, and workshop addressing these issues and sharing best practices across APEC's 21 member economies. The activity is based on the premise that, in every APEC economy, there are specific methods for the development of human capital of women and promotion of women's participation in education, business, and innovation. The activity aims to identify and disseminate best practices among APEC's member economies for strengthening opportunities for women and reducing the gender gaps in science, technology, and innovation.

**University of Memphis: Girls Experiencing Engineering (United States).** The University of Memphis operates the Southeast Transportation Workforce Center (SETWC), which is part of the National Network for Transportation Workforce across the United States. SETWC aims to coordinate existing regional programs, plans, and processes to foster partnerships that connect students and adults to enter, transition, or advance in the transportation sector.

As part of the SETWC, the University of Memphis has organized Girls Experiencing Engineering (GEE) program since 2004. The GEE program is an immersive, 20-hour intensive session for girls in middle school and high school. GEE also involves high school and colleague peer mentors, as well as math and science teachers. GEE has six primary objectives: demonstrate connections between math, science, and engineering; highlight career opportunities in the field; design realistic applications through engineering-based design challenges; develop leadership skills; provide teachers with instructional methods training; and provide parents with information about engineering opportunities for their children. The GEE program exposes young girls to engineering opportunities through a holistic community approach, involving peers; instructors; mentors; and parents.

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	Increase participation of girls and women in nontraditional TVET programs	<p><b>ADB, Viet Nam Skills Enhancement Project.</b> Begun in 2010, the Skills Enhancement Program aims to strengthen Viet Nam's formal TVET system in a way that integrates modern technologies into the industrial and service sectors. The program strives to address gender inequity and open doors to women, including through social marketing targeting of poor rural areas and attracting more women into male-dominated industries. The program is supported by a US\$70 million loan from the ADB's concessional Asian Development Fund. The program focuses on the automotive technology, electrical and mechanism manufacturing, hospitality and tourism, information and communication technology, and navigation and shipping industries. The program provides management and instructor training in 15 public and 5 private vocational colleges in 5 economic zones. The ADB has also developed a <a href="#">detailed set of materials</a> guiding the development, implementation, and monitoring and development of the program.</p> <p><b>National Service for Training and Employment, "Women in Mining" (Chile).</b> Chile's government has long supported efforts to change people's minds about the lines of work appropriate for women and to narrow the wage gap between working-class men and women. The National Service for Training and Employment, for example, has programs for employed and unemployed women, including training programs for nontraditional jobs. In the Valparaíso region, the Women in Mining initiative provides tuition for training in heavy machinery operation and other mining operations, along with a stipend that covers living and transportation costs for the duration of the course. In 2012, this program trained 520 women, 45 percent of whom were employed in the sector as of July 2013. The average wage of trainees who found and kept jobs in mining increased from 193,000 pesos a month (US\$376) to about 400,000 pesos (US\$700) a month. The government gives a monthly bonus to companies that hire women from vulnerable households and to those hired for four years. In 2013, the state-owned Corporación del Cobre, the world's top copper producer, <a href="#">set a target of offering one in five jobs to a woman</a>. The firm implemented programs for reconciling family life and work, improving facilities, and providing work training.</p>
<b>Higher Education</b>	Encourage women university students to pursue STEM-related courses of study	<p><b>European Platform of Women Scientists (EPWS) (including the Russian Federation).</b> Established in 2005, the EPWS is an international NGO that represents the needs, concerns, interests, and aspirations of more than 12,000 women scientists in Europe and beyond, including a broad membership of university women and connections to university science and engineering departments. More than 100 networks of women scientists and organizations promoting women in science from 40 countries have joined the EPWS since its inception, working for promotion of equal opportunities in the research fields of all scientific disciplines and aiming to give women scientists a voice in European research policy. Russian scientists have been among the contributors to these activities, and there is room for even more cooperation in the future. In 2015, EPWS was co-organizing a series of events called "Bridging the Gender Gap and Accelerating Innovative, Sustainable Growth" with EUWIIN (the European Union Women Inventors and Innovators Network). As promoted by the <a href="#">World Economic Forum's Agenda</a>, this gender-focused initiative supports the goal of linking women in STEM with opportunities to develop their business knowledge and build their capacities to apply their scientific knowledge to entrepreneurial pursuits.</p>



	Increase presence of women as STEM faculty within universities	<p><b>Association for Women in Science (AWIS) (United States).</b></p> <p>Founded in 1971, AWIS is the largest multidiscipline organization for women in science, technology, engineering, and mathematics (STEM) in the United States. The organization advocates for full participation of women in all STEM disciplines across all employment sectors. AWIS reaches more than 20,000 professionals, 30 percent of whom are in private industry.</p> <p>AWIS offers a suite of services that contribute to increased hiring of women as STEM faculty. Most conspicuously, the carefully tended, regularly updated AWIS job board provides a direct link between female STEM applicants and employers, including many universities seeking faculty in the STEM arena. Just as importantly, AWIS strengthens candidacies through development of professional networks, advocacy, and outreach on behalf of women in science, sponsored research in the field (such as on unconscious bias toward women in STEM), and a variety of online and in-person resources for mentoring and coaching.</p> <p>Although not attributable directly to AWIS, the attention paid over the past generation to the importance of women in STEM has produced results for women applicants to STEM faculty positions. In 2015, the National Academy of Sciences published research showing that individual members of faculty hiring committees in biology, engineering, economics and psychology preferred female applicants 2:1 over identically qualified males with matching lifestyles (single, married, divorced), with the exception of male economists, who showed no gender preference. Randomized trials were conducted on 873 tenure-track faculty (439 male, 434 female) at 371 universities/colleges from 50 U.S. states and the District of Columbia. The study concluded that “it is a propitious time for women launching careers in academic science” in the United States.</p>
<b>Apprenticeship</b>	Increase presence of women in formal apprenticeship programs	<p><b>U.S. Department of Labor: ApprenticeshipUSA (United States).</b></p> <p>The U.S. Department of Labor has a mission to “foster, promote, and develop the welfare of the wage earners, job seekers, and retirees of the United States; improve working conditions; advance opportunities for profitable employment; and assure work-related benefits and rights.” In President Obama’s January 2015 State of the Union address, he called on businesses to offer paid apprenticeships to give workers without postsecondary education the opportunity to earn higher-paying jobs. DOL created the ApprenticeshipUSA program to encourage more apprenticeships.</p> <p>ApprenticeshipUSA is a US\$100 million competitive grant program to develop and implement apprenticeship programs. The program goals are to expand the quality of skills in high-growth industries; foster career pathways to align with other postsecondary educational opportunities; shape public policy to increase the demand and sustainability of U.S. apprenticeships; and increase availability for underrepresented populations in apprenticeships, including women, people of color, people with disabilities, military veterans, and transitioning military service members. Both public and private sector entities are eligible for ApprenticeshipUSA grants, which range in value from \$2.5 million to \$5 million over five years. Examples of grant activities are on-the-job learning, job-related technical instruction, sector strategy and career pathway development activities, and partnership building activities. In fiscal 2014, more than 410,000 people enrolled in 19,000 apprentice programs. ApprenticeshipUSA gives women the opportunity to not only learn direct occupational skills applicable to a career and leverage further employment, but also other work-related skills, such as on-the-job problem solving, professional communication, and handling a supervisor’s demands.</p>

Entry into the Sector		
	Purpose	Description
<b>Stereotypes and Perceptions</b>	Strive to counter gender stereotypes that may inhibit women's full participation in the transportation sector	<p><b>Pacific Women in Maritime Association (PacWiMA), PNG Chapter: PNG Women in Maritime Road Show.</b> After PacWiMA was launched in Fiji in 2005, PNG formed a chapter of its own. PNGWiMA's mission is to pursue gender equity, maritime training and career opportunities, safe shipping and boating practices, and the protection of the marine environment. PNGWiMA also responds to the Secretariat of the Pacific Community Strategy to empower women, particularly in the maritime sector. In 2012, PNGWiMA conducted a road show in a number of communities to build awareness of women in the maritime field and to get girls and women to consider seafaring as a career. Activities included an introduction of the career path to primary and secondary school students, along with their parents, teachers, neighbors and community leaders, with an emphasis on the basics of safety of life at sea.</p> <p><b>Australian Rail Track Corporation (ARTC), Mentoring and Unconscious Bias Training (Australia).</b> The Australian Rail Track Corporation Ltd. (ARTC) was formed in 1997 as a joint project of the Commonwealth and State Governments of Australia, now serving all operators seeking access to the economy's interstate rail network. The network administered by ARTC is used to move a range of commodities including general freight, coal, iron ore, other bulk minerals, and agricultural products. It also serves interstate and inter-city passenger services. Of its nearly 1200 employees, about 18 percent are women. According to its website,</p> <p>ARTC has taken a number of steps toward increasing the presence of women within its workforce. It actively recruits women to participate in its internal mentoring program. In addition, in March 2015, ARTC conducted an "unconscious bias" training, to make all employees more aware of their biases and how these may affect the decisions that they make. The aim of the training was to challenge stereotypes, with a particular focus on how females can be encumbered by common stereotyping. The training initially targeted 30 managers and team leaders, and is intended to be rolled out across the remainder of the organization. Implementation of the program has been monitored for effectiveness and lessons learned will be integrated as necessary as the program is expanded.</p> <p><b>Male Champions of Change (Australia).</b> An initiative of Australia's Sex Discrimination Commission, MCC is a coalition of male leaders who advocate for gender equality within companies, organizations and communities. In 2013, MCC created a 12-point action plan that members have pledged to undertake within their organizations to increase gender equality. The 12 points fall under four categories of action: (1) stepping up as leaders; (2) creating accountability; (3) disrupting the status quo; and (4) dismantling barriers for caregivers. The goal is to create a level of accountability that MCC considers necessary to make sustainable change over time. Specific actions found in the action plan include active cultivation and selection of women as leaders in top management teams; a "Plus One" initiative that encourages senior managers to have at least one female manager on their team as openings arise; a "Supplier Multiplier" commitment, which encourages male CEOs to diversify their supplier base; and creation of flexible workplaces. As of April 2015, the heads of PwC Australia, Medibank, Toll Group, the University of Melbourne, among others, had all joined and made commitments.</p>

**Equality and Eligibility**

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

**Women, Business and the Law (World Bank).** As women become more educated and qualified to hold jobs previously dominated by men, they still often find, when seeking work, many doors remain closed to them. Sources of workforce discrimination are often found in laws and regulations, as documented by the World Bank's Women, Business and the Law (WBL) initiative.

The September 2015 WBL report measures barriers to women's entrepreneurship and employment as well as laws and regulations in 173 economies that affect women's economic opportunities in seven areas. It also gives examples of how economies have revised laws and regulations in the past two years to make them more gender-equal. According to the report, in the two-year period ending April 2015, 65 economies made 94 reforms increasing gender parity. Getting a job had the most reforms with 26, followed by protecting women from violence with 23, and accessing institutions with 18. Nine economies reformed building credit, 7 providing incentives to work and going to court, and 4 using property. Most of these reforms took place in developing economies, with 19 in Europe and Central Asia, 18 in Sub-Saharan Africa, and 16 in Latin America and the Caribbean. Economies in the Middle East and North Africa had 12 reforms, and those in East Asia and the Pacific had 11 reforms. The fewest reforms—three—were in South Asia, according to WBL.

Economy summaries at the WBL website, including for all APEC economies, give examples of legal environments supporting gender equality and of those where changes are warranted.

Increase rate at which women seek and obtain certification to serve as unrestricted drivers, pilots, or captains in their respective transportation modes

**Queensland Department of Transport and Main Roads: Women Take the Wheel (Australia).** The Women Take the Wheel program encourages women to pursue a career in the traditionally male-dominated transport, logistics, and supply chain industry in Australia. Currently, women's participation in the sector accounts for only 22 percent of the workforce, and that participation has been declining. The program has two goals; it is designed to recruit, retain and engage women already in the industry and address the current shortage of skilled workers by attracting and training women new to the industry. The original advertisement for the program attracted over 300 female applicants, demonstrating the willingness of women to work in this field.

The Women Take the Wheel pilot program recruited and trained 19 women, equipping each with a heavy rigid license and placing 9 in traineeships. These traineeships were particularly in nontraditional roles at JJ Richards' waste management company. For implementation, JJ Richards partnered with the Queensland government to train and employ these female drivers through a cost-free licensing and training program. This increased operational representation at the pilot program depot from .09 percent to 20 percent. JJ Richards thus heralded the practice of offering training and licensing to specifically attract women applicants to open positions.

Due to its success at JJ Richards, the program is now being applied as a model to other sections of the transport, logistics, and supply chain industry. For its achievements as a best practice, the program won the 2011 Australian Trucking Industry Training Excellence Award.

**Recruitment**

Orient recruitment efforts toward an increased presence of qualified women in transportation jobs

**UPS (Worldwide).** UPS, the world's largest package delivery company and a leading global provider of specialized transportation and logistics services, does business in more than 200 economies. UPS is known for its "brown" brand: brown trucks, brown uniforms, and other recognizable insignia. In a dedicated website for careers at UPS, the company projects a variety of images and makes a number of points that underscore its interest in building a diverse workforce. For example, in its [recruitment videos](#), UPS shows how women have both been fully incorporated into traditional male jobs, as well as how both sexes have opportunities to access more flexible and family-friendly work. Its Frequently Asked Questions, the company directly addresses its commitment to women in the company:

*Q. What advice would you give to women who want to build a career with UPS?*

*A. From the driver's seat to the executive suite, women play a leading role at every level of UPS. We understand the importance of staying true to your needs and believe that when you're doing what you do best, the sky is the limit. We also encourage you to continually enhance your abilities, both professionally and personally. To help you, we offer several programs, including Women's Leadership Development, which will assist you in developing the knowledge, skills and values necessary to confidently step into a leadership role at UPS.*

**The Viet Nam Women's Union Model for Routine Road Maintenance (World Bank, DFID, Viet Nam Women's Union, Provincial Departments of Transport, 2010–13).** Under Viet Nam's Third Rural Transport Project, funded by the World Bank and supplemented by DFID, the Viet Nam Women's Union (VWU) Model for routine road maintenance was carried out in three provinces: Lao Cai, Thanh Hoa, and Quang Binh. The objectives of the initiative were: (1) to raise awareness of women and their families on the importance of rural road maintenance; (2) to train the local population in road maintenance to sustain infrastructure investments in project communes; (3) to strengthen the role of the Women's Union in organizing awareness raising training for both men and women in rural and remote areas; (4) to effectively maintain roads to increase lifetime of roads; (5) to develop an effective mechanism in rural road maintenance for women; and (6) to strengthen the capacity of women's unions at all levels in coordinating social and technical activities.

In the Thanh Hoa Province, 720 people in 28 communes were trained on routine road maintenance and 40 public awareness campaigns launched. In Quang Binh Province, 880 people in 96 communes were trained; In Lao Cai Province, 134 people in 24 communes were trained.

Achievements of the activity were reported to WiT as follows:

- An assessment of the pilot indicated that it had positive impacts on women's individual incomes by as much as 150 percent to 260 percent and expanded their engagement in community activities and decision-making.
- In Lao Cai Province, the VWU pilot experience convinced the Provincial People's Committee (PPC) to allocate funds for routine road maintenance by the VWU and other local groups and contractors. The funds are allocated by the PPC to the Provincial Department of Transportation and then directed to the district level. The funds are 600,000 Viet Nam Dong (VND) to one million VND per Kilometer per year.

**Taiwan International Ports Corporation (TIPC), Port Operation Introduction Campaign (Chinese Taipei).** TIPC, which is charged with operating maritime ports in Chinese Taipei, employs around 2,440 people, one-fifth of whom are women. Professional employees represent about half the staff, and, among these, around one-third are women. The Port Operation Introduction Campaign, planned and financed by TIPC, is an effort to introduce jobs associated with port operation to college students. TIPC invites students from four universities—National Taiwan University, Feng Jia University, National Kaohsiung First University, and National Kaohsiung Marine University—to participate in 16 hours of activities where they are introduced to all types of jobs at the port. The program includes both men and women, but actively aims to facilitate both sexes feeling welcome and valued in the profession. One specific goal of the program is to encourage female students to seek careers in port operation after graduation.

**Alberta Government, Women in Nontraditional Occupations: Stories to Inspire (Canada).** The Canadian province of Alberta directs a human resources outreach program to women considering nontraditional careers. In a region where work in mining, transportation, and construction are particularly important to the economy, the provincial government's efforts bolster the conditions for firms to recruit workers of both sexes. A special outreach initiative, "Stories to Inspire," reaches out to women who might be qualified for, but wary of seeking work in male-dominated sectors. The "Stories to Inspire" materials address the "myths and reality" of work in such fields, including issues of feminine stereotypes, attitudes of men, physical requirements, and qualifications for the work. The message is that the opportunities, pay, and benefits supported by nontraditional careers are often worth the obstacles that arise.

The government of Alberta also makes a point of tracking the numbers of women in nontraditional sectors. The government reports the following statistics from 2012 about women in the province's nontraditional occupations:

- 25 percent of mining, quarrying, and oil and gas jobs
  - 14 percent of construction jobs
  - 24 percent of manufacturing jobs
  - 26 percent of transportation and warehousing jobs 43 percent of professional, scientific, and technical services
  - As part of its outreach initiative, the provincial government points out to women that there is a wage gap in Alberta of around C\$5.50 an hour. The government encourages women to pursue nontraditional jobs as a means of closing the gap
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	<p>Hold transportation firms and leaders accountable for workplace inclusion and diversity</p>	<p><b>Department of Transportation and Communications, Government of Philippines, Agency-wide Gender Audits and memorandums of understanding expressing agency commitments to gender equality.</b> The department prioritizes gender equality throughout the sector, beginning with its own internal organization. The department dedicates at least five percent of its annual budget to gender-related activities, including in economy-wide, regional, and local government units. The department's gender audit reviews sectoral and regional offices, agencies, and corporations to enable the participation of women in addressing gender issues. Managers are expected to prepare and deliver results both horizontally—that is, concerning women's ability to access transportation to connect with education, health services, and work—and vertically, emphasizing that all transportation modes should do their part “in helping uplift women's concerns in public transportation by addressing their needs.” In November 2014, the department brought together over 300 stakeholders from government and multisectoral groups at a gender and transportation summit. The department and other stakeholders agreed to work together toward ensuring gender equality in developing the transportation sector. At the end of the summit, memorandums of agreement, memorandums of understanding, and manifestos of support for the initiative were signed by stakeholders in each of the four transport sectors, and by the department.</p>
<b>Entrepreneurship</b>	<p>Embrace APEC priorities as they pertain to Women in the Economy</p>	<p><b>APEC Women and the Economy Dashboard (APEC-wide).</b> APEC members recognize that the full potential of women's contribution to the Asia-Pacific economy remains untapped. Through the Policy Partnership on Women and the Economy and several of its other working groups, APEC seeks to address five key priorities affecting women's economic empowerment, including: (1) access to capital; (2) access to markets; (3) skills and capacity-building; (4) women's leadership and agency; (5) innovation and technology. In 2014, the PPWE developed the APEC Women and the Economy Dashboard, an initiative that provides a snapshot of the status of women in APEC, by looking at a set of internationally maintained indicators. These indicators allow measurement of the progress of women's participation in economic-related activities and women's inclusion in several aspects of life. Benchmarked by APEC's Policy Support Unit for the first time in 2015, the dashboard is a structure for economies to champion key issues. Progress under the dashboard will again be recorded in 2017, so all economies will have an idea of where and how progress is taking place. Details underlying the preparation of the dashboard are given in a technical document that accompanied its publication, <a href="#">APEC Women and the Economy Dashboard: Introduction and Analysis</a>.</p>

Strengthen  
conditions for  
SME access to  
credit

**Access to credit initiatives, as detailed through WE-APEC**

**(APEC-wide).** In September, 2015, Ambassador Cathy Russell from the U.S. State Department's Office of Global Women's Issues unveiled the Women's Entrepreneurship in APEC (WE-APEC) website ([www.we-apec.com](http://www.we-apec.com)). The site offers a searchable directory of over 600 service providers that support women entrepreneurs in the 21 APEC economies. WE-APEC includes the following that are oriented toward woman-owned SMEs:

- **Capital Abeja (Bee Capital) (Chile).** BEE Capital is an open competition for funds to promote the creation of new businesses or the strengthening of existing ones, by female entrepreneurs. *Capital Abeja* awards grants of 500,000 to 3,000,000 pesos (US\$1,000–6,000). The program requires applicants to co-finance their ideas in cash in an amount of at least 20 percent the SERCOTEC grant. Winners also receive technical support during implementation of their projects. As of February 2013, the number of women who had benefited from these programs totaled 2,159. Of those, 1,260 were engaged in new ventures and 899 acquired funding for existing enterprises.
- **CORFO (Corporación de Fomento de la Producción, Ministry of Economy (Chile).** CORFO supports more than 20,000 companies a year, providing credit through private financial intermediaries, subsidies to promote technology innovation, certification for international standards, and partnership practices. Although the program is not specifically for woman-owned enterprises, it does support initiatives that serve microenterprises and SMEs, many of which are owned and operated by women. CORFO's Seed Capital Program provides up to US\$120,000 in seed capital to selected ventures.
- **Microfinance Fund for Rural Women (FOMMUR) (Mexico).** FOMMUR promotes access to capital and financial services for low-income women entrepreneurs living in rural areas. The nationwide program advocates for the growth of microfinance services and microloans, as well as for technical assistance and training. The program offers financial services such as microcredit aimed at improving women's business as well as nonfinancial services intended to improve women's quality of life. FOMMUR reported providing microfinance services to 139,554 low-income women from rural areas in 2013. Its [2013 monitoring and evaluation report](#) found that 92.2 percent of the low-income, rural women who received microcredit in 2013 maintained operations for a minimum of six months after getting the loan. After 2013, FOMMUR made several changes and aimed to improve training by partnering with other institutions.
- **Women in Business desk, National Development Bank (Papua New Guinea).** Established in 1967 and reconstituted in 2007, the National Development Bank is wholly owned by the Independent Public Business Corporation as a "Trustee for the State and people of Papua New Guinea." Since 2010, the bank has operated the Women in Business Desk, offering loan products to woman-owned SMEs. According to the bank's website, "In year 2011 alone, the Bank funded K 8.9 million [US\$ 3.7 million] in loans to 90 PNG businesswomen." In 2013, the interest rate for these loans was 6.5 percent, while the commercial prime lending rate was about 10.8 percent and the typical private microfinance rate was 30 percent or more.



Ensure transparency, equal opportunity, and accessibility of government procurements in the transportation sector

**Millennium Challenge Corporation, Gender Inclusion in Standard Bidding Documents (Worldwide).** MCC's Gender Policy mandates that the agency incorporate social and gender considerations into all its compacts. In 2010, the MCC established Gender Milestones and Operation Procedures, and significantly increased its staff to help address social inclusion and gender issues. The Milestones include actions for ensuring that social and gender requirements are integrated into major procurements. MCC has channeled millions of dollars of investment into infrastructure works through its compacts in developing countries, and roads have made up a significant proportion of these. To strengthen the way MCC-funded procurements incorporate key social and gender considerations, the agency introduced a series of social and gender clauses into standard bidding documents that are used to contract out construction works. World Bank standard bidding documents are gender-blind. Standard clauses that contractors are required to ensure compliance with at MCC include non-discrimination, sexual harassment, gender integration plan requirements, and hiring of gender specialists as key staff on construction teams. In recognition of the US government's Trafficking in Persons (TIP) prohibitions, the bidding documents also include clauses noting the agency's zero tolerance policy on TIP and penalties for non-compliance. Firms submitting bids are invited to prepare creative strategies to address gender requirements in their plans, in recognition of the fact that this is a traditionally less well familiar area of work to them, and presentations on key expectations on this front are incorporated into pre-bidders conferences so that bidders may become familiar with the content. The Philippines compact has been a leader in implementing innovative strategies to improve gender benefits through a 220km road reconstruction project in Eastern Samar in areas such as gender-responsive road design, women's employment in construction and road maintenance, community safety, and anti-TIP campaigns.

**Government of Chile, Ministry of Finance: ChileCompra (Chile).** In 1999, the Chilean government consolidated all business contracting between the government and private enterprise into a single website. Within five years, the site had hundreds of thousands of companies registered and bidding. By 2003, the law required all procurement to go through the ChileCompra website, and today, 900 government agencies representing hundreds of millions of dollars in contracts participate. Fifteen years after its establishment, ChileCompra is a model of transparency in public procurement and has brought about significant cost savings to the public treasury. It also is a critical mechanism for linking smaller enterprises, including those owned and operated by women, to business opportunities offered by all levels of government. Bringing smaller, local businesses into the system requires significant engagement of technology on the part of those businesses.



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Facilitate access of women-owned enterprises to transportation supply chains	<p><b>WEConnect International.</b> WEConnect is an international nonprofit organization that trains and supports woman-owned businesses to succeed in global value chains. WEConnect trains woman-owned enterprises to scale up and market their goods and services to multinational corporations. WEConnect is known in particular for its woman-owned business certification process. Namely, the organization identifies, educates, registers, and certifies businesses based outside of the U.S. that are at least 51 percent owned, managed, and controlled by one or more women. Then WEConnect helps connects them with corporate buyers. WEConnect is present on 6 continents and in over 20 major markets, including several APEC economies. Through strategic partnerships with local organizations, including women’s business associations and sectoral groups, WEConnect expands its outreach and informs women about the opportunities associated with entrepreneurship. WEConnect also partners with companies to assist women in accessing new markets for their products and services.</p>
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Retention		
	Purpose	Description
Compensation	Monitor and address wage equality between men and women (by firm and mode)	<p><b>Institute for Women's Policy Research, Wage research and reports on gender-based wage gaps (United States).</b> IWPR is a Washington, D.C.-based research institute, established in 1987, that conducts research and disseminates its findings to address issues pertaining to women, including women in the economy.</p> <p>Twice a year, IWPR reports on gender wage gaps in male and female-dominated sectors across the United States and all 50 states individually. IWPR estimated in 2015 that, "if change continues at the same slow pace as it has done for the past fifty years, it will take 44 years—or until 2058—for women to finally reach pay parity." According to IWPR, women earn less than men in almost any occupation. Moreover, in 2015 IWPR reported:</p> <p style="padding-left: 40px;">Pay equity may be affected by the segregation of jobs by gender and other factors. IWPR's research shows that, irrespective of the level of qualification, jobs predominantly done by women pay less on average than jobs predominantly done by men. During the past few decades women have moved into jobs and occupations previously done almost exclusively by men, yet during the last decade little further progress has been made in gender job integration. In some industries and occupations, like construction, there has been no progress in 40 years. This persistent occupational segregation is a significant contributor to the lack of progress in closing the wage gap. According to a recent regression analysis of federal data by IWPR, the poverty rate for working women would be cut in half if women were paid the same as comparable men.</p> <p>The IWPR's reports on wage gaps include the following details:</p> <ul style="list-style-type: none"> <li>• Median weekly earnings (annual average) and gender earnings ratio for full-time workers, 16 years and older by race/ethnicity</li> <li>• Wage gap in the 20 most common occupations for men (full-time workers only, including truck drivers, construction workers, freight, stock and material movers, automotive technicians, and production workers and supervisors)</li> <li>• Wage gap in the 20 most common occupations for women (full-time workers only—<i>this list does not include any transportation-specific jobs</i>)</li> <li>• Gender wage ratio and real earnings since 1955, full-time workers</li> </ul> <p>For its wage reports, the IWRW relies on data published by state and federal statistics agencies, including the U.S. Department of Labor's Bureau of Labor Statistics and the U.S. Department of Transportation's Bureau of Transportation Statistics.</p>
Flexibility	Ensure that the law does not penalize workers who take time off when they become parents	<p><b>Women, Business and the Law (World Bank).</b> See description of WBL under <i>Entry into the Sector, Equality and Eligibility</i>.</p>

	Develop flexible work schedules in all transportation modes, for all workers (men and women) without compromising benefits or opportunities for promotion	<p><b>Government of Malaysia, Ministry of Women, Family, and Community Development, Taxi Driver program.</b> In 2012, Malaysia's Ministry of Women allocated the equivalent of about US\$40,000 for a "Women Taxi" pilot project in the Klang Valley. The project's objectives were to:</p> <ul style="list-style-type: none"> <li>•increase confidence, comfort, and security of public transport users, particularly women;</li> <li>•provide opportunities for women and single mothers to enter the job market as taxi drivers or tour guides or part time drivers under contract;</li> <li>•generate and increase women's financial contributions to their families;</li> <li>•make taxi driving a preferred career for women, including young women;</li> <li>•introduce flexible working hours for women and single mothers;</li> <li>•encourage entrepreneurship among women, including young women, and</li> <li>•increase women's participation in all sectors.</li> </ul> <p>The immediate lesson from this project was that attracting women to become taxi drivers was difficult and <b>not immediately successful</b>. The effort continues with more training for women drivers and building acceptance of the idea that driving a taxi is a flexible and economically productive career option for women.</p>
	Encourage transportation firms to support employees' needs for childcare services	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>
	Demonstrate a commitment to re-employing workers, particularly women, who have taken time out from their careers for family and other reasons	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>
<b>On-the-Job Safety</b>	Monitor and address workplace safety issues of particular concern to women	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>
	Create mechanisms for reporting and addressing gender-related workplace harassment or violence	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>

	Compare safety statistics between men and women for purposes of studying advantages and differences	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>
<b>Technology</b>	Integrate technologies that make key transportation jobs more accessible to women	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>
	Integrate technologies that respond to the personal security concerns of women working in various modes of transportation.	<i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i>

Leadership		
	Purpose	Description
Leadership	Offer career counseling to women in the transportation jobs.	<p><b>Philippines Women in Maritime, “She to Sea” Online Mentoring Forum.</b> Women in Maritime Philippines (WIMAPHIL) started the “She to Sea” program in 2013 to promote gender equity on maritime vessels. An advocacy program and an opportunity for mentoring, She to Sea helps women pursue a merchant marine career.</p> <p>To strengthen this campaign, WIMAPHIL has created the online forum <b>She to Sea–We Mentor</b>. The forum allows an exchange of visitors and information among female deck and engine officers. It also serves as a venue for responding to queries or concerns of cadets who are either about to embark or who have had experience onboard vessels and have something to teach other women. Additionally, the site posts articles on the concerns of female seafarers. It was the goal of WIMAPHIL that the She to Sea forum would create a support network that would encourage and assist female maritime professionals in the pursuit of their professional goals. Through this open forum, women in the maritime industry in the Philippines feel more comfortable in entry-level and leadership positions onboard.</p>
	Develop and implement formal policies that encourage greater inclusion and development of women employees	<p><b>Gulfstream Aerospace: Diversity and Inclusion Council.</b> Gulfstream Aerospace, a subsidiary of General Dynamics, designs, develops, manufactures, markets, and services business jet aircraft. The company employs of 15,000 people worldwide.</p> <p>In 2008, Gulfstream launched its internal Diversity and Inclusion Council to accelerate and bolster efforts to create a fully engaged workforce that support opportunities for all employees. The council has four primary objectives: foster an inclusive environment, promote employee engagement and business unit ownership, solidify the business case for why diversity is beneficial in the global marketplace, and embed diversity into the organization. The program has three levels of engagement for employees: member, champion, and ambassador. Members liaise between their business unit and the council, while champions and ambassadors liaise with the council and Gulfstream leadership and volunteer to assist with council programming. Council programming could include: speaker series, books, recognition dinners, employee resource group discussion, and a certification course in diversity and inclusion. In 2014, over 20 percent of Gulfstream’s employees participated in council activities. The council provides an enterprise-wide agenda to advance employee diversity to foster a workforce focused on collaboration and build effective managerial leadership opportunities.</p>

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Provide women in transportation with mentors

**Australian Government, Department of Infrastructure and Regional Development and PNG Government, Department of Transport: PNG Twinning Program.** The Papua New Guinea Vision 2050 (PNGV2050) provides a broad directional plan from the government for Papua New Guinea's future. PNGV2050 is created with seven institutional pillars, the first of which is the development of human capital, gender, and youth. The PNG Twinning Program is designed to address this goal by developing the skills of a promising female senior executive within the Papua New Guinea Government Transport Sector Portfolio.

The PNG Twinning program aims to develop a female executive within the Papua New Guinea Government Transport Sector over a two-year period by providing targeted, sustainable professional development and a pointed leadership pathway with additional assistance from the Government of Australia. A suitable executive has been identified from within the Government of Papua New Guinea's transport sector, and was offered a position in the Transport Sector Support Program (TSSP) as an assistant program manager (APM). As an APM, she works closely with the Australian Department of Infrastructure and Regional Development both remotely and through senior executive learning and development opportunities in Australia.

The project includes up to eight visits by the candidate to Australia, as well as two visits to Papua New Guinea by the Department of Infrastructure officer. The visits to Australia include formal leadership development training, stakeholder engagement and negotiation practice, exposure to strategic policy development in an international aid context, budget and financial management training, learning about managing aspects of sectorial coordination, and the development of Papua New Guinea governance templates. The government's hope is that the PNG Twinning program will provide a basis for more women to become executives in a variety of governmental branches.

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Support women's participation in formal leadership programs

**International Air Transport Association (IATA): “Consult a Woman” (Worldwide).** IATA is a trade association with a membership of 256 airlines in 117 economies, including airlines from the 21 APEC member economies. Flights by IATA members account for 83 percent of total worldwide air traffic. IATA members served 2.2 billion passengers in 2014.

For its internal Women's Initiative, IATA developed the “Consult a Woman” program, initially tried in IATA Headquarters in Geneva. The program responds to a lack of leadership opportunities available for IATA's female internal employees. Interested junior- and medium-level female employees are invited to apply to the program. Consult a Woman participants are given a realistic, high-level scenario that the company could face. The participant then creates a strategic action plan to address the issue in the given timeframe. When the plan is complete, the participant makes a presentation to a panel of five senior vice presidents outlining the issue and providing guidance on steps to take. The panel then offers constructive feedback about the participant's approach, proposed solutions, and presentation skills. Participants then must address a new issue and restart the process, aiming to improve in the areas discussed by the panel.

The Consult a Woman program gives women in the aviation sector an opportunity to exercise leadership, management, and problem-solving skills in realistic situations. Feedback from executives also allows participants the opportunity to improve. After a participant completes the program, she is expected to gain tangible skills that will be applicable to future leadership positions.

**CH2M: Support for women employees (Worldwide).** CH2M is a consulting company that provides engineering and infrastructure services. The company employs more than 20,000 people, around one-quarter of whom are women. In 2003, CH2M established a Women's Employee Network Group, an internal network that aims to promote an inclusive culture that actively supports the attraction, development, and promotion of women.

The network was created as part of the company's effort to proactively support the development and leadership of women in the male-dominated field of engineering. Approximately 1,300 team members from more than 30 company locations participate. The network annually sets goals and plans initiatives that support its overall vision. Activities focus on encouraging mentoring and role models, leadership development and training, and networking opportunities within the firm. In 2014, one of the original members of the network, Jacque Hinman, became the company's first female CEO. Also in 2014, the American Road and Transportation Builders Association (ARTBA) awarded CH2M the Women Leaders in Transportation Design & Construction Council's 2014 Glass Hammer Award. The award honors organizations in the transportation industry that have innovative programs and activities directed at successfully promoting women leaders.

In addition, for all employees, CH2M's **Leadership Excellence through Accelerated Development (LEAD) program** offers a year-long curriculum designed to accelerate the development of leaders of individual contributors and leaders of managers who demonstrate the skill, potential, and aspiration for roles requiring strategic, operational and leadership capabilities. A diverse group of about 100–150 CH2M employees enter the LEAD Institute each year, and more than 600 have graduated to date. These individuals are nominated and financed by their respective business group, functional or regional leadership team. The program challenges participants to respond to specific initiatives and present their findings first in the middle of the program, and later at the end. LEAD graduates are expected to apply and share what they learned and invest in others.

<b>Opportunity</b>	Promote qualified women into executive leadership positions in the public sector	<p><b>Action Plan for Implementation of National Strategy on Gender Equality in Transport Sector, 2010-2020 (Viet Nam).</b></p> <p>In responding to the WiT Survey, Viet Nam presented the results of its efforts to improve gender equality in the transport sector, including through promotion of women in public sector leaderships positions. Details presented by Viet Nam are as follows:</p> <p><i>Program Targets:</i> “Equality between male and female in the fields of politics, economy, culture and society is ensured. Material and spiritual life for female employees including female officers and workers are taken more care of in order to meet development requirements of the transport sector in the process of promoting industrialisation, modernisation and international integration ....”Targets during 2011–2020 include: more than 20 percent female participation in the Executive Committee of Communist Party; a female candidate to be recommended as a vice minister; and 10–15 percent of heads/deputy heads of the ministry’s departments and key functional units; and more than 30 percent of heads of ministerial dependent agencies to be female.</p> <p><i>Activities:</i> The Committee for the Advancement of Women under the Ministry of Transport provides guidance to the sectorial units to disseminate the Law of Gender Equality, the Law of Domestic Violence Prevention and other gender-related policies. It also implements the National Strategy on Gender Equality for the period of 2010-2020 and Viet Nam’s Strategies for Population and Reproductive Health for the period of 2010-2020 to departments and divisions within each unit/organization; and disseminates information in the website of the sectorial units etc. In addition, the Committee for the Advancement of Women under the Ministry of Transport conducted the following activities:</p> <ul style="list-style-type: none"> <li>• a Workshop on Gender Equality and Advancement of Women in the transport sector (May 2014)</li> <li>• In coordination with Trade Union, discussions on theme of “Balancing office work and house work for female officers” (March 8th, every year)</li> <li>• Vietnamese Family’s Day activities (June 28<sup>th</sup>, every year) focusing on Changing attitudes of prejudice toward gender—causes of increasing gender rate gaps.</li> </ul> <p><i>Results:</i> The rate of female leaders has been is now 22.5% (while in period of 2011-2013 the rate was only 8-13%).</p>
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Promote qualified women into executive leadership positions in the private sector	<p><b>Japan Airlines: Commitment to women in management (Japan).</b> Founded in 1951, Japan Airlines (JAL) is the second-largest airline in Japan, providing passenger and cargo services to 220 destinations in 35 economies. JAL employs over 31,000 employees in offices in the United States, Argentina, Brazil, and Mexico. In 2015, Japan Airlines was named a women-friendly “Nadeshiko Brand” and “Health and Productivity Management Brand” by the Tokyo Stock Exchange and the Ministry of Economy, Trade, and Industry for its efforts to improve women’s working environment.</p> <p>After its <a href="#">bankruptcy filing in 2010</a>, JAL redirected its corporate focus to investment in human capital. Recognizing that “failing to capitalize on the imagination and full creativity of women would represent a loss for the company and obstacle to future growth,” the JAL Group <a href="#">set a goal</a> of increasing the proportion of women in management positions to 20 percent or higher by the end of FY2023. In its <a href="#">2015 annual report</a>, the JAL Group reported 15.1 percent of managers were female, up one percentage point from the previous year. To meet this goal, JAL has increasingly focused on women’s career development training, which can last a week or as long as four months, in Japan or elsewhere. Sample topics include offering new value to customers to understanding and exercising management styles. Domestically, employees can be referred to training programs by their supervisors or inquire through Human Resources, and for international posts, there is an internal open-application system.</p>
Encourage women’s leadership in transportation labor unions	<p><i>No specific examples yet identified. Please contribute examples to the WiT Task Force.</i></p>
Ensure participation of women on the governing boards of transportation companies	<p><b>Women Chiefs of Enterprises International (Australia).</b> WCEI was formed in 1985 as the Australian affiliate chapter of the French organization <a href="#">Femmes Chefs d’Entreprises</a>. WCEI gives members access to a domestic and international community of women entrepreneurs. WCEI Australia has a presence seven territories: New South Wales, Australian Capital Territory, Victoria, Tasmania, South Australia, Western Australia, and Queensland. Members have access to an interactive website that offers tools and resources to help members network, find mentors, and connect with peers; events where women can showcase their businesses; workshops that hone professional capabilities; a leadership development program; and access to an array of partners, sponsors, and affiliates.</p>

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**Recognition**

Encourage economy-wide and mode-based awards for women in transportation, for individuals and employers

**Transport & Logistics Industry Skills Council, Ltd., Women Moving Australia (Australia).** The Transport and Logistics Industry Skills Council (TLISC) designed the Women Moving Australia monthly series of eNewsletters for the promotion and awareness of gender diversity in the transport and logistics field. Each month, at least one woman who has made a significant mark in the transport and logistics industry is featured, sharing widely the value that women can have in an industry where less than 22 percent of the workforce is female.

The first featured woman in the newsletter was Billie-Jean Raahauge, who was awarded the TLISC Trainee of the Year award in 2015. Ms. Raahauge has worked in the maritime industry for over 20 years. She serves as a deckhand aboard the ferry 'Escapade,' and she is on track to fulfill her dream of becoming a qualified Master. The judges of the TLISC Awards for Excellence pointed to Ms. Raahauge's "exceptional determination" as one of the primary reasons she was named the 2015 TLISC Trainee of the Year, as she has completed two full maritime qualifications over her time in the industry while also raising a family at home. She was also the recipient of a TLISC Mick Young Scholarship in 2014, which assisted her in completing her maritime studies. And at her graduation where she gave the student representative address, Ms. Raahauge won the Maritime Studies Award for Outstanding Achievement, a moment she cites as a career highlight.

The Women Moving Australia eNewsletter intends to share the stories and ambitions of women like Billie-Jean Raahauge to demonstrate women's potential in the transport and logistics industry.

Access and Use		
	Purpose	Description
<b>Data</b>	<p>Commit to the development of reliably maintained statistics on the use of each transportation mode, disaggregated by sex, including with respect to</p> <ul style="list-style-type: none"> <li>• Access</li> <li>• Safety</li> <li>• Cost</li> <li>• Facilities</li> <li>• Additional needs</li> </ul>	<p><b>Philippines Department of Transportation and Communications, Toll Regulatory Board: Most Gender-Responsive Tollways Facilities Program.</b> The Most Gender-Responsive Tollways Facilities Program, led by the Philippines' Toll Regulatory Board (TRB), is a client-focused priority program that regularly monitors all toll services along expressways to ensure gender equality through a means of equal roadway facilities and services. This is done by ensuring that all toll facilities, particularly washrooms and comfort rooms, along expressways are responsive to the differentiated needs of both traveling women and men. In addition, the program is intended to train toll facility operators to continually upgrade and improve facilities and services to motorists to keep them gender-responsive. To encourage good practices in the tollways facilities sector, the program also recognizes the efforts and cooperation of private sector counterparts in providing gender equity to motorists.</p> <p>To keep track of the program and its success at improving gender equity at certain roadway spaces, quarterly monitoring reports are conducted through live interviews with motorists. These motorists are asked to give feedback and ratings, as well as comments and suggestions to further improve the gender-responsiveness of facilities and services. Ultimately, the Toll Regulatory Board asserts that gender equity is achievable for motorists through collaborative efforts of the government and its private sector stakeholders when the proper needs of women, men, children, and the elderly are all taken into consideration.</p>
<b>Planning and Investment</b>	<p>Consult representative groups of women on their particular recommendations and needs pertaining to transport design and policy, including with respect to:</p> <ul style="list-style-type: none"> <li>• Access</li> <li>• Safety</li> <li>• Cost</li> <li>• Facilities</li> <li>• Additional needs</li> </ul>	<p><b>Asian Development Bank, Gender Toolkit.</b> In 2013, the ADB published a gender toolkit to assist ADB staff and consultants, as well as government partner executing agencies, in planning and designing gender-responsive projects in the transport sector. The toolkit sets forth the gender dimensions of transport, including the process of integrating gender equality issues into transport project design, implementation, and policy engagement. It guides users in designing project outputs, activities, inputs, indicators, and targets.</p> <p>The toolkit is organized according to subsectors of ADB's transport sector investments— rural roads, domestic highways, railways, urban transport and services, bridges, and water-based transport and ports. It addresses enabling policy and capacity development for all subsectors. The toolkit discusses the following:</p> <ul style="list-style-type: none"> <li>• Road safety and mitigation of social risks</li> <li>• Development of gender action plans and target indicators in the project design and monitoring framework</li> <li>• Tips for designing gender action plans and identifying appropriate gender targets and indicators relevant to the specific subsector</li> <li>• Guidelines for preparing consultant terms of reference for detailed gender analysis and gender action plan preparation</li> </ul> <p>The toolkit integrates case studies from ADB and samples of gender action plans for transport projects, terms of reference for consultants, and useful references.</p>

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**Passenger Safety**

Promote the personal safety of women as passengers in both public and private modes of transit transportation

**National Maritime Safety Authority of Papua New Guinea Small Craft Safety Education and Safety Awareness Program.**

The [National Maritime Safety Authority](#) was established in 2003 by the government of Papua New Guinea and is responsible for implementing government safety regulations. The authority's primary focus is to "facilitate a safe, efficient, and environmentally-responsible shipping sector for stakeholders in the government, industry, and the community."

Beginning in 2006, the authority created the [Small Craft Safety Education and Safety Awareness Program](#) to make the public aware of small boat safety protocols. The program is implemented in maritime communities, including Madang, Hula, Namatanai, and Milne Bay, and is funded mostly by the government and development partners. In Papua New Guinea, the most common, and most at-risk, travelers on small craft tend to be women and children, so the campaign has focused on their safety as passengers. Training includes lessons on how to use life jackets, where to access information on weather conditions, and procedures if a boat capsizes. The program also includes smaller components for small-craft operators, including how to prevent overloading; proper fueling techniques; fire protection; and storage of LPG gas.

**Additional passenger safety examples: Excerpts from TheCitiFix.Com (2015): [How London, Toronto, and New Delhi are working to make transport more gender equitable.](#)**

- **London's public transport operator, Transport for LoUdon (TfL)** uses information technology to enhance women's [safety](#). For instance, the [Technology Innovation Portal](#) at TfL allows users to submit innovative technological ideas and solutions to meet key challenges, like women's safety. In 2004, TfL created the [Women's Action Plan](#), which called for discounted fares as well as low-floor and step-free buses. TfL consulted 140 women's advocacy groups in London and initiated an annual [Safer Travel at Night](#) campaign in order to better understand their specific concerns. Today, TfL's Women's Action Plan and Gender Equality Scheme have been lauded by the [Transportation Research Board](#) as the most comprehensive efforts by transport operators to meet the distinct needs of women.
- **Metropolitan Toronto Action Committee on Violence Against Women and Children (METRAC)** is a [collaborative relationship](#) formed by community-based women's organizations, the Toronto Transit Commission, and the Toronto Police Department to conduct safety audits of the city's transport system. The partnership works to empower women by developing research and policy recommendations based on its safety audits. Then, METRAC engages governments to create safer neighborhoods, schools, campuses, workplaces, institutions, and public spaces. In the past, METRAC has delivered designated transport waiting areas, well-lighted parking garages, assault prevention programs, and better safety policies and practices in hospitals and other workplaces.
- **Jagori, an Indian NGO**, addresses women's safety issues in Delhi by focusing on the [right to participate in equitable, democratic, and inclusive city life, free from violence and fear](#). Jagori emphasizes the responsibility of local governance and urban planning circles to include women in their decision-making. Since its launch in 2004, Jagori's [Safe Delhi Campaign](#) has conducted over 40 reviews with the help of the app [Safetipin](#), which maps safety scores for public spaces and identifies ways areas of improvement that matter for women."



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# APPENDIX A. SUGGESTIONS FOR WIT PROGRAMS AND ACTIVITIES

## EDUCATION

- Work with secondary schools, TVET institutions and universities to develop curricula that include exposure to a variety of transportation professions.
- Partner government agencies (including mode-specific agencies) with transportation professional associations to reach out to schools and engage students early in learning about exciting career opportunities in transportation.
- Advocate at the economy-wide, regional, and local levels for more public and private investment in transportation-related education and training, particularly for women. Develop industry models to measure the Return on Investment (ROI) of these initiatives.
- Identify successful examples of education programs that attract transportation professionals and leverage best practices in working with other organizations.
- Promote and market the breadth and diversity of career opportunities in transportation with a special focus on changing perceptions of the transportation sector.
- Highlight successful women within the transportation sector where women leaders discuss opportunities, varied career ladders, and lessons learned to generate additional visibility on opportunities for women in transportation.
- Leverage existing partnerships between the public and private sectors to enhance data collection to continue to build the business case for increasing women's participation at all levels of the transportation workforce.
- Create a centralized data tracking system that monitors women's participation and advancement in the transportation industry and utilize the system to share best practices, draw comparisons against benchmarks, and measure progress over time.

## ENTRY INTO THE SECTOR

- Start a "Best Place for Women to Work in Transportation" ranking (similar to Fortune's annual "Best Companies to Work For" list) focused on the transportation sector and women to promote competition among organizations and to serve as an avenue for sharing best practices.
- Link performance ratings and compensation of senior executives to achieving diversity requirements to create a trickle-down, accountability-driven effect throughout the organization.

- Develop apprenticeship programs (similar to those for veterans) that create pathways to entry-level positions and commit companies to participate.
- Demonstrate a commitment to recruiting women as part of an organizational and structural mindset—evidenced by a diversity recruiting program in place or a track record of hiring women—to attract more women applicants.
- Create a virtual network on LinkedIn or another site that builds connections and surfaces job opportunities for women across the industry.
- Recognize organizations that have a certain percentage of women in their executive leadership team through an industry award or other means, thereby highlighting career advancement opportunities to potential recruits.
- Formalize a network of leaders that are willing to recruit and promote women within each company or organization.

## RETENTION

- Ensure that women have a strong network and sponsor to decrease attrition.
- Focus on succession planning to increase retention by identifying a diverse list of candidates who could be groomed for advanced opportunities immediately and within the next three to five years.
- Advertise widely new positions and opportunities within an organization.
- Ensure leaders are engaged in diversity and inclusion through recurrent training and active involvement in diversity programs.
- Promote workplace flexibility that includes telecommuting, flexible hours, job-sharing and other options that help retain talent with a variety of circumstances and needs to balance.
- Consider programs for women returning to the workforce, such as those for retired annuitants—workers with significant skills and experience that could be effectively reapplied.

## LEADERSHIP

- Find and encourage senior leadership that will sponsor high-performing women and further their advancement in the organization.
- Ensure diversity in team development and be intentional about pulling women into positions.
- Organize networking events for mid-level employees with senior management to provide greater understanding of and connection with other parts of the organization.
- Develop awards and otherwise highlight industry best practices that correct pay inequality, recognize accomplishments of women and raise greater awareness of women leaders in the organization.
- Engage men in the conversation and ensure that all leadership is involved and committed to diversity goals.

## ACCESS AND USE

- Introduce technology applications on cell phones and vehicles that can make women safer when traveling
- Develop and publicize a “safety report card” for various modes of transportation based on key statistics on crime, complaints, and women’s experiences
- Encourage media outlets to emphasize women’s safety as a newsworthy item and to publish key statistics and information about where and how women’s safety may be compromised
- Include alarms and other accessible safety resources in all modes of transport where women are likely to be vulnerable to crime
- Increase lighting and the presence of police officers in public waiting areas
- Post accessible and helpful signs in transport areas that stress appropriate behavior and discourage sexual harassment
- Direct anti–sexual harassment public outreach campaigns and training sessions to boys and men
- Provide women with free or low-cost self-defense training



# APPENDIX B. INTRODUCTION TO DATA FRAMEWORK MAY 2015

**APEC TPT-WG41**  
TRANSPORTATION WORKING GROUP MEETING 41  
26-29 MAY 2015



## **Strengthening Women's Inclusion in the Transportation Sector across APEC Economies:**

*Approach to Women in Transportation Data Framework and  
Best Practices Activity*



## APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015



# Activity Snapshot

- **Component 1: Data Framework**
  - Assess **four pillars** based on **available, publicly accessible data**, noting key data deficits
  - Launch **causal model**, creating set of optimal outcomes for progress in WiT
  - Select **representative metrics** for measuring progress
  - Relate metrics to **specific practices and policies**
- **Component 2: Best Practices Research**
  - Based on metrics and other data, **identify best practices** among APEC economies
  - **Propose improvements** to both data collection and WiT policy and practice



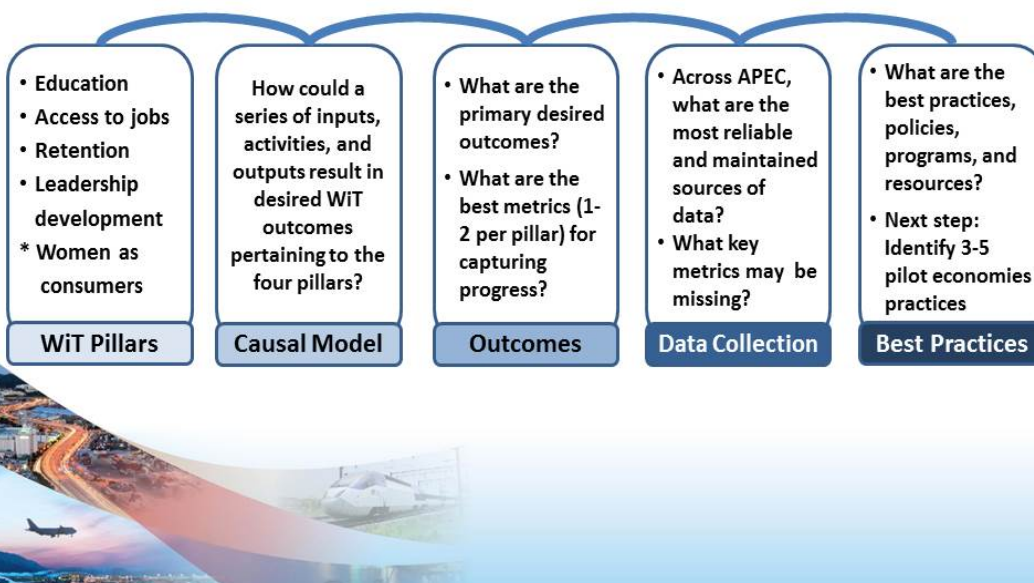
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# Approach



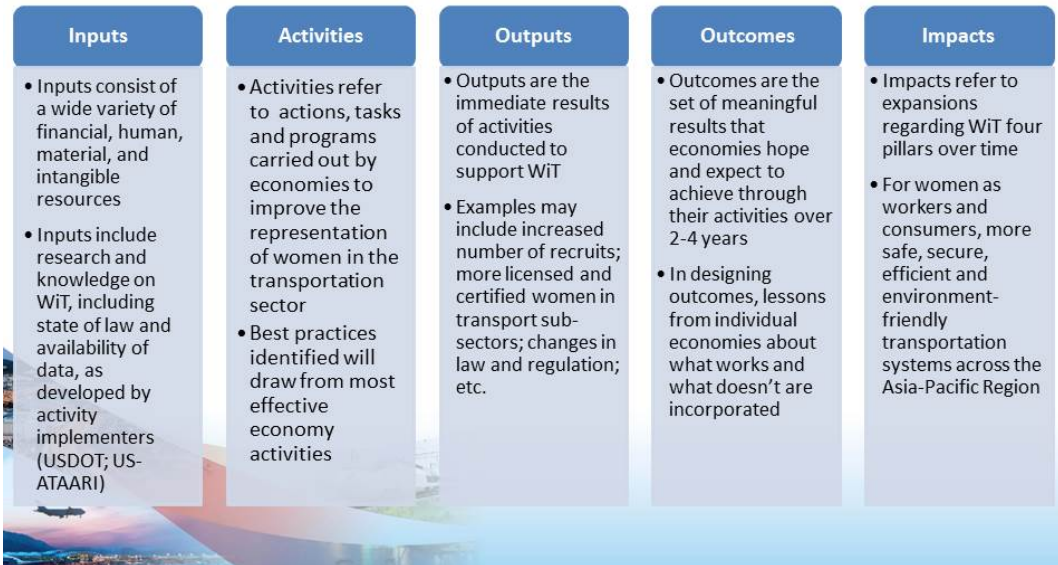
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# Causal Model/Theory of Change



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# Why are outcomes critical to establishing a framework for change?

1. Outcomes are the bridge between inputs and activities and impact
2. Outcomes represent a shared vision of success in measurable terms
3. Inputs and activities should align with desired outcomes
4. Once there is a consensus over outcomes, qualitative and quantitative research will identify pertinent and desirable inputs and activities





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### Illustrative WiT Outcomes

#### Education

Greater representation of women among graduates of transportation-related vocational programs and university STEM programs.

#### Access to jobs

Increased female applicants for public sector transportation jobs. More women owners/managers of transportation enterprises.

#### Retention

Higher representation of women as pilots/drivers in transport of goods.

#### Leadership Development

More women managers. Greater representation of women on boards of transportation and logistics firms.



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### Metrics

#### For the purposes of WiT, metrics are:

- **Research-based**
- **Credible, feasible and valuable** to economies seeking to both understand and improve conditions for WiT
- Can be obtained through **relatively simple processes**, including reference to the [APEC Women in the Economy Dashboard](#)
- **Compelling in the story they tell** and/or usefulness toward making **strategic policy decisions**

#### Potential sources of metrics

- Ministries of Transportation
- Other Ministries: Infrastructure, Labor, Commerce, Trade, Education, Women, National statistics and census agencies
- International sources (United Nations, ILO, World Bank, international transportation unions)
- Large private employers in transportation sector
- Additional private companies or institutions that maintain data on transportation sector



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## Timeline



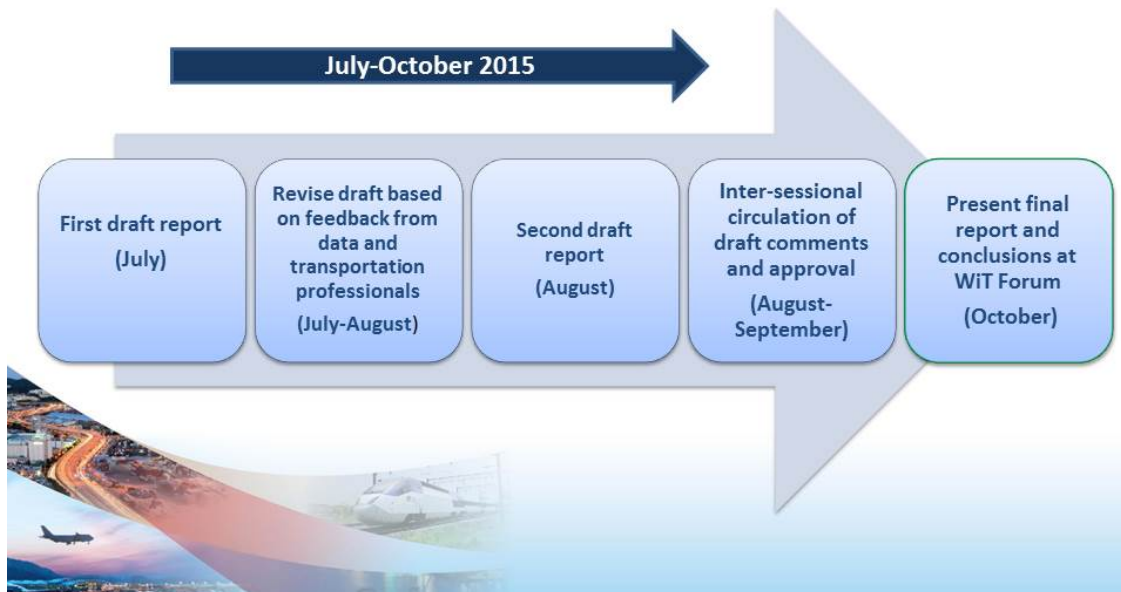
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## Timeline (cont.)



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## Going Forward: WiT Taskforce

- For each economy, designate one or two WiT champions
- Economy champions: Complete the TPTWG survey
- *Private sector: Complete the private sector survey*

