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Kazakhstan

Tracer Study

ANALYTICAL REPORT

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Survey name/Title: Tracer Study	
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Glossary of acronyms

DARYA	Dialogue and action for resourceful youth in Central Asia
EPRD	Office for Economic Policy and Regional Development
ETF	European Training Foundation
EU	European Union
ILO	International Labour Organization
MoE	Ministry of Education
TALAP	Техникалық және кәсіби білім беру
TALDAU	Национальный центр исследований и оценки образования
TVET	Technical Vocational Education and Training
VET	Vocational Education and Training

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Executive Summary

This analytical report presents the findings of a Pilot Tracer Study conducted on graduates from Kazakhstan's Vocational Education and Training (VET) programs within the railway freight transportation sector. Supported by the European Training Foundation (ETF) in collaboration with local educational institutions, this pilot study is an initial step to develop a sustainable methodology and process for future tracer studies. Its purpose is to generate evidence-based insights that can be applied to evaluate the effectiveness, relevance, and labour market alignment of VET programs on a larger scale, guiding the development of an adaptable framework for ongoing assessment.

The pilot study is especially critical considering the rapidly evolving labour markets, with shifting demands for labour that can adapt to economic and technological advancements. Tracer studies like this provide essential feedback on how well graduates' skills align with labour market needs, and they identify areas where VET programs may need adjustment to enhance employment readiness. Regularly conducting these studies will help ensure that VET initiatives remain relevant and responsive, ultimately supporting Kazakhstan's labour force development and economic growth.

Study Objectives and Methodology

Conducted from June to September 2024, the study focused on recent graduates (2022–2023) of railway freight transport VET programs. Surveys distributed across 12 regions of Kazakhstan gathered data on employment outcomes, graduates' perceptions of program quality, and the alignment of VET courses with industry standards from nine VET schools. This pilot was not only an evaluation but also a foundational process to refine technical capacities, establish data collection tools, and implement a methodology that can be applied systematically in future tracer studies.

Main findings

Strong overall VET performance in the 'Organization of Transportation and Traffic Control in Railway Transport' program with quality differences across institutions and qualifications: The study reveals that Kazakhstan's VET system performs well overall, with high levels of employment among graduates. However, significant quality differences were observed between VET institutions and qualifications, impacting graduate satisfaction and employment outcomes. Graduates from certain schools and programs, particularly Burabay College, reported higher satisfaction and employability compared to those from other institutions, such as Electrotechnics College.

Smooth post-graduation transition for many graduates: The majority of VET graduates (71.1 per cent) found employment within six months, indicating a relatively easy transition into the labour market. This finding suggests that VET programs provide a solid foundation for labour market entry, even if job stability and career growth potential vary across different qualifications.

Gender differences in employment outcomes: Gender-based analysis showed that female graduates experienced a slightly higher employment rate than their male counterparts, though they were more likely to enter lower-paying or less stable roles. This finding highlights potential disparities in job quality and suggests the need for further research into gender-specific barriers and support mechanisms within VET.

High employment but limited relevance of skills for employment: While a large percentage of graduates are employed, the relevance of their VET-acquired skills to their actual job roles remains low in many cases. This misalignment indicates that some VET programs may need adjustments to better

meet the practical demands of the labour market, ensuring that skills learned in training are applicable on the job.

Dual training and internships enhance labour market preparedness: Graduates who participated in dual training models or internships reported a higher likelihood of employment in roles aligned with their VET qualifications. This underscores the value of work-based learning in bridging the gap between theoretical knowledge and practical skills, making graduates more attractive to employers.

Varying success among qualifications: Employment outcomes differed significantly across qualifications. For instance, graduates trained as Cargo and Baggage Receivers experienced higher employment rates, whereas Centralized Station Post Dispatchers faced more challenges finding relevant work, indicating that some VET qualifications are more aligned with labor market needs than others.

Key Recommendations

1. Given the positive impact of dual education models, VET institutions should collaborate more extensively with industry to expand work-based learning opportunities. This approach will equip students with practical skills that are directly applicable to their careers.
2. Developing standardized criteria for VET programs, particularly in equipment quality and curriculum alignment, will ensure uniform training quality across institutions. This will enhance the credibility of VET qualifications and support consistent graduate outcomes.
3. Enhancing career counseling and job placement services within VET institutions will better support graduates' labor market transitions. Introducing entrepreneurship training, especially as self-employment grows in relevance, would further expand career pathways for graduates.
4. Regularly conducting tracer studies will provide ongoing insights into graduate outcomes, allowing VET programs to remain adaptive and aligned with labor market changes. This pilot has proven effective in establishing a blueprint for future studies that will inform continuous improvements in VET programming and labor market alignment.

1. Introduction

1.1. Background

This Pilot Tracer Study aims to provide critical evidence to guide the transformation of Vocational Education and Training (VET) in Kazakhstan toward a more demand-driven and market-responsive system. By offering a clear methodology for evaluating VET program outcomes, this study seeks to equip the Ministry of Education and key stakeholders with the tools to understand how effectively these programs prepare graduates for the labour market. The insights gained will highlight the benefits of data-driven decisions and demonstrate how aligning VET more closely with labour market needs can improve overall system performance.

Conducted in collaboration with TALAP, TALDAU, and with technical support from the European Training Foundation's (ETF) DARYA project[1], this study focuses on the rail freight transportation sector. It gathers detailed data on graduates' employment status, job satisfaction, and the relevance of their acquired skills to their current roles. By analyzing these factors, the study will reveal how well VET institutions and courses are performing in meeting labour market demands.

The findings will inform policymakers and VET institutions, showing where programs are effectively preparing graduates and where gaps exist that need to be addressed. By providing evidence of VET's current strengths and weaknesses, the study will help stakeholders understand what adjustments are necessary to ensure that training programs remain relevant and responsive to the evolving needs of the labour market. Ultimately, this analysis will support efforts to create a more agile and market-driven VET system in Kazakhstan, ensuring that future graduates are well-equipped to succeed in their respective fields.

1.2. Analytical objectives and scope

The objective of this tracer study is to evaluate the efficiency, effectiveness, and relevance of Vocational Education and Training (VET) programs in rail freight transportation by analyzing graduates' perceptions and employment outcomes. This study seeks to identify differences in the quality of training provided by various VET institutions and assess how well their programs prepare graduates for successful careers in the labour market.

To achieve this, the study will focus on several specific analytical objectives. First, it will assess the efficiency of VET programs by analyzing the time taken for graduates to secure employment after completing their training and the resources utilized in the training process relative to the outcomes achieved. Second, the effectiveness of VET courses will be measured by examining graduates' employment rates, career guidance success, and the alignment of their qualifications with their current roles in the labour market.

Additionally, the study will investigate the relevance of the curriculum offered by different VET institutions, focusing on how well the training provided meets industry needs and prepares graduates for the specific demands of the rail freight transportation sector. It will also compare the performance

[1] See: https://www.etf.europa.eu/en/what-we-do/darya-dialogue-and-action-resourceful-youth-central-asia

of various VET institutions based on key indicators such as graduate employment status, wage levels, and overall satisfaction with the training received.

Moreover, the study will analyze the extent to which graduates are employed in positions that correspond to their field of study and assess their readiness for the job market based on the skills acquired during training. Finally, the research will explore perceived barriers and challenges that graduates face when transitioning into the workforce, including gaps in training and skills mismatches.

The scope of this study encompasses graduates from rail freight transport VET programs who completed their training between 2022 and 2023 across 12 regions in Kazakhstan. By focusing on these objectives, the findings will provide insights into the quality of VET programs, highlighting areas for improvement to enhance their efficiency, effectiveness, and relevance to industry needs.

1.3. Structure of the report

This report is organized into six chapters. The Introduction provides the background, objectives, and scope of the analytical report. The Survey Design and Methodology chapter briefly summarizes the study's design, data collection methods, and the sampling approach used to gather information from graduates. Detailed information on the study design and methodology can be found in the technical report. Chapter 3: Data Presentation and Descriptive Analysis is the main chapter. It presents the data collected from the pilot tracer study in table format and translates the findings into a descriptive analysis, focusing on graduates' perceptions of the VET training they received, their transition into the labour market, and how well their jobs align with the skills acquired during their VET courses.

Chapter 4: Findings Interpretation and Stakeholder Impact interprets the results in the wider TVET governance and labour market context and discusses their implications for various stakeholders, including the Ministry of Education, VET institutions, and employers. Recommendations in chapter 5 offer practical suggestions for improving the relevance and effectiveness of VET programs based on the study's insights. Finally, the Conclusion summarizes the main findings, emphasizes the importance of data-driven decisions to strengthen VET systems, and identifies areas for future research.

2. Survey design and methodology (brief summary)[2]

2.1. Survey design

The pilot survey was designed to evaluate key outcomes related to the effectiveness and relevance of Vocational Education and Training (VET) programs. It specifically targeted recent graduates from 2022 and 2023 of both conventional and dual VET programs across 12 regions in Kazakhstan. The survey aimed to gather insights into graduates' VET experiences, their job placements after graduation, and their overall satisfaction with the training received, all to inform actionable improvements in VET programs.

The focus on VET courses within the railway freight sector was strategic for several reasons. This sector is rapidly expanding in Kazakhstan, leading to an increasing demand for skilled workers, a need that current VET graduates often fail to meet, according to employer feedback. Moreover, the pilot survey was conducted in parallel with an Establishment Skills Survey in the transport sector, in collaboration

[2] The detailed methodology and implementation steps of the survey are provided in a separate technical report for the Tracer Study.

with KazLogistics.[3] This complementary approach enables a comprehensive overview of supply and demand within the sector, providing a nuanced understanding of VET effectiveness and relevance within the context of broader labour market dynamics.

2.2. Methodology

The Pilot Tracer Study was conducted to create all the required tools, establish technical capacities and to lay out the entire process that can be reapplied for future tracer studies. The study did not strive to achieve perfect data representativeness and accuracy.

The Pilot Tracer Study is designed to assess the effectiveness and relevance of VET programs focusing on three objectives:

1. **VET Program Quality**: Evaluating curriculum alignment with industry demands to enhance program quality.
2. **Career Path and Employment**: Analyzing graduates' job placements and career progress to guide program improvements.
3. **Graduate Satisfaction**: Measuring alumni satisfaction to refine VET responsiveness to labor market needs.

The study targeted 2022-2023 graduates from VET schools in 12 regions, specifically within programs for Organization of Transportation and Traffic Control in Railway Transport. This sector focus was chosen due to its growth and the need for skill alignment. Initially, the study targeted 1,799 graduates but eventually the sample was reduced to 792 due to data-sharing restrictions. This adjusted sample retained representativeness across conventional and dual VET programs and regions.

With proactive follow-ups, a response rate of 25.3 per cent was achieved, meeting the target range of 20 to 30 per cent, thereby providing a viable foundation for assessing VET outcomes in Kazakhstan's railway freight sector trades.

3. Data presentation and descriptive analysis

This chapter of the report presents a detailed descriptive analysis of the data collected from the pilot tracer study. The analysis prioritizes percentage shares over absolute numbers for several reasons. Using percentages facilitates comparisons across different groups, particularly when the total number of respondents among groups varies. This allows for a proportional representation of each segment, which is essential for identifying trends and patterns within the data. This approach enhances the clarity of the findings, supporting a more effective evaluation of the alignment between vocational education and training (VET) programs and labour market outcomes.

The profile of graduates who participated in the tracer study, as presented in Table 1, reveals several key insights about their demographics, qualifications, regional distribution, and educational

[3] KazLogistics in Kazakhstan is an association of organizations, specifically functioning as a union of employers in the transport and logistics sectors. It represents a variety of companies and organizations involved in freight, logistics, and transport infrastructure across Kazakhstan, advocating for their interests and promoting the development of the industry. This includes working with government entities on policy, facilitating industry standards, and providing a unified voice for companies in the logistics and transportation fields rather than directly acting as an employer. For further information see: https://kazlogistics.kz/en

experiences. Out of the 201 total graduates that participated in the study, 113 were male (56 per cent) and 88 were female (44 per cent), indicating a slight gender disparity in favour of males. Most of the graduates were younger, with 45 per cent aged 21 and 33 per cent aged 22. The prevalence of males could be particularly observed in the younger age groups, which suggests that more males are completing vocational education at a younger age. (Table 1)

The sample highlights that upskilling and reskilling are not widely practiced, as most graduates surveyed are very young, indicating that the majority are leaving the VET schools to enter the labour market for the first time rather than returning to enhance or update their skills. In the context of rapidly changing labour markets, this highlights the need for more flexible pathways to upskill and reskill, ensuring that the workforce can adapt to evolving labour market demands and technological advancements. (Table 1)

In terms of qualifications, the most common certification obtained from the 'Organization of Transportation and Traffic Control in Railway Transport' program was that of a "Transportation Organizer Technician," with 65.2 per cent of the graduates qualifying in this role. Other qualifications, such as the "Centralized Station Post Dispatcher" (14.9 per cent) and "Dispatcher of Railway Stations" (11 per cent), were less common. This indicates that there is a strong concentration of graduates in transportation-related technical roles. (Table 1)

The regional distribution shows that the Ulytau Region contributed the highest number of graduates, accounting for 28.9 per cent of the total, followed by Atyrau with 19.9 per cent, and Karaganda with 14.9 per cent. Smaller numbers of graduates came from regions like Zhambyl (0.5 per cent) and North Kazakhstan (2.5 per cent). Notably, 73.6 per cent of the graduates did not have to relocate for their studies, suggesting that most could access vocational education in their own regions, though 26.4 per cent did travel to other regions, reflecting a notable level of mobility among students. This relocation may be driven by the scarce availability of vocational programs in the railway transportation sector in different regions. Such mobility highlights the importance of access to VET in addressing skill shortages and aligning workforce capabilities with regional economic demands. (Table 1)

The graduates also came from a range of vocational education institutions, with Zhezkazgan Business and Transport College representing the largest share at 30.5 per cent. Other institutions, such as Burabay College (19 per cent) and Karaganda Railway College (13.5 per cent), also contributed significant numbers of graduates. Almost all the participants (98.5 per cent) studied full-time, and 83.1 per cent were enrolled in dual programs, reflecting a strong integration between education and practical industry experience. This is further supported by the fact that 96.5 per cent of the graduates completed internships, demonstrating that practical, hands-on training is a key part of these vocational education programs. (Table 1)

Table 1 – Profile of graduates that participated in the tracer study.

A1.1- A1.2 Gender by age			
Age	Male	Female	Total
21	50	40	90
22	39	28	67
23	14	12	26
24	10	8	18
Total	113	88	201
A 1.3 Qualification obtained			

	Freq.	Percent	Cum.
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	22	11.0	11.0
1203022 (3W10410202) - Centralized station post dispatcher	30	14.9	25.9
1203062 (3W10410203) - Cargo and baggage receiver	10	5.0	30.9
1203082 (3W10410204) - Transportation document operator	8	4.0	34.8
1203093 (4S10410205) - Transportation organizer technician	131	65.2	100
Total	201	100	
A 1.4 Which region are you from?			
	Freq.	Percent	Cum.
Abai Region	5	2.5	2.5
Akmola Region	26	12.9	15.4
Aktobe Region	13	6.5	21.9
Atyrau Region	40	19.9	41.8
Zhambyl Region	1	0.5	42.3
Karaganda Region	30	14.9	57.2
Kostanay Region	2	1.0	58.2
Pavlodar Region	15	7.5	65.7
North Kazakhstan Region	5	2.5	68.2
Turkestan Region	2	1.0	69.2
Ulytau Region	58	28.9	98.0
Astana City	4	2.0	100
Total	201	100	
A 1.5 Did you have to go to another region to study?			
	Freq.	Percent	Cum.
Yes	53	26.4	26.4
No	148	73.6	100
Total	201	100	
B 1.1 What is the name of the VET institute you graduated from?			
	Freq.	Percent	Cum.
Electrotechnics College	5	2.5	2.5
Burabay College	38	19.0	21.5
Aktobe College of Transport, Communications, and Technology	14	7.0	28.5
Atyrau Agrotechnical College named after O. Koshekov	13	6.5	35.0
Atyrau Polytechnic Higher College named after S. Mukashev	16	8.0	43.0
Atyrau Business and Law College	13	6.5	49.5
Karaganda Railway College	27	13.5	63.0
Higher College of Electronics and Communications	13	6.5	69.5
Zhezkazgan Business and Transport College	61	30.5	100
Total	200	100	
B 1.2 What was the nature of your study?			
	Freq.	Percent	Cum.
Full-time	198	98.5	98.5
Part-time	3	1.5	100
Total	201	100	

B 1.3 Did you study under the dual program?			
	Freq.	Percent	Cum.
Yes	167	83.1	83.1
No	34	16.9	100
Total	201	100	
B 1.4 Did you complete an internship at an enterprise?			
	Freq.	Percent	Cum.
Yes	194	96.5	96.5
No	7	3.5	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1. Effectiveness and relevance of VET courses

The effectiveness and relevance of Vocational Education and Training (VET) programs are critical to ensuring that graduates are equipped with the skills and knowledge necessary for employment. This section analyzes the performance of available VET courses from the 'Organization of Transportation and Traffic Control in Railway Transport' program, focusing on key aspects such as teaching quality, training equipment, course content, and work-based learning. The insights provided by graduates in these areas offer valuable feedback on the strengths and potential areas for improvement within VET institutions. This analysis serves as a reflection of how well the VET system is meeting the evolving needs of graduates and the labour market.

Table 2 – Overall VET Performance Ranking in Railway Freight Transport courses TOTAL - Quality rank 1 (low) to 5 (high) in per cent (%)

C 1. How would you rate your training at your VET college?						
TOTAL - Quality rank 1 (low) to 5 (high) in per cent (%)	1	2	3	4	5	Total
Teaching	1.5	0.0	22.9	35.3	40.3	100
Training equipment	1.5	0.5	22.9	35.9	39.3	100
Course content	2.0	0.5	19.9	37.3	40.3	100
Work-based learning	1.5	0.0	18.0	35.0	45.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1.1. VET effectiveness and relevance by VET school

The analysis of VET performance in 'Organization of Transportation and Traffic Control in Railway Transport' program courses in Table 2 shows strong satisfaction across key areas. Teaching quality was rated highly by 75.6 per cent of graduates, with minimal dissatisfaction (1.5 per cent). Training equipment also received positive feedback, with 75.2 per cent giving it a 4 or 5 rating. Course content was well-regarded, with 78.6 per cent rating it highly, reflecting relevance and structure that generally met students' needs. Work-based learning stood out, with 80.5 per cent of respondents giving it top marks, highlighting its value in providing practical, job-related experience. Overall, the data reflects a well-executed VET program, with minimal dissatisfaction and strong outcomes across all areas. (Table 2)

The analysis of Table 3 reveals more granular insights into the performance of VET programs based on various criteria, including teaching quality, training equipment, course content, and work-based learning. Teaching quality across the colleges shows varied perceptions, with Burabay College leading at 68.4 per cent of respondents rating it a 5, reflecting high satisfaction. In contrast, the Electrotechnics College and Karaganda Railway College received lowest ratings, indicating potential concerns in instructional effectiveness, especially with 40 per cent of respondents rating the Electrotechnics College a 3 out of 5. (Table 3)

Regarding training equipment, Burabay College again stands out with 63.2 per cent of respondents rating it a 5, suggesting well-equipped facilities that enhance the learning experience. Atyrau Polytechnic Higher College also performed overall well, with 81.3 per cent rating it a 4 and 18.8 a 5. Other schools such as the Electrotechnics College displayed room for improvement, with 60 per cent of respondents rating it only a 3, signalling a gap in the adequacy of training resources. (Table 3)

The assessment of course content indicates that while Burabay College received a strong endorsement (60.5 per cent rating it a 5), other colleges like Electrotechnics College reported much lower satisfaction levels, with 60 per cent of respondents rating it a 3. This discrepancy suggests a need for some institutions to enhance their curricula to better meet market standards and student needs. (Table 3)

Finally, the evaluation of work-based learning shows that Burabay College again leads with 68.4 per cent of respondents rating it a 5. In contrast, several colleges, including Karaganda Railway College and Aktobe College, displayed lowest ratings, highlighting the necessity for more robust partnerships with employers to provide students with valuable hands-on experience. Overall, while some institutions excel in these areas, others must address gaps to improve overall VET performance. (Table 3)

Table 3 – Graduates Perception of qualifications obtained by VET School - Quality rank 1 (low) to 5 (high) in per cent (%)

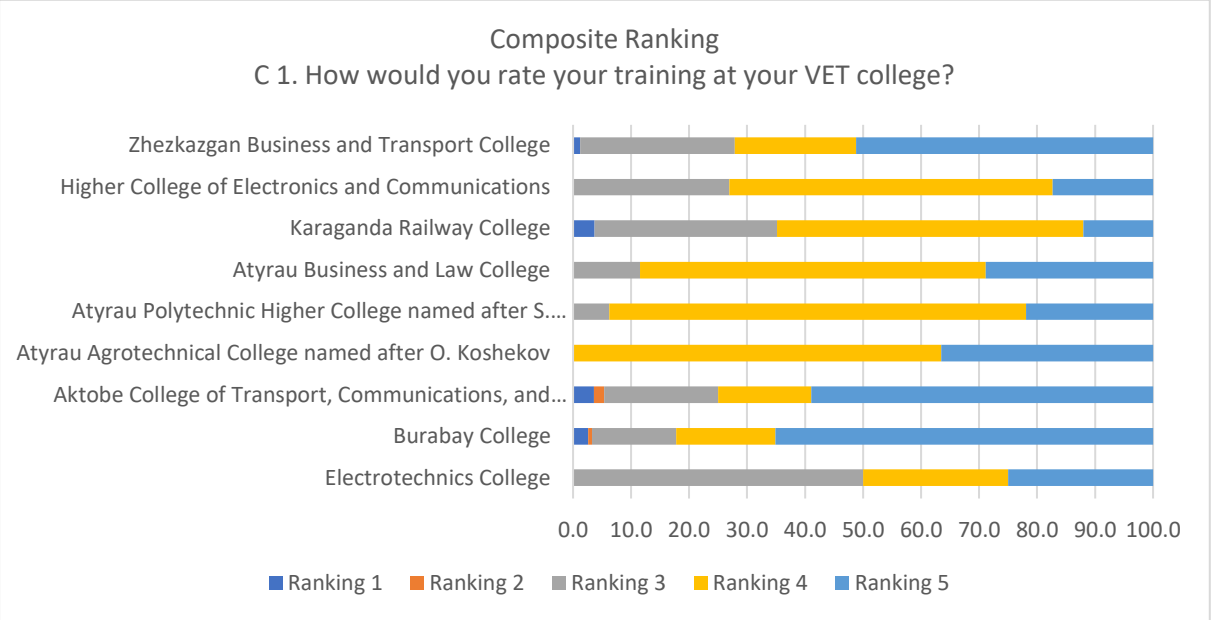
C 1.1 How would you rate the **teaching**?						
Ranking in %	1	2	3	4	5	Total
Electrotechnics College	0.0	0.0	40.0	40.0	20.0	100
Burabay College	2.6	0.0	21.1	7.9	68.4	100
Aktobe College of Transport, Communications, and Technology	7.1	0.0	21.4	14.3	57.1	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	0.0	69.2	30.8	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	0.0	0.0	75.0	25.0	100
Atyrau Business and Law College	0.0	0.0	23.1	53.8	23.1	100
Karaganda Railway College	3.7	0.0	25.9	63.0	7.4	100
Higher College of Electronics and Communications	0.0	0.0	23.1	69.2	7.7	100
Zhezkazgan Business and Transport College	0.0	0.0	31.1	16.4	52.5	100

C 1.2 How would you rate the **training equipment**?						
Ranking in %	1	2	3	4	5	Total
Electrotechnics College	0.0	0.0	60.0	20.0	20.0	100
Burabay College	2.6	0.0	18.4	15.8	63.2	100
Aktobe College of Transport, Communications, and Technology	0.0	7.1	14.3	14.3	64.3	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	0.0	76.9	23.1	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	0.0	0.0	81.3	18.8	100
Atyrau Business and Law College	0.0	0.0	15.4	53.8	30.8	100
Karaganda Railway College	3.7	0.0	33.3	51.9	11.1	100
Higher College of Electronics and Communications	0.0	0.0	30.8	53.8	15.4	100
Zhezkazgan Business and Transport College	1.6	0.0	29.5	19.7	49.2	100
C 1.3 How would you rate the **course content**?						
Ranking in %	1	2	3	4	5	Total
Electrotechnics College	0.0	0.0	60.0	20.0	20.0	100
Burabay College	2.6	2.6	7.9	26.3	60.5	100
Aktobe College of Transport, Communications, and Technology	7.1	0.0	21.4	14.3	57.1	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	0.0	53.8	46.2	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	0.0	12.5	68.8	18.8	100
Atyrau Business and Law College	0.0	0.0	7.7	61.5	30.8	100
Karaganda Railway College	3.7	0.0	37.0	48.1	11.1	100
Higher College of Electronics and Communications	0.0	0.0	23.1	61.5	15.4	100
Zhezkazgan Business and Transport College	1.6	0.0	24.6	23.0	50.8	100
C 1.4 How would you rate the **work-based learning**?						
Ranking in %	1	2	3	4	5	Total
Electrotechnics College	0.0	0.0	40.0	20.0	40.0	100
Burabay College	2.6	0.0	10.5	18.4	68.4	100
Aktobe College of Transport, Communications, and Technology	0.0	0.0	21.4	21.4	57.1	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	0.0	53.8	46.2	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	0.0	12.5	62.5	25.0	100
Atyrau Business and Law College	0.0	0.0	0.0	69.2	30.8	100
Karaganda Railway College	3.7	0.0	29.6	48.1	18.5	100
Higher College of Electronics and Communications	0.0	0.0	30.8	38.5	30.8	100
Zhezkazgan Business and Transport College	1.6	0.0	21.3	24.6	52.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

The composite ranking of VET schools presented in Figure 1 indicates that Atyrau Polytechnic Higher College and Atyrau Agrotechnical College are perceived to offer the highest quality training, with most students ranking them at 4 and 5, signalling strong satisfaction. Burabay College and Aktobe College of Transport, Communications, and New Technologies also receive high ratings, with 65.1 per cent and 58.9 per cent of students, respectively, ranking them at 5. Conversely, Electrotechnics College receives mixed feedback, with 50 per cent of students rating it at 3, and only 25 per cent at the highest levels, suggesting potential areas for improvement. Overall, most VET institutions are rated favourably, although some, like Electrotechnics College, may benefit from enhancements to align with the stronger-performing schools.

Figure 1- Composite Ranking – Graduate Perception of VET training by VET school



Source: Pilot Tracer Study Kazakhstan

3.1.2. VET effectiveness and relevance by qualifications

Table 4 presents the perceptions of graduates evaluating various aspects of their education, including teaching quality, training equipment, course content, and work-based learning by qualification obtained. The results are rated on a scale from 1 (low) to 5 (high). (Table 4)

In terms of teaching quality, the “Dispatcher of the 4th and 5th class railway station” and “Cargo and baggage receiver” qualifications received the highest ratings, with 68.2 per cent and 80 per cent of respondents, respectively, giving the highest score of 5. Other qualifications, such as the “Centralized station post dispatcher” and “Transportation organizer technician”, had more varied responses, with lower proportions of respondents rating the teaching quality as excellent (5), but still a significant share (36.7 per cent and 31.3 per cent, respectively) rated it highly. (Table 4)

For training equipment, the “Cargo and baggage receiver” qualification had the best feedback, with 80 per cent of respondents giving a score of 5, closely followed by the “Dispatcher of the 4th and 5th class railway station” (72.7 per cent). However, the “Centralized station post dispatcher” qualification had more moderate ratings, with an even split between the scores of 4 and 5. Regarding course content, the majority of graduates in most qualifications rated their course content highly. The “Cargo and baggage receiver” qualification again stood out, with 80 per cent rating it as excellent, while the “Transportation document operator” saw a more balanced split between 4 and 5 ratings. (Table 4)

Work-based learning was another area where high ratings were evident, especially for the Dispatcher of the 4th and 5th class railway station (81.8 per cent) and the "Cargo and baggage receiver" (80 per cent), both of which were rated highest by a majority of respondents. In contrast, the "Centralized station post dispatcher" had a more varied response, with 50 per cent of respondents giving a score of 5, while others rated it moderately. (Table 4)

The analysis indicates that the qualifications related to "Dispatcher of the 4th and 5th class railway station" and “Cargo and baggage receiver” tend to receive higher satisfaction in teaching quality, training equipment, course content, and work-based learning compared to other qualifications. The

more varied responses for qualifications like the "Centralized station post dispatcher" and "Transportation organizer technician" suggest that there is room for course improvements. (Table 4)

Table 4 –Perception of VET performance in Railway Freight Transport by qualification - Quality rank 1 (low) to 5 (high) in per cent (%)

C 1.1 How would you rate the teaching for the following qualifications?						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	22.7	68.2	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	33.3	30.0	36.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	10.0	10.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	12.5	12.5	75.0	100
1203093 (4S10410205) - Transportation organizer technician	0.0	0.0	24.4	42.0	31.3	100
C 1.2 How would you rate the training equipment for the following qualifications?						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	18.2	72.7	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	36.7	26.7	36.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	10.0	10.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	12.5	37.5	50.0	100
1203093 (4S10410205) - Transportation organizer technician	2.3	0.8	23.7	42.7	30.5	100
C 1.3 How would you rate the course content for the following qualifications?						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	18.2	72.7	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	26.7	36.7	36.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	0.0	20.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	0.0	50.0	50.0	100
1203093 (4S10410205) - Transportation organizer technician	3.1	0.8	22.9	41.2	32.1	100
C 1.4 How would you rate the work-based learning for the following qualifications?						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	4.5	13.6	81.8	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	26.7	23.3	50.0	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	10.0	10.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	0.0	42.9	57.1	100
1203093 (4S10410205) - Transportation organizer technician	2.3	0.0	19.8	42.7	35.1	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1.3. VET effectiveness and relevance by gender

A gender-based analysis of graduates' perceptions of VET (Vocational Education and Training) performance, broken down by teaching quality, training equipment, course content, and work-based learning is provided in Table 5. In terms of teaching quality, female graduates rated the teaching slightly higher than their male counterparts, with 43.2 per cent of females giving a score of 5 compared to 38.1 per cent of males. However, both genders shared similar mid-range evaluations, with around 23 per cent of respondents from each group giving a score of 3. No male graduates rated the teaching as poor

(1 or 2), while 3.4 per cent of female graduates rated it as 1, indicating a slight gender disparity in satisfaction. (Table 5)

Regarding training equipment, male and female graduates provided balanced evaluations, although females again tended to rate it higher at the top end, with 42 per cent giving a score of 5 compared to 37.2 per cent of males. Interestingly, while no males gave a score of 1 or 2, 3.4 per cent of female respondents rated the equipment at the lowest level (1), showing a wider spread of satisfaction among female graduates. (Table 5)

When rating course content, female graduates expressed slightly more favourable perceptions than males, with 40.9 per cent of females giving a score of 5, compared to 39.8 per cent of males. In the area of work-based learning, both male and female graduates offered high ratings, though females were slightly more positive, with 47.1 per cent giving a score of 5, compared to 44.2 per cent of males. (Table 5)

The analysis highlights that female graduates tend to rate VET performance slightly higher than males in most categories, particularly in work-based learning and teaching quality. (Table 5)

Table 5 – Perception of VET performance according to graduate gender- Quality rank 1 (low) to 5 (high) in per cent (%)

C 1.1 How would you rate the teaching?						
Gender/ Ranking in %	1	2	3	4	5	Total
Male	0.0	0.0	23.0	38.9	38.1	100
Female	3.4	0.0	22.7	30.7	43.2	100
C 1.2 How would you rate the training equipment?						
Gender/Qualification/ Ranking in %	1	2	3	4	5	Total
Male	0.0	0.0	23.9	38.9	37.2	100
Female	3.4	1.1	21.6	31.8	42.0	100
C 1.3 How would you rate the course content?						
Gender/Qualification/ Ranking in %	1	2	3	4	5	Total
Male	0.0	0.9	20.4	38.9	39.8	100
Female	4.5	0.0	19.3	35.2	40.9	100
C 1.4 How would you rate the work-based learning?						
Gender/Qualification/ Ranking in %	1	2	3	4	5	Total
Male	0.0	0.0	17.7	38.1	44.2	100
Female	3.4	0.0	18.4	31.0	47.1	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1.4. VET alignment with labour market needs

Table 6 provides an analysis of VET (Vocational Education and Training) graduates' perceptions of how well their training experience aligns with their jobs, covering several aspects: instructors meeting industry standards, alignment of the educational program with industry practices, the material and technical base, and the value of consultations and career guidance. Additionally, it provides a breakdown of how these perceptions vary across specific qualifications related to railway and transportation trades.

In general, graduates rated their trainers positively, with 44.3 per cent giving the highest score of 5 and 33.3 per cent rating them a 4. This indicates that most respondents feel their instructors are well aligned with labour market requirements. However, a small fraction (1.5 per cent) gave a low score of 1, showing minimal dissatisfaction. Similarly, the course contents were seen as largely in tune with labour market needs. A considerable proportion (45.3 per cent) gave the highest rating, with another 34.8 per cent rating it as a 4. Only 2.0 per cent rated the alignment poorly, suggesting that most graduates felt their training prepared them well for industry demands. The material and technical resources also received a favorable evaluation, with 44.3 per cent of respondents giving a 5 and 35.3 per cent giving a 4. A small number (1.5 per cent) rated this aspect poorly, but overall, the perception was that the equipment and resources were appropriate for the needs of the industry. (Table 6)

Career guidance and employment consultations were also rated highly, though with slightly more variation. While 43.8 per cent gave the highest rating of 5 and 33.8 per cent rated it a 4, a slightly higher percentage of respondents (2.5 per cent) expressed dissatisfaction with this aspect compared to other categories. This indicates that while most graduates found career advice helpful, others did not, suggesting VET institutions could optimize how they guide students toward employment. (Table 6)

When broken down by specific qualifications, the analysis shows that graduates in roles like "Cargo and baggage receiver" and "Dispatcher of the 4th and 5th class railway station" had the most positive views across all categories. For example, 90 per cent of "Cargo and baggage receivers" rated their trainers as meeting industry standards, and 81.8 per cent of "Dispatchers of the 4th and 5th class railway station" gave similar high ratings. These graduates were also very satisfied with how well the training courses aligned with industry practices and the adequacy of the material and technical base. On the other hand, graduates of the "Transportation organizer technician" qualification showed more mixed responses. Only 33.6 per cent gave their trainers the highest rating, and a substantial 25.2 per cent rated them a 3, suggesting more variability in satisfaction. Similarly, while 34.4 per cent rated the training course as highly aligned with labour market practices, a notable portion (21.4 per cent) gave it a 3. The material and technical base also received more moderate evaluations from this group, with only 35.1 per cent giving it a 5 and 22.1 per cent rating it a 3. This suggests that graduates in this qualification were less certain about the relevance of their training to the labour market when compared to those in other roles. (Table 6)

The analysis highlights that graduates generally perceive their VET experiences as aligned with labour market demands across most qualifications, though certain programs, particularly those like "Transportation organizer technician," indicate areas for improvement. These findings underscore the importance of continuous efforts to ensure that VET programs remain closely aligned with evolving industry standards and labour market needs. (Table 6)

Table 6 –- VET experience ranking in relation to your job in general and by qualification - Quality rank 1 (low) to 5 (high) in per cent (%)

C.2 How would you rate your VET experience in relation to your job?						
Qualification/ Ranking in %	1	2	3	4	5	Total
The trainers meet industry standards	1.5	0.0	20.9	33.3	44.3	100
The educational program aligns with industry practices	2.0	0.0	17.9	34.8	45.3	100
The material and technical base meets industry requirements	1.5	1.0	17.9	35.3	44.3	100
The value of consultations and recommendations regarding employment and career guidance received at the vocational training institution	2.5	2.0	17.9	33.8	43.8	100
C 2.1 The trainers meet industry standards (by following qualification)						
Qualification/ Ranking in %	1	2.0	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	9.1	81.8	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	20.0	40.0	40.0	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	0.0	10.0	90.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	12.5	12.5	75.0	100
1203093 (4S10410205) - Transportation organizer technician	2.3	0.0	25.2	38.9	33.6	100
C 2.2 The training course is up to date with Industry practices (by following qualification)						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0	9.1	9.1	81.8	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0	20.0	33.3	46.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0	0.0	10.0	90.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0	0.0	37.5	62.5	100
1203093 (4S10410205) - Transportation organizer technician	3.1	0	21.4	41.2	34.4	100
C 2.3 The material and technical base meets industry requirements (by following qualification)						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	13.6	77.3	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	3.3	16.7	33.3	46.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	0.0	20.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	0.0	50.0	50.0	100
1203093 (4S10410205) - Transportation organizer technician	2.3	0.8	22.1	39.7	35.1	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1.5. The value of career guidance of VET

When analyzing graduates' perceptions of the value of career advice and guidance provided by vocational training institutions, broken down by qualification and rated on a scale from 1 (low) to 5 (high), graduates of the "Cargo and Baggage Receiver" qualification provided the most positive evaluations. A total of 80 per cent rated the career advice sessions at the highest level (5), while the remaining 20 per cent rated them as a 4, with no ratings below 4. Similarly, the "Dispatcher of the 4th

and 5th Class Railway Station" qualification also received positive feedback, with 77.3 per cent of graduates rating the guidance as a 5, and 13.6 per cent giving it a 4. No graduates from this group rated below 3, indicating a strong perception that the guidance was beneficial in navigating the labour market. In contrast, graduates of the Centralized Station Post Dispatcher qualification offered a more mixed evaluation. While 43.3 per cent of respondents rated the consultations a 5, 30 per cent rated them a 4, and 26.7 per cent rated them a 3. This distribution suggests some variation in the perceived value of career guidance, with a notable portion of graduates feeling there was room for improvement.

Graduates from the "Transportation Organizer Technician" qualification provided the most diverse responses. While 33.6 per cent rated career advice and guidance consultations at the highest level (5) and 39.7 per cent rated them a 4, a significant 19.8 per cent gave a rating of 3. Additionally, 3.8 per cent rated the guidance at the lowest level (1), and 3.1 per cent rated it a 2. This indicates that a notable segment of this group was dissatisfied with the career guidance they received, potentially highlighting either gaps in the quality or relevance of the advice for this specific qualification and/or dissatisfaction with their employment outcomes. (Table 7)

It becomes clear from the analysis that while most graduates perceived the career guidance positively, with many giving the highest ratings, there is variability across qualifications suggesting that the perceived value of career guidance varies depending on the specific training pathway. (Table 7)

Table 7 –- Graduates perceived value of career advice guidance consultations by qualification. Quality rank 1 (low) to 5 (high) in per cent (%)

C 2.4 Value of careers advice and guidance received by qualification						
Qualification/ Ranking in %	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	0.0	9.1	13.6	77.3	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	0.0	26.7	30.0	43.3	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	0.0	20.0	80.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	0.0	25.0	75.0	100
1203093 (4S10410205) - Transportation organizer technician	3.8	3.1	19.8	39.7	33.6	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.1.6. Graduate satisfaction with received VET training and the reasoning behind it

Table 8 presents the percentage of VET graduates who would choose their VET school and course again. The findings reveal significant variations in graduate satisfaction across VET schools. At Burabay College, 81.6 per cent of graduates expressed a willingness to choose the same school and course again, reflecting a high level of satisfaction. Similarly, Aktobe College of Transport, Communications, and Technology saw 78.6 per cent of graduates willing to make the same choice, and Zhezkazgan Business and Transport College had 65.6 per cent positive responses. In contrast, satisfaction was much lower at the Electrotechnics College, where only 20 per cent of graduates would choose the same VET institute again, indicating widespread dissatisfaction. Similarly, the Higher College of Electronics and Communications saw more than half (53.8 per cent) of its graduates unwilling to repeat their training school and course choice. (Table 8)

While some institutions deliver training experiences that align well with student expectations, others face substantial challenges in meeting them. This divergence may indicate differing levels of alignment

between the curricula, institutional resources, and the labour market relevance that graduates expect. (Table 8)

Table 8 —- Percentage of VET graduates who would choose their school again based on experience in per cent (%)

C.2.5 Would you choose the same VET school and course again?			
VET college	Yes	No	Total
Electrotechnics College	20.0	80.0	100
Burabay College	81.6	18.4	100
Aktobe College of Transport, Communications, and Technology	78.6	21.4	100
Atyrau Agrotechnical College named after O. Koshekov	61.5	38.5	100
Atyrau Polytechnic Higher College named after S. Mukashev	50.0	50.0	100
Atyrau Business and Law College	61.5	38.5	100
Karaganda Railway College	51.9	48.1	100
Higher College of Electronics and Communications	46.2	53.8	100
Zhezkazgan Business and Transport College	65.6	34.4	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Valuable insights into the factors influencing whether students would choose the same VET (Vocational Education and Training) school and specialization again are offered in Table 9. The results highlight both drivers of satisfaction and areas of concern that are critical for policymakers and training institutions to consider in improving student retention and experience.

Among those who indicated they would select the same VET school and specialization again, satisfaction with school facilities emerged as the primary reason, cited by 40 per cent of respondents. This underscores the importance of a well-maintained and adequately equipped learning environment in shaping positive student experiences. Closely following this, satisfaction with the teaching staff and teaching methodology accounted for 21 per cent, signaling that while the quality of teaching is important, it is not the most decisive factor in determining student satisfaction. (Table 9)

Interestingly, only 13 per cent pointed to satisfaction with the training program, suggesting that while the content and structure of the program matter, they may not be the leading determinants of whether students would choose the same path again. Surprisingly, internship opportunities, that are widely regarded as essential for practical experience, had a minimal influence on students' satisfaction, with only 1 per cent of respondents selecting this as a key factor. Additionally, 20 per cent indicated that their overall experience met their general expectations, which means that while the institution did not exceed their expectations, training was satisfactory. A further 5 per cent of students provided other reasons, reflecting a range of additional factors that, while not specifically categorized, contributed to their decision. (Table 9)

Among those who would not choose the same institution and specialization, disappointment in the education organization or unmet expectations was the most cited reason, with 37 per cent of respondents expressing dissatisfaction with the way their training was structured or delivered. This points to a significant gap between students' initial expectations and the reality of their training experience. Notably, 29 percent of respondents indicated that they would pursue further education at the university level, suggesting that for a significant portion of students, VET is seen more as a stepping stone within their broader educational journey rather than a direct pathway to employment.

This highlights the importance of understanding students' aspirations and aligning VET pathways with broader educational and career opportunities. A very small percentage, 2 per cent, indicated that lack of interest in the transport field influenced their decision, suggesting that most students had a clear interest in their chosen specialization. However, 32 per cent selected other reasons, indicating that there are various additional factors, potentially personal or external, that influenced their decision not to return to the same institution or field if given the choice again. (Table 9)

The findings emphasize the critical role of institutional factors, such as facilities and teaching quality, in determining student satisfaction. They also point to the necessity of better aligning students' expectations with the training experience provided by VET institutions. While some students regard VET as a viable option, others see it primarily as a steppingstone. (Table 9)

From a broader labour market perspective, the findings suggest that VET should not focus on promoting predominantly wage employment but should be viewed as a means to support a variety of income-generating opportunities for individuals. It should provide a broad range of skills required to navigate the shifting demands of labour markets in transition.

Table 9 –-Reasons why or why not choose the same educational institution and specialization again in per cent (%)

C.2.6 Reasons why or why not choose the same educational institution and specialization again?	
Yes, I would choose the same VET school and specialization again	
Groups	Per cent %
Satisfaction with the school facilities	40.0
Satisfaction with the teaching staff and teaching methodology	21.0
Satisfaction with the training program	13.0
Internship opportunities	1.0
Everything meets general expectation	20.0
Other	5.0
Total	100
No, I would not choose the same VET school and specialization again	
Groups	Per cent %
Disappointed in the education organization/did not meet expectation	37.0
Continue their education in the university	29.0
Not interested in the transport field	2.0
Other	32.0
TOTAL	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 10 provides an overview of graduates' perceptions regarding how much their education has increased their employment opportunities, categorized by both VET colleges and specific qualifications.

In terms of VET colleges, Burabay College stands out with the most favorable results. A significant 71.1 per cent of graduates rated the impact of their education as the highest possible (5), and an additional 15.8 per cent rated it as a 4, suggesting that a large majority perceive their education as having strongly increased their employment opportunities. Conversely, Karaganda Railway College presents a more mixed picture, with only 11.1 per cent of graduates rating their education's impact as 5, while a notable 7.4 per cent rated it at 1, the lowest possible rating. This indicates wider dissatisfaction among some graduates. Aktobe College of Transport, Communications, and Technology follows a similar trend, with 7.1 per cent rating their education as having an insignificant impact on employment (1), though the

majority of their graduates, 57.1 (per cent) gave the highest rating of 5, reflecting a generally positive perception. (Table 10)

Another standout is the Atyrau Agrotechnical College, where a majority of 69.2 per cent rated their education contribution to employment opportunities as 4, complemented by 23.1 per cent who gave it a 5. This suggests a strong, though not unanimous, level of satisfaction. In contrast, the Higher College of Electronics and Communications reflects a more dispersed distribution of ratings, with 23.1 per cent of graduates placing their education at the lower end (2), and just 30.8 per cent rating it at 5, revealing divided perceptions among graduates about the institution's effectiveness. (Table 10)

In terms of specific qualifications, the data shows varying levels of perceived impact. Graduates of the "Dispatcher of the 4th and 5th Class Railway Station" qualification rated their education very positively, with 72.7 per cent assigning the highest rating of 5 and none rating it at 1, which suggests a high level of satisfaction in terms of how this qualification has improved their employment opportunities. Similarly, those in the "Cargo and Baggage Receiver" qualification show strong satisfaction, with 70.0 per cent rating the education's impact as 5. On the other hand, graduates of the "Transportation Organizer Technician" qualification present more moderate views, with a lower percentage (32.1 per cent) rating the education's contribution as 5 and a small number (3.8 per cent) rating it as 1, indicating that this qualification has a more mixed impact on employability. (Table 10)

Table 10 –- Graduate perception of how education has increased employment opportunities, by VET college and qualification - Quality rank 1 (low) to 5 (high) in per cent (%)

C 2.7 In your opinion, how much has your education increased your employment opportunities?						
	Qualification/ Ranking in %					
VET school	1	2	3	4	5	Total
Electrotechnics College	0.0	0.0	60.0	0.0	40.0	100
Burabay College	2.6	0.0	10.5	15.8	71.1	100
Aktobe College of Transport, Communications, and Technology	7.1	0.0	7.1	28.6	57.1	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	7.7	69.2	23.1	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	6.3	12.5	56.3	25.0	100
Atyrau Business and Law College	0.0	0.0	7.7	61.5	30.8	100
Karaganda Railway College	7.4	0.0	33.3	48.1	11.1	100
Higher College of Electronics and Communications	0.0	23.1	7.7	38.5	30.8	100
Zhezkazgan Business and Transport College	1.6	0.0	19.7	32.8	45.9	100
C 2.7 In your opinion, how much has your education increased your employment opportunities?						
Qualification	1	2	3	4	5	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	0.0	4.5	9.1	13.6	72.7	100
1203022 (3W10410202) - Centralized station post dispatcher	0.0	3.3	16.7	36.7	43.3	100
1203062 (3W10410203) - Cargo and baggage receiver	0.0	0.0	10.0	20.0	70.0	100
1203082 (3W10410204) - Transportation document operator	0.0	0.0	0.0	37.5	62.5	100
1203093 (4S10410205) - Transportation organizer technician	3.8	1.5	19.8	42.7	32.1	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 10 highlights a generally positive perception among VET graduates regarding how their training has enhanced their employment opportunities. However, while the training provided by many institutions may be of good quality, it is important to recognize that the skills acquired do not always translate into training relevant and/or quality jobs if the labour market lacks sufficient opportunities.

This nuanced understanding is key to correctly evaluating the impact of VET programs on employment outcomes. (Table 10)

The variation in satisfaction levels across both: institutions and qualifications indicate that some VET schools and programs are more successful than others in preparing their graduates for the labour market. This highlights the need to align VET programs not only with high training standards but also with the current and future labour market realities. Doing so will help ensure that skills development leads to meaningful employment impacts, rather than leaving graduates with qualifications that are not matched by sufficient quality market opportunities. (Table 10)

3.2. Post-graduation transition

This section presents data on the post-graduation transition activities of surveyed graduates during the first six months after completing their studies, offering insights into their transition experience, labour force status, and gender-based differences. It is important to highlight that a high employment rate should not be assumed to indicate that these jobs are of high quality or stable. Employment does not necessarily equate to decent work, as it may include low-wage, informal, or precarious jobs that do not offer long-term security or career progression. To fully understand the nature of the employment outcomes, additional information related to job quality, wages, and employment stability is necessary, which will be analyzed in section 3.3 of this report. The following tables serve to better understand the nature of the post-graduation transition only.

3.2.1. Employment status after graduation

Table 11 highlights that a significant proportion of graduates (71.1 percent) reported being employed after the first six months after completing their studies, reflecting a relatively smooth transition into the labour market. This suggests that many recent graduates find jobs quickly. A smaller percentage, 6.5 percent, transitioned into self-employment, demonstrating that some graduates pursued entrepreneurial activities or freelance work. Additionally, 8.5 percent of the graduates chose to continue their studies, indicating that some viewed further education as necessary for career advancement or personal development. (Table 11)

A very small portion of graduates, 1 percent, reported being neither employed nor studying, which suggests that relatively few graduates found themselves in a position of inactivity or uncertainty during this period. Similarly, only 2 percent of graduates were actively looking for work, highlighting a low rate of unemployment among recent graduates. Interestingly, 10 percent of graduates selected "Other" as their post-graduation activity, which may encompass various situations not directly covered by the defined categories, such as internships, volunteering, or taking time off for personal reasons. (Table 11)

When examining the data by gender, it becomes clear that female graduates had a slightly higher employment rate, with 72.7 percent of them reporting being employed compared to 69.9 percent of males. This suggests that women were marginally more successful in securing employment after graduation. On the other hand, males were somewhat more likely to be self-employed, with 7.1 percent of them choosing this path compared to 5.7 percent of females, potentially reflecting a greater inclination or opportunity for entrepreneurial ventures among men. Regarding further studies, 9.7 percent of male graduates continued their education, compared to 6.8 percent of female graduates, indicating a higher tendency among men to pursue additional qualifications. Notably, while none of the male graduates reported being neither employed nor studying, 2.3 percent of females found

themselves in this situation, pointing to a slightly higher challenge faced by women in transitioning to the labour market or to further studies. (Table 11)

Finally, while 2.7 percent of males were actively looking for work, only 1.1 percent of females reported the same, which may indicate that women were more likely to find work quickly or perhaps had lower job-seeking intensity or expectations. The "Other" category showed similar participation rates for both genders, with 9.7 percent of males and 10.2 percent of females. While the data reveals a generally successful post-graduation transition for most graduates, with only minimal differences between genders, the slight gender disparities in employment, self-employment, and further studies suggest that specific factors could influence the types of opportunities pursued or available to male and female graduates. These differences, while not pronounced, may warrant further investigation to understand any underlying dynamics in the labour market. (Table 11)

Table 11 –- Graduate post-graduation transition by activity status and gender

D1 What applied to your situation in the first six months after graduating?			
	Freq.	Percent	Cum.
Employed	143	71.1	71.1
Self-employed	13	6.5	77.6
Employer	2	1.0	78.6
I am continuing my studies	17	8.5	87.1
I am neither employed nor studying	2	1.0	88.1
I am actively looking for work	4	2.0	90.1
Other	20	10.0	100
Total	201	100	
Per cent (%)	Male	Female	
Employed	69.9	72.7	
Self-employed	7.1	5.7	
Employer	0.9	1.1	
I am continuing my studies	9.7	6.8	
I am neither employed nor studying	0.0	2.3	
I am actively looking for work	2.7	1.1	
Other	9.7	10.2	
Total	100	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

The analysis of Table 12 reveals significant disparities in post-graduation transition outcomes across qualifications, indicating that not all qualifications provide the same opportunities or ease of transition into the workforce.

“Cargo and Baggage Receivers” have the highest employment rate at 80 per cent, followed closely by “Transportation Document Operators” at 75 per cent. Meanwhile, “Dispatchers of the 4th and 5th Class Railway Station” and “Centralized Station Post Dispatchers” report slightly lower rates, at 68.2 per cent and 70 per cent respectively. These variations suggest that certain qualifications, like cargo handling, may align more closely with labour market demands, whereas dispatcher roles may involve more competition or longer recruitment processes. (Table 12)

The rate of self-employment among graduates is generally low, at 6.5 per cent, but varies notably across qualifications. “Dispatchers of the 4th and 5th Class Railway Station” show a much higher rate, with 18.2 per cent engaged in self-employment, indicating potential for freelance work in these roles. In contrast, qualifications like “Cargo and Baggage Receivers” and “Transportation Document

Operators" report no self-employment at all, suggesting that these fields offer more conventional wage-employment opportunities. (Table 12)

Graduates' inclination to continue their studies also varies. While 8.5 per cent of graduates pursue further education, 25 per cent of Transportation Document Operators continue their studies, possibly seeking specialization or career advancement. On the other hand, none of the Cargo and Baggage Receivers pursue further education, indicating that their qualification may provide sufficient skills for direct entry into the workforce without the need for additional credentials. (Table 12)

Although the share of graduates actively looking for work is small, at 2 per cent, the figures vary across qualifications. "Cargo and Baggage Receivers" have 20 per cent of their graduate's seeking employment, indicating that, despite high employment rates, some graduates face difficulties securing jobs that return their investment. Other qualifications, such as "Dispatchers of the 4th and 5th Class Railway Station" and "Centralized Station Post Dispatchers", report no job-seeking graduates, suggesting a smoother transition into employment for these groups. (Table 12)

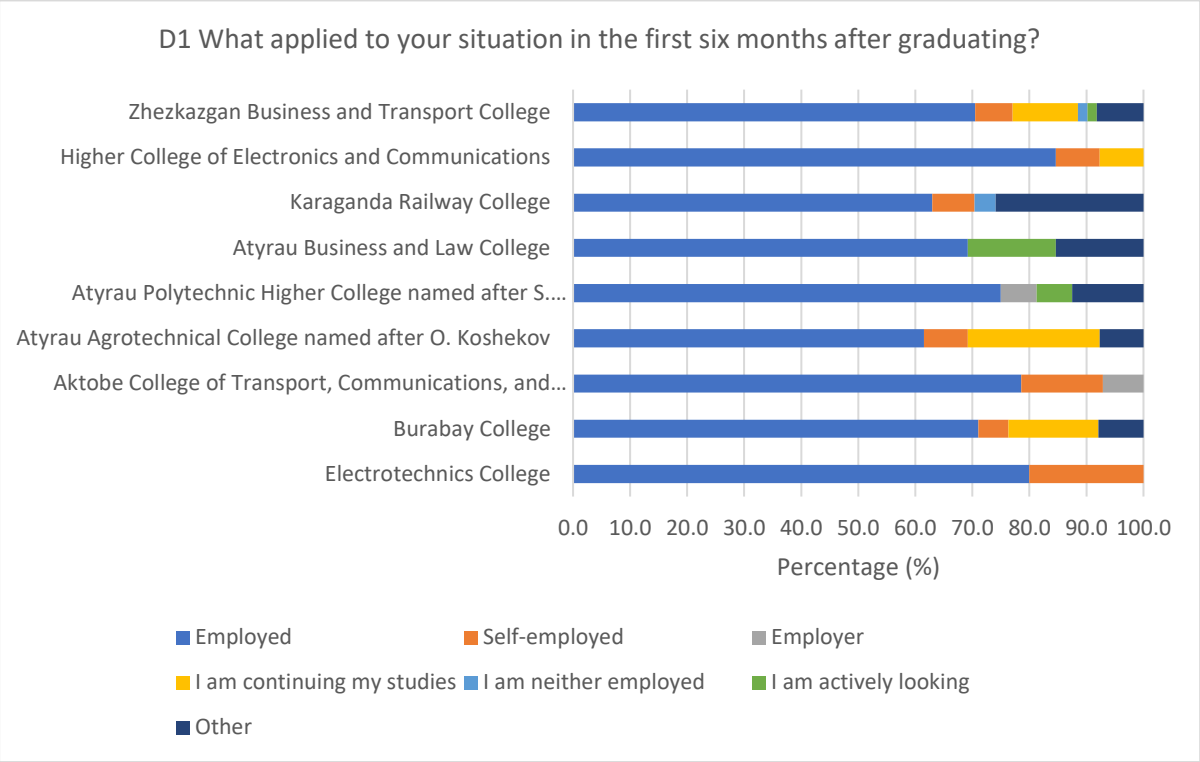
Table 12 –- Graduate post-graduation activity status, by qualification

D1 What applied to your situation in the first six months after graduating?	1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	1203022 (3W10410202) - Centralized station post dispatcher	1203062 (3W10410203) - Cargo and baggage receiver	1203082 (3W10410204) - Transportation document operator	1203093 (4S10410205) - Transportation organizer technician	TOTAL
Absolut no (00's)						
Employed	15	21	8	6	93	143
Self-employed	4	2	0	0	7	13
Employer	0	0	0	0	2	2
I am continuing my studies	3	3	0	2	9	17
I am neither employed nor studying	0	0	0	0	2	2
I am actively looking for work	0	0	2	0	2	4
Other	0	4	0	0	16	20
Total	22	30	10	8	131	201
Per cent (%)						
Employed	68.2	70.0	80.0	75.0	71.0	71.1
Self-employed	18.2	6.7	0.0	0.0	5.3	6.5
Employer	0.0	0.0	0.0	0.0	1.5	1.0
I am continuing my studies	13.6	10.0	0.0	25.0	6.9	8.5
I am neither employed nor studying	0.0	0.0	0.0	0.0	1.5	1.0
I am actively looking for work	0.0	0.0	20.0	0.0	1.5	2.0
Other	0.0	13.3	0.0	0.0	12.2	10.0
Total	100	100	100	100	100	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Figure 2 highlights how employment outcomes vary across colleges, with the Higher College of Electronics and Communications and Electrotechnics College showing strong traditional employment rates (over 80 per cent), while Aktobe College also supports both employment (78.6 per cent) and self-employment (14.3 per cent). Self-employment is highest at Electrotechnics College (20 per cent), indicating some institutions foster entrepreneurial pathways. Conversely, Atyrau Agrotechnical College and Karaganda Railway College show lower employment rates and notable portions of graduates pursuing further studies or actively seeking work, highlighting differing levels of market readiness across graduates from the various VET colleges. (Figure 2)

Figure 2- Current employment situation of graduates, by VET school



Source: Pilot Tracer Study Kazakhstan

3.2.2. The impact of dual training and internships on postgraduation-transition

The transition to employment for graduates from dual and non-dual education programs, as shown in Table 13, reveals also notable differences in post-graduation transition. According to the pilot tracer study, most graduates, regardless of the type of training, found employment within a short period after graduation. However, those from dual education programs, which combine classroom learning with workplace training, tend to transition to employment faster than their non-dual counterparts.

For instance, 40.2 per cent of dual education graduates secured employment within one month of completing their studies, while only 34.6 per cent of non-dual graduates did so in the same timeframe. Furthermore, 85.6 per cent of dual education graduates were employed within three months, compared to 88.5 per cent of non-dual education graduates. This highlights the efficiency of dual education in facilitating quicker job placement. (Table 13)

The pilot tracer study also examined the impact of internships on employment outcomes. Graduates who completed internships experienced significantly higher employment rates soon after graduation. For example, 98.4 per cent of graduates who had internships found a job within one month of

completing their studies, compared to only 1.6 per cent of those who did not. This underscores the importance of practical training and work experience in improving employability. (Table 13)

In a nutshell one can say, dual education and internships appear to significantly enhance the speed and likelihood of employment for VET graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program, demonstrating the value of integrating practical work experience with formal education. (Table 13)

Table 13 –- Transition to employment: dual vs. non-dual education and internship impact

D 2 When did you find employment after graduation?	Freq.	Percent	Cum.
I found a job before the VET training	15.0	9.5	9.5
I found a job while in training and before graduation	20.0	12.7	22.2
One month after completing my studies	62.0	39.2	61.4
Within one to three months after completion	39.0	24.7	86.1
Within four to six months after completion	13.0	8.2	94.3
Within seven months to one year after completion	9.0	5.7	100
Total	158	100	
D 2 When did you find employment after graduation?			
Graduates with **dual** education			
	Freq.	Percent	Cum.
I found a job before the VET training	13	9.9	9.9
I found a job while in training and before graduation	14	10.6	20.5
One month after completing my studies /	53	40.2	60.6
Within one to three months after completion	33	25.0	85.6
Within four to six months after completion	12	9.1	94.7
Seven months up to 1 year after graduation	7	5.3	100
Total	132	100	
D 2 When did you find employment after graduation?			
Graduates with **non-dual** education			
	Freq.	Percent	Cum.
I found a job before the VET training	2	7.7	7.7
I found a job while in training and before graduation	6	23.1	30.8
One month after completing my studies /	9	34.6	65.4
Within one to three months after completion	6	23.1	88.5
Within four to six months after completion	1	3.9	92.3
Seven months up to 1 year after graduation	2	7.7	100
Total	26	100	
D 2 When did you find employment after graduation?	B 1.4 Did you complete an internship at an enterprise?		
Per cent (%)	Yes	No	Total
I found a job before the VET training	100.0	0.0	100
I found a job while in training and before graduation	95.0	5.0	100
One month after graduation	98.4	1.6	100
Within one to three months after completion	94.9	5.1	100
Within four to six months after completion	92.3	7.7	100
Seven months up to 1 year after graduation	88.9	11.1	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.2.3. Channels to support training to work transition and graduate experiences

The transition to employment for graduates from VET programs in Table 14 shows that graduates use a variety of channels to secure jobs, with notable differences in effectiveness by gender. According to the pilot tracer study results, the most common channel for finding employment is word of mouth, used by 29.8 per cent of all graduates. This highlights the significance of personal networks in securing job opportunities, particularly for male graduates, 35.2 per cent of whom found jobs through this method compared to 22.9 per cent of female graduates.

The second most frequently used channel is through VET schools, which assisted 24.1 per cent of graduates in finding employment. This pathway is slightly more effective for female graduates (25.7 per cent) than for males (22.7 per cent), indicating that women may rely more on formal institutional support from their educational programs. Another key channel is advertisements (both online and in newspapers), used by 22.8 per cent of graduates. This method was more common among male graduates (25.0 per cent) compared to female graduates (20.0 per cent), suggesting that men may be more inclined to utilize public job postings. (Table 14)

Notably, internships and practical training also play a crucial role in securing employment especially for female graduates. While only 4.5 per cent of males found jobs through this channel, 21.4 per cent of females did, demonstrating that internships are a significantly more important pathway for women to transition into employment. Lastly, career guidance was used by 11.4 per cent of graduates, with a slightly higher reliance among male graduates (12.5 per cent) compared to females (10.0 per cent). (Table 14)

These findings suggest that while personal networks and word of mouth are critical for both genders, internships and VET school support are especially important for female graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program. The gendered differences in the use of these channels underscore the need for targeted strategies to enhance job placement support, particularly through internships and formal educational pathways. (Table 14)

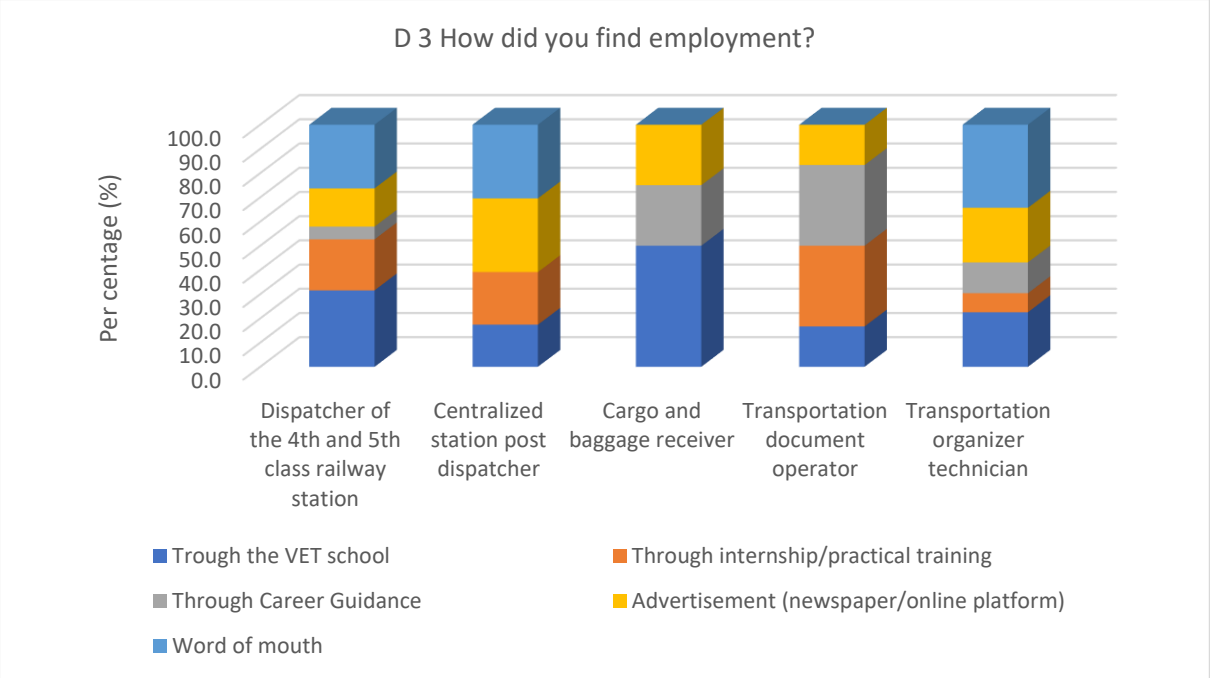
Table 14 –- Transition to employment: channels graduates used to find employment, by gender

D 3 How did you find employment?			
	Freq.	Percent	Cum.
Through the VET school	38	24.1	24.1
Through internship/practical training	19	12.0	36.1
Through Career Guidance	18	11.4	47.5
Advertisement (newspaper/online platform)	36	22.8	70.3
Word of mouth	47	29.8	100
Total	158	100	
	Male	Female	
Through the VET school	22.7	25.7	
Through internship/practical training	4.5	21.4	
Through Career Guidance	12.5	10.0	
Advertisement (newspaper/online platform)	25.0	20.0	
Word of mouth	35.2	22.9	
Total	100	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Graduates' methods for finding employment vary significantly by qualification, with vocational education and training (VET) schools being most effective for some roles, especially for “Cargo and Baggage Receiver”. In contrast, internships play a crucial role for Transportation Document Operators, accounting for 33.3 per cent of their job placements. Additionally, word-of-mouth referrals are significant for the “Transportation Organizer Technician”, indicating the need for tailored career support strategies across different fields to enhance employment outcomes. (Figure 3)

Figure 3- Transition to employment: channels graduates used to find employment, by qualification



Source: Pilot Tracer Study Kazakhstan.

3.2.4. Efforts required to find employment post-graduation

The results presented in Table 15 suggest that many VET graduates from the ‘Organization of Transportation and Traffic Control in Railway Transport’ program found employment relatively quickly, though the relevance of these jobs to their training is not specified. A large portion of graduates (77.2 per cent secured their first job after contacting just 1 to 3 employers, indicating that most graduates did not need to undertake an extensive job search. (Table 15)

Table 15 –- Transition to employment: number of employers contacted

D 4 How many employers did you contact before you took up your first job after graduation?			
	Freq.	Percent	Cum.
1–3	122	77.2	77.2
4–6	30	19.0	96.2
More than 6	6	3.8	100
Total	158	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

An additional 19 per cent reached out to 4 to 6 employers, while only a small number (3.8 per cent) contacted more than 6 employers. This shows that, for the majority, the transition to employment was not prolonged, but it remains unclear whether the jobs found were directly related to the skills and qualifications acquired during their VET training. (Table 15)

While these figures highlight an efficient job search process, they do not address whether the employment obtained aligns with the graduates' vocational training or if it meets their expectations in terms of skill application and career progression. This suggests that while securing a job may be relatively straightforward for VET graduates, further analysis is needed to assess how well these jobs reflect their training and qualifications. Such an analysis will be provided in section 3.4 of this report. (Table 15)

3.2.5. Experience with career guidance and perceived value

Table 16 highlights the experiences of VET graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program regarding career advice and guidance received during their training. Overall, a substantial majority of graduates, 76.6 per cent, reported that their VET schools provided career guidance, while only 23.4 per cent indicated they did not receive such support. This suggests that the provision of career advice is generally a common practice among VET institutions, potentially aiding graduates in their transition to the job market.

Graduates from the Atyrau Business and Law College reported the highest level of career advice and guidance, with 100 per cent indicating that their VET school provided them with such support. This suggests that the institution has a robust framework for guiding students in navigating their future careers. Following closely, Aktobe College of Transport, Communications, and Technology saw 93 per cent of graduates acknowledging that they received career advice and guidance during their VET program. This high percentage highlights the strong emphasis the institution places on preparing students for the labour market. Burabay College also performed well, with 90 per cent of graduates confirming they received career advice. This reflects a solid support system for students as they transition into employment.

At Karaganda Railway College, 84 per cent of graduates stated they were offered career guidance, demonstrating the institution's commitment to equipping students with the tools necessary to pursue their career paths. Zhezkazgan Business and Transport College reported that 81 per cent of its graduates received career advice and guidance, and the Higher College of Electronics and Communications had 75 per cent of its graduates affirm they were provided with career advice during their VET program, showcasing a relatively high level of support for students. At the Atyrau Agrotechnical College named after O. Koshekov, only 44 per cent of graduates reported receiving career advice, suggesting that while some support exists, there is significant room for improvement.

Atyrau Polytechnic Higher College named after S. Mukashev similarly saw 38 per cent of its graduates acknowledging career guidance, indicating that more efforts may be needed to improve career support services. Lastly, Electrotechnics College had the lowest percentage, with only 20 per cent of graduates reporting they received career advice and guidance during their studies, highlighting a potential gap in support for students.

These findings underscore the importance of investing in consistent and accessible career guidance across VET institutions. Addressing these disparities in career guidance could enhance graduates' readiness for the labour market and improve their employment outcomes. Ensuring all students receive adequate career advice could be crucial in helping them navigate their career paths effectively. (Table 16)

Table 16 –- VET schools and career guidance: graduate experiences

D 5 Did your VET school provide you with any career advice and guidance during the VET program?			
	Freq.	Percent	Cum.
Yes	121	76.6	76.6
No	37	23.4	100
Total	158	100	
B 1.1 What is the Name of the VET School where you studied?	D 5 Did your VET school provide you with any career advice and guidance during the VET program?		
	Yes	No	Total
Electrotechnics College	20	80	100
Burabay College	90	10	100
Aktobe College of Transport, Communications, and Technology	93	7	100
Atyrau Agrotechnical College named after O. Koshekov	44	56	100
Atyrau Polytechnic Higher College named after S. Mukashev	38	62	100
Atyrau Business and Law College	100	0	100
Karaganda Railway College	84	16	100
Higher College of Electronics and Communications	75	25	100
Zhezkazgan Business and Transport College	81	19	100
A 1.3 Qualification	D 5 Did your VET school provide you with any career advice and guidance during the VET program?		
Absolut no in (00's)	Yes	No	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	17	2	19
1203022 (3W10410202) - Centralized station post dispatcher	15	8	23
1203062 (3W10410203) - Cargo and baggage receiver	8	0	8
1203082 (3W10410204) - Transportation document operator	5	1	6
1203093 (4S10410205) - Transportation organizer technician	76	26	102
Total	121	37	158
Per cent (%)	Yes	No	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	14.0	5.4	12.0
1203022 (3W10410202) - Centralized station post dispatcher	12.4	21.6	14.6
1203062 (3W10410203) - Cargo and baggage receiver	6.6	0.0	5.1
1203082 (3W10410204) - Transportation document operator	4.1	2.7	3.8
1203093 (4S10410205) - Transportation organizer technician	62.8	70.3	64.6
Total	100	100	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 17 presents the perceived value of career guidance among 121 graduates in Kazakhstan, reflecting their experiences in finding employment. Notably, no respondents rated career advice as 1 or 2, indicating that all graduates view it as important to some degree. Specifically, 19.8 per cent rated

it as 3 (neutral), while 31.4 per cent rated it as 4 and 48.8 per cent rated it as 5 (high). This results in 80.2 per cent of graduates perceiving career guidance as moderately to highly valuable.

The percentage shows that over half (80.2 per cent) rated career guidance as a 4 or 5, emphasizing its essential role in the job search process. These findings highlight the critical importance of effective career guidance programs for enhancing employment outcomes. Continued investment in these services is likely to improve job placement and overall career satisfaction for graduates. Further exploration of specific effective elements of career guidance could optimize program delivery.

Table 17 –- Perceived value of career guidance: graduate experiences

D 6 Rank the value of Career advice in finding work from 1 (low) to 5 (high)			
	Freq.	Percent	Cum.
1	0	0	0
2	0	0	0
3	24	19.8	19.8
4	38	31.4	51.2
5	59	48.8	100
Total	121	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.3. Employment

Understanding the nature of employment of graduates consulted is crucial in assessing the effectiveness of VET programs and their alignment with labour market needs. Not all employment is quality employment, and many graduates may find themselves in positions that do not fully utilize their skills or offer adequate compensation. This section explores the current employment situation of VET graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program, providing insights into the quality of employment they secure which may have implications for their career trajectories.

Table 18 –- Current employment situation of graduates

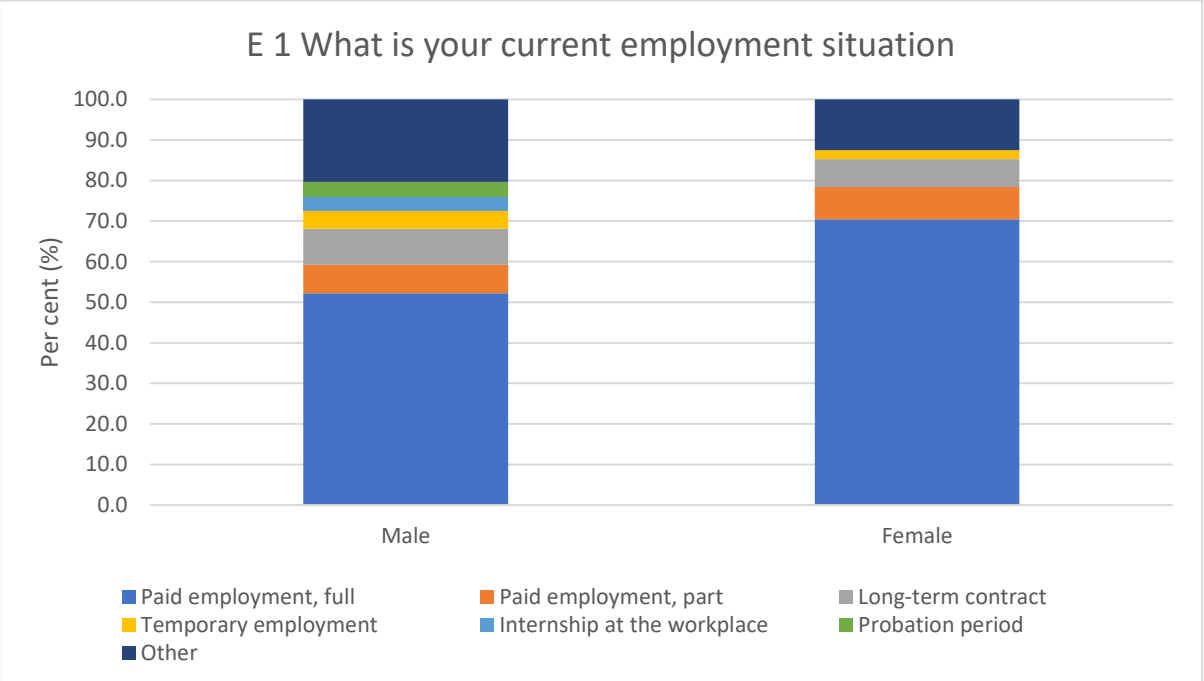
E 1 What is your current employment situation?			
	Freq.	Percent	Cum.
Full time wage employment	121	60.2	60.2
Part-time wage employment	15	7.5	67.7
Long-term contract	16	8.0	75.6
Temporary contract	7	3.5	79.1
Practical training	4	2.0	81.1
Trail period	4	2.0	83.1
Other	34	16.9	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 18 presents the current employment situation of graduates surveyed in the Pilot Tracer Study. The data reveals that a substantial majority of graduates (60.2 per cent) are engaged in full-time wage employment, indicating a positive outcome in terms of job stability and income potential for this cohort. Only a smaller segment of graduates (7.5 per cent) is involved in part-time wage employment. This discrepancy suggests that while a significant portion of graduates have secured full-time roles, there remains a notable group that is not fully engaged in the labour market.

Further, the table also indicates that 8 per cent of graduates are on long-term contracts, which implies a level of job security, while 3.5 per cent are employed on temporary contracts. The presence of graduates in practical training (2 per cent) and trial periods (2 per cent) indicates that some are still navigating the transition into the labour market, reflecting the ongoing need for practical experience and skill development. The "Other" category accounts for 16.9 per cent of respondents, which could encompass various forms of employment or engagement not captured by the previous categories. This diversity may highlight alternative career paths or non-traditional work arrangements that graduates are pursuing. (Table 18)

Figure 4- Current employment situation of graduates, by gender



Source: Pilot Tracer Study Kazakhstan

Figure 4 indicates that temporary and part-time employment is more common among males, while females are more represented in full-time paid roles, with long-term contracts. It is worth mentioning that all internships and probationary roles are filled by males, suggesting a significant gender disparity in specific employment categories. (Figure 4)

Overall, the pilot tracer study results show most graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program in full-time and long-term employment, it is essential to recognize that multiple dimensions determine a decent job, including the nature of the roles, compensation, and the alignment of these jobs with the qualifications earned through VET programs. For graduates, full-time employment and long-term contracts should also yield sufficient returns to justify the opportunity cost of investing in VET qualifications. (Table 18)

3.3.1. Alignment of graduates' qualifications with employment

Table 19 –- Occupational alignment with obtained qualification in railway freight transport

E 2 What is your current job title?				
Aggregated			Per cent %)	
Occupations directly related to the qualification studied			22.5	
Occupations not related to the qualification studied			53.5	
Other			24	
Total			100	
VET college	Occupations directly related to the qualification studied	Occupations not related to the qualification studied	Other	Total
Electrotechnics College	0	100	0	100
Burabay College	0	82.4	17.6	100
Aktobe College of Transport, Communications, and Technology	14.3	42.9	42.9	100
Atyrau Agrotechnical College named after O. Koshekov	0	100	0	100
Atyrau Polytechnic Higher College named after S. Mukashev	50.0	25.0	25.0	100
Atyrau Business and Law College	14.3	71.4	14.3	100
Karaganda Railway College	0	85.7	14.3	100
Higher College of Electronics and Communications	25.0	50.0	25.0	100
Zhezkazgan Business and Transport College	31.3	37.5	31.3	100
Qualification	Occupations directly related to the qualification studied	Occupations not related to the qualification studied	Other	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	25	50	25	100
1203022 (3W10410202) - Centralized station post dispatcher	7.7	84.6	7.7	100
1203062 (3W10410203) - Cargo and baggage receiver	0	28.6	71.4	100
1203082 (3W10410204) - Transportation document operator	50	0	50	100
1203093 (4S10410205) - Transportation organizer technician	21.6	58.8	19.6	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 19 illustrates the occupational alignment of graduates with their qualifications in railway freight transport. The analysis indicates that only 22.5 percent of respondents are employed in occupations directly related to their studied qualification. This low percentage suggests a significant mismatch between the training provided through VET programs and the available job opportunities within the sector. A notable 53.5 percent of graduates occupy positions that are not related to their qualification, indicating that over half of the surveyed graduates are working in roles that may not fully utilize their obtained skills and knowledge. This misalignment can lead to affect job satisfaction and career advancement. Additionally, the "Other" category accounts for 24 percent of respondents, which still

study or are in roles not categorized. This diversity further underscores the challenges graduates face in finding roles that align with their qualifications.

Most VET colleges have a majority of graduates working in occupations not related to their studied qualifications, with only a few, such as Atyrau Polytechnic Higher College, showing higher rates of employment in related fields. Across qualifications, graduates also largely work in unrelated occupations, with particularly low alignment in roles like "Centralized station post dispatcher" and "Cargo and baggage receiver," while "Transportation document operator" has a relatively higher match rate for related employment.

The findings highlight a critical concern regarding the effectiveness of VET programs in meeting labour market demands. However, it is essential to recognize that VET cannot heal structural labour market challenges and complexities that must be addressed through targeted employment policies. Thus, while VET programs play a vital role in skill development, they must be complemented by broader labour market interventions to ensure that graduates can secure meaningful and relevant employment. (Table 19)

3.3.2. Sectors of employment

Adding to the analysis of Table 19, Table 20 presents the sector of employment for graduates surveyed. Results highlight a substantial 43.3 percent of respondents work within the transport sector, which, while indicating a relevant employment context, also means that the majority are employed in various sectors outside their direct field of study.

The distribution of graduates across different sectors emphasises the challenges graduates face in securing appropriate employment in the trades they have been trained in. The representation in sectors such as education (1.5 percent), healthcare (0.5 percent), economics (9.0 percent), and law (2.5 percent) indicate that few graduates are able to leverage their qualifications in other fields that might offer better career opportunities or job security. Overall, these findings highlight a significant disconnect between training outcomes and labour market realities of graduates. (Table 20)

Table 20 –- Sector of employment after graduation

E 3 In what sector do you work?			
	Freq.	Percent	Cum.
Education	3	1.5	1.5
Transport	87	43.3	44.8
Healthcare	1	0.5	45.2
Economics	18	9.0	54.2
Law	5	2.5	56.7
Other	87	43.3	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 21 reveals significant discrepancies in transport sector employment outcomes based on the qualifications obtained, highlighting mismatches between the qualifications offered and market demand. While some qualifications show strong alignment with employment opportunities in the transport sector, others indicate limited relevance.

Table 21 –- Sector of employment after graduation by qualification obtained

E 3 In what sector do you work?	1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	1203022 (3W10410202) - Centralized station post dispatcher	1203062 (3W10410203) - Cargo and baggage receiver	1203082 (3W10410204) - Transportation document operator	1203093 (4S10410205) - Transportation organizer technician	TOTAL
Absolut (00's)						
Education	0	1	0	0	2	3
Transport	12	13	7	4	51	87
Healthcare	1	0	0	0	0	1
Economics	2	8	1	2	5	18
Law	1	0	0	0	4	5
Other	6	1	2	2	69	87
Total	22	30	10	8	131	201
Per cent (%)						
Education	0.0	3.3	0.0	0.0	1.5	1.5
Transport	54.5	43.3	70.0	50.0	38.9	43.3
Healthcare	4.5	0.0	0.0	0.0	0.0	0.5
Economics	9.1	26.7	10.0	25.0	3.8	9.0
Law	4.5	0.0	0.0	0.0	3.1	2.5
Other	27.3	3.3	20.0	25.0	52.7	43.3
Total	100	100	100	100	100	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

For instance, the "Cargo and baggage receiver" qualification stands out, with an impressive 70.0 per cent of graduates working in the transport sector. Similarly, 54.5 per cent of graduates from the "Dispatcher of the 4th and 5th class railway station program" and 43.3 per cent from the "Centralized station post dispatcher" qualification are also employed in Transport. These figures suggest that

graduates from these specific programs successfully transition into relevant roles within the sector. (Table 21)

Conversely, stark contrasts are evident for other qualifications. Notably, only 38.9 per cent of graduates from the Transportation organizer technician qualification find employment in the Transport sector, indicating potential gaps in job readiness or market alignment. Additionally, only half of the graduates from the Transportation document operator qualification are employed in transport, suggesting that many may be seeking opportunities outside their trained field. (Table 21)

This disparity implies that while certain qualifications effectively meet labour market demands and yield a return on investment, others may not align with the needs of graduates and the market. This underscores the necessity for ongoing evaluation and adjustment of VET programs to ensure that all qualifications lead to viable employment opportunities in the transport sector. (Table 21)

Table 22 –- Sector of employment after graduation by VET school, in per cent (%)

E 3 In what sector do you work?							
B 1.1 What is the Name of the VET School where you studied?	Education	Transport	Healthcare	Economics	Law	Other	Total
Electrotechnics College	0.0	40.0	0.0	20.0	20.0	20.0	100
Burabay College	0.0	44.7	2.6	21.1	5.3	26.3	100
Aktobe College of Transport, Communications, and Technology	14.3	50.0	0.0	0.0	0.0	35.7	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	15.4	0.0	7.7	7.7	69.2	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	25.0	0.0	0.0	0.0	75.0	100
Atyrau Business and Law College	0.0	53.8	0.0	0.0	0.0	46.2	100
Karaganda Railway College	0.0	25.9	0.0	0.0	3.7	70.4	100
Higher College of Electronics and Communications	0.0	61.5	0.0	7.7	0.0	30.8	100
Zhezkazgan Business and Transport College	1.6	52.5	0.0	11.5	0.0	34.4	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

The Higher College of Electronics and Communications stands out, with 61.5 per cent of its graduates employed in transport-related roles, followed by Atyrau Business and Law College, which also indicates strong alignment between its training programs and labour market requirements. The Zhezkazgan Business and Transport College shows 52.5 per cent of its graduates employed in the transport sector, while Aktobe College of Transport, Communications, and Technology has 50.0 per cent of its graduates in transport roles, demonstrating relative effectiveness in aligning their training with market needs. Burabay College reports a slightly lower percentage, with 44.7 per cent of its graduates in transport roles, whereas Karaganda Railway College shows only 25.9 per cent of its graduates employed in the transport sector, indicating only a modest alignment of its curriculum with industry demands. In contrast, both Atyrau Agrotechnical College and Atyrau Polytechnic Higher College present the least

favorable outcomes, with only 15.4 per cent and 25.0 per cent of their graduates employed in transport roles, respectively. These results indicate a potential misalignment between the courses offered and market needs at these VET schools. (Table 22)

The clear disparity in transport sector employment outcomes depending on the VET school attended, emphasizes the importance of conscious investments in aligning certain VET schools and programs with market requirements to enhance graduates' employability in this critical growth sector. (Table 22)

3.3.3. Labour mobility

Table 23 illustrates the relocation patterns of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program in pursuit of employment opportunities. The data from the pilot tracer study indicates that Astana City is the primary destination, with 43.5 per cent of graduates moving there for work, highlighting its role as a key employment hub. The Ulytau Region follows with a notable 27.7 per cent of graduates relocating for job prospects, while the Atyrau Region accounts for 10.9 per cent of graduates seeking employment. In contrast, other regions exhibit lower inbound mobility rates, such as Karaganda (8.7 per cent) and Akmola (4.3 per cent). Additionally, regions like West Kazakhstan, Kostanay, and Pavlodar show minimal or no inbound mobility, indicating fewer quality employment opportunities. While this labour market mobility reflects graduates' efforts to secure employment opportunities that return their investment in VET, it may also suggest a lack of suitable job options in their regions of graduation.

Table 23 –- Labour mobility of graduates to region of work in per cent (%)

E 4 In which region do you work?	E 5 Did you have to move to find work?		
	Yes	No	Total
Abai Region	0	3.2	2.5
Akmola Region	4.3	12.9	10.9
Aktobe Region	2.2	8.4	7.0
Almaty Region	6.5	0.6	2.0
Atyrau Region	10.9	18.7	16.9
West Kazakhstan Regio	2.2	0.0	0.5
Karaganda Region	8.7	14.8	13.4
Kostanay Region	0.0	0.6	0.5
Pavlodar Region	0.0	6.5	5.0
North Kazakhstan Regi	4.3	2.6	3.0
Turkestan Region	4.3	0.6	1.5
Ulytau Region	6.5	27.7	22.9
Astana City	43.5	3.2	12.4
Almaty City	6.5	0.0	1.5
Total	100	100	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

According to the pilot tracer study, only 22.9 per cent of surveyed graduates reported needing to move to find employment, while the majority, 77.1 per cent, secured jobs without relocating. This suggests that most graduates can find work within their home regions, potentially reflecting either enough local job opportunities or limited geographic mobility due to personal or economic factors. However, the 22.9 per cent of graduates who did relocate point to geographic labour market disparities, where certain regions may lack sufficient quality job opportunities for graduates of the 'Organization of

Transportation and Traffic Control in Railway Transport' program, prompting them to seek employment elsewhere. (Table 24)

It is important to note that labour mobility may not always be driven by the pursuit of better job prospects. It could, however, reflect a mismatch between the skills acquired during training and local labour market demand. It should be pointed out, that labour market demand reflects both the needs of people and the market. The findings presented in Table 24 underscore the importance of understanding regional labour market dynamics when designing course offerings to better align them with peoples' and market needs. (Table 24)

Table 24 –- Labour mobility after graduation

E 5 Did you have to move to find work?	Freq.	Percent	Cum.
Yes	46	22.9	22.9
No	155	77.1	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.3.4. Wages

Table 25 presents the average monthly wages of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program. The data indicates that a significant portion of graduates earn between 200,000 KZT and 300,000 KZT, with 28.9 per cent earning in the 200,000 - 250,000 KZT range and 29.4 per cent in the 250,000 - 300,000 KZT range. Together, these two categories account for approximately 58.3 per cent of respondents, suggesting that many graduates secure a reasonable income shortly after completing their studies.

Notably, 14.9 per cent of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program reported earning 150,000 - 200,000 KZT, which is close to the newly set minimum wage of 85,000 KZT as of January 1, 2024.[4] This indicates that even the lower wage brackets offer salaries that exceed the minimum threshold, reflecting a relatively conducive income outlook for graduates entering the labour market. On the higher end, 21.4 per cent of graduates earn between 300,000 KZT and 400,000 KZT, while 5.5 per cent earn over 400,000 KZT, indicating that there are also lucrative opportunities available within the sector. (Table 25)

While the findings present a positive overview of average monthly wages, it is important to clarify whether these incomes stem from positions directly related to the vocational training received in the 'Organization of Transportation and Traffic Control in Railway Transport' program. Understanding the alignment between graduates' employment and their training will provide deeper insights into the effectiveness of the program in preparing students for relevant job markets. (Table 25)

[4] This is part of broader changes outlined in the State Budget for 2024-2026, which also includes adjustments to the Monthly Calculation Index (MCI) and the introduction of an obligatory 1.5 per cent employer pension contribution. See: https://mercans.com/resources/statutory-alerts/kazakhstan-amends-monthly-calculation-index-mci-monthly-minimum-wage-and-introduces-employer-pension-contribution/

Table 25 –- Average monthly wages after graduation

E 6 What is your monthly income?			
	Freq.	Percent	Cum.
150,000 - 200,000 KZT	30	14.9	14.9
200,000 - 250,000 KZT	58	28.9	43.8
250,000 - 300,000 KZT	59	29.4	73.1
300,000 - 400,000 KZT	43	21.4	94.5
over 400,000 KZT	11	5.5	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 26 provides insights into the average monthly wages of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program, differentiating between those who participated in dual education and those who did not. The data reveals that graduates who are engaged in dual education programs generally experience higher wage outcomes compared to their non-dual counterparts. Among dual education graduates, 11.4 per cent earn between 150,000 - 200,000 KZT, with only a small portion starting at this lower wage bracket. In contrast, 32.4 per cent of non-dual education graduates fall into the same income range, indicating a larger proportion face challenges in securing higher-paying jobs.

For those in the 200,000 - 250,000 KZT bracket, 26.3 per cent of dual program graduates are represented, while 41.2 per cent of non-dual graduates occupy this category. This suggests that while many non-dual graduates find employment, they generally do so at lower wage levels. The 250,000 - 300,000 KZT range is where dual education graduates excel, with 31.7 per cent earning in this bracket compared to only 17.6 per cent of their non-dual counterparts. Furthermore, 24.0 per cent of dual education graduates earn between 300,000 - 400,000 KZT, while just 8.8 per cent of non-dual graduates reach this income level. (Table 26)

Notably, 6.6 per cent of dual education graduates earn over 400,000 KZT, whereas no non-dual education graduates reported earning within this highest bracket. This stark contrast underscores the advantage that dual education provides in terms of aligning graduates' skills with market demands, ultimately leading to better financial outcomes. (Table 26)

Table 26 –- Average monthly wages after graduation by type of training, in per cent (%)

B 1.2 Was the course part of the dual education program?	150,000 - 200,000 KZT	200,000 - 250,000 KZT	250,000 - 300,000 KZT	300,000 - 400,000 KZT	Over 400,000 KZT	Total
Yes	11.4	26.3	31.7	24.0	6.6	100
No	32.4	41.2	17.6	8.8	0.0	100
Total	14.9	28.9	29.4	21.4	5.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Average monthly wages of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program, segmented by qualification are illustrated in Table 27. Its analysis reveals significant variations in earning potential of graduates based on their specific qualifications attained.

For the "Dispatcher of the 4th and 5th class railway station", 27.3 per cent earn between 150,000 - 200,000 KZT, while 36.4 per cent earn in the 200,000 - 250,000 KZT range. However, only 9.1 per cent achieve wages between 300,000 - 400,000 KZT.

The "Centralized station post dispatcher" shows 20.0 per cent in both the 150,000 - 200,000 KZT and 200,000 - 250,000 KZT brackets, with 26.7 per cent earning between 300,000 - 400,000 KZT, indicating better opportunities. Graduates as Cargo and baggage receivers have 40.0 per cent in the 250,000 - 300,000 KZT range, but none earn above this threshold, suggesting limited high-paying roles. For Transportation document operators, 37.5 per cent earn in the 250,000 - 300,000 KZT and 200,000 - 250,000 KZT categories, with no earnings surpassing 300,000 KZT. Finally, the Transportation organizer technician group displays a healthier wage distribution, with 25.2 per cent earning between 300,000 - 400,000 KZT and 7.6 per cent exceeding 400,000 KZT.

These findings underline the influence of specific qualifications on earning potential. The information can be used to guide prospective students toward paths that may offer better financial returns. Higher wages for certain qualifications may also serve as a proxy for market demand, indicating a greater need for graduates in these trades. This correlation underscores the importance of aligning VET courses with labour market needs to enhance employment outcomes for graduates.

Table 27 –- Average monthly wages after graduation by qualification, in per cent (%)

A 1.3 Qualification	150,000 - 200,000 KZT	200,000 - 250,000 KZT	250,000 - 300,000 KZT	300,000 - 400,000 KZT	Over 400,000 KZT	Total
1203012 (3W10410201) - Dispatcher of the 4th and 5th class railway station	27.3	36.4	27.3	9.1	0.0	100
1203022 (3W10410202) - Centralized station post dispatcher	20.0	20.0	30.0	26.7	3.3	100
1203062 (3W10410203) - Cargo and baggage receiver	30.0	30.0	40.0	0.0	0.0	100
1203082 (3W10410204) - Transportation document operator	25.0	37.5	37.5	0.0	0.0	100
1203093 (4S10410205) - Transportation organizer technician	9.9	29.0	28.2	25.2	7.6	100
Total	14.9	28.9	29.4	21.4	5.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.3.5. Satisfaction of graduates with their current jobs

Table 28 presents the perceived satisfaction of graduates with their current jobs, rated on a scale from 1 (much lower than expected) to 5 (much greater than expected). These findings indicate that the majority of graduates from the 'Organization of Transportation and Traffic Control in Railway Transport' program are largely satisfied with their employment. This reflects positively on the program's effectiveness in preparing students for the labour market and suggests favorable employment conditions within their fields.

A significant 37.8 per cent rated their satisfaction as a 4, while 31.8 per cent gave the highest rating of 5, indicating that approximately 69.6 per cent of graduates feel their jobs meet or exceed their

expectations. Conversely, 27.4 per cent rated their satisfaction as a 3, suggesting a neutral experience, while a small percentage (3.0 per cent) expressed dissatisfaction by rating their experiences as 1 or 2.

The high levels of satisfaction could signify a strong alignment between graduates' expectations and the realities of their job roles. Ongoing monitoring of job satisfaction levels will be crucial for vocational education and training (VET) programs to ensure they remain responsive to student expectations and labour market needs.

Table 28 –- Perceived satisfaction with the current job - Quality rank 1 (low) to 5 (high) in per cent (%)

E 7 To what extent does your satisfaction with your current job meet your expectations prior to employment? (scale from 1 (much lower than expected) to 5 (much greater than expected)	Freq.	Percent	Cum.
1	3	1.5	1.5
2	3	1.5	3.0
3	55	27.4	30.4
4	76	37.8	68.2
5	64	31.8	100
Total	201	100	

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.4. Labour Market relevance of VET received

This section examines how effectively graduates can apply their training in the workplace. The findings from Table 29 provide insights into the perceived application of acquired skills in their job among graduates from various VET institutions. The data indicates that a total of 34.3 per cent of graduates rated the applicability of their skills as high (scores of 4 or 5), suggesting a positive perception of their training. However, 26.9 per cent of graduates rated their skills as average (score of 3), and 3.0 per cent reported very low applicability (score of 1). This highlights that while many graduates feel competent in applying their skills, there is still a portion that struggles to see the relevance of their training in their current jobs.

Among the colleges, Burabay College stands out, with 68.4 per cent of its graduates rating their skill applicability as high (scores of 4 or 5). This indicates a strong alignment between the training provided and the skills required in the job market. Similarly, Atyrau Agrotechnical College reported 69.2 per cent in the high applicability category, suggesting effective training programs that meet industry demands. In contrast, Karaganda Railway College and Atyrau Polytechnic Higher College demonstrated lower percentages of high applicability ratings, with 7.4 per cent and 18.8 per cent, respectively. These results may point to gaps in their course curricula or teaching methods that do not sufficiently prepare students for the realities of their work environments. (Table 29)

When considering gender differences, female graduates reported a higher perception of skill applicability, with 37.5 per cent rating their skills as high (scores of 4 or 5) compared to 31.9 per cent of male graduates. This disparity may reflect differing experiences in how graduates engage with their training and apply it in the workplace. (Table 29)

The analysis of Table 29 suggests that while a significant number of VET graduates feel they can apply their skills effectively, disparities exist among different institutions and between genders. These findings emphasize the importance of continuously reviewing and updating VET curricula and teaching methods to ensure they are relevant and responsive to the needs of the labour market, thereby enhancing graduates' employability and satisfaction. (Table 29)

Table 29 –- Perceived application of required skills in job by VET school - Quality rank 1 (low) to 5 (high) in per cent (%)

F 1 To what extent do you use the skills acquired during your studies in your current job?						
VET college	1	2	3	4	5	TOTAL
Electrotechnics College	0.0	0.0	60.0	40.0	0.0	100
Burabay College	0.0	0.0	10.5	21.1	68.4	100
Aktobe College of Transport, Communications, and Technology	0.0	0.0	21.4	35.7	42.9	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	15.4	69.2	15.4	100
Atyrau Polytechnic Higher College named after S. Mukashev	6.3	0.0	37.5	37.5	18.8	100
Atyrau Business and Law College	0.0	0.0	23.1	53.8	23.1	100
Karaganda Railway College	11.1	3.7	14.8	63.0	7.4	100
Higher College of Electronics and Communications	7.7	0.0	38.5	46.2	7.7	100
Zhezkazgan Business and Transport College	1.6	1.6	37.7	16.4	42.6	100
TOTAL	3.0	1.0	26.9	34.8	34.3	100
Gender	1	2	3	4	5	TOTAL
Male	0.0	0.0	32.7	35.4	31.9	100
Female	6.8	2.3	19.3	34.1	37.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.4.1. VET relevance to the jobs performed by graduates

Analysis of Table 30 focuses on assessing how well their vocational education and training (VET) prepared graduates for their current jobs. Understanding graduates' perceptions of their VET's relevance is essential for gauging the effectiveness of these programs in equipping them with necessary skills and knowledge for the labour market.

The data reveals that only 34.8 per cent of graduates rated their education as significantly preparing them for their jobs (scores of 4 or 5), indicating that while a portion of graduates feel adequately prepared, a notable percentage may not fully perceive their training as sufficiently relevant. Meanwhile, 25.9 per cent rated their preparation as average (score of 3), and 3.5 per cent expressed that their education provided minimal preparation (score of 1). (Table 30)

Burabay College graduates exhibited the highest satisfaction regarding the relevance of their education, with 60.5 per cent rating their preparation as high (scores of 4 or 5). This suggests that the college's curriculum may align well with the expectations of employers and the skills required in the job market. Similarly, Atyrau Business and Law College reported 69.2 per cent of its graduates feeling well-prepared, indicating effective training in this area. Conversely, Electrotechnics College had a significant portion of graduates (80.0 per cent) rating their preparation as average (score of 3), suggesting potential shortcomings in aligning training with job market needs. Additionally, Karaganda Railway College had only 7.4 per cent of graduates rating their education as significantly preparing them for their current roles, indicating a pressing need for curriculum improvement. (Table 30)

When examining gender differences, female graduates reported higher levels of perceived preparation, with 38.6 per cent assessing their education as significantly relevant (scores of 4 or 5) compared to 31.9 per cent of male graduates. This may suggest that female graduates find their training more applicable to their job roles, or it could reflect differing workplace experiences. (Table 30)

The analysis highlights a moderate level of perceived relevance of VET programs in preparing graduates for their jobs, with notable variations among institutions. These results underscore the need for continuous evaluation and enhancement of VET curricula to ensure they effectively meet the evolving demands of the labour market and adequately prepare graduates for successful careers. (Table 30)

Table 30 –- Perceived Relevance of Vocational Education and Training (VET) in preparation for current jobs- Quality rank 1 (low) to 5 (high) in per cent (%)

F 2. How do you assess whether your education was good preparation for your current job? from 1 to 5 (not at all) to (significantly).						
VET college	1	2	3	4	5	TOTAL
Electrotechnics College	0.0	0.0	80.0	20.0	0.0	100
Burabay College	2.6	0.0	15.8	21.1	60.5	100
Aktobe College of Transport, Communications, and Technology	0.0	0.0	14.3	42.9	42.9	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	23.1	61.5	15.4	100
Atyrau Polytechnic Higher College named after S. Mukashev	6.3	0.0	31.3	43.8	18.8	100
Atyrau Business and Law College	0.0	0.0	7.7	69.2	23.1	100
Karaganda Railway College	11.1	3.7	14.8	63.0	7.4	100
Higher College of Electronics and Communications	7.7	0.0	46.2	30.8	15.4	100
Zhezkazgan Business and Transport College	1.6	3.3	32.8	14.8	47.5	100
TOTAL	3.5	1.5	25.9	34.3	34.8	100
Gender	1	2	3	4	5	TOTAL
Male	0.0	0.9	31.9	35.4	31.9	100
Female	8.0	2.3	18.2	33.0	38.6	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

Table 31 reflects the perceived closeness of the training to the job roles performed by graduates. Overall, the data reveals that only 33.3 per cent of respondents rated the alignment of their training as significant (scores of 4 or 5), indicating that a majority feel there is a disconnect between their VET education and the requirements of their current jobs. Furthermore, 22.4 per cent of graduates rated their training as only average (score of 3), while 3.5 per cent reported minimal alignment (score of 1).

Burabay College stood out positively, with 57.9 per cent of graduates feeling their training closely matched their job roles (scores of 4 or 5). This suggests that the curriculum at Burabay College may effectively align with industry needs. Similarly, Atyrau Business and Law College had 61.5 per cent of graduates perceiving a good match between their training and job requirements. Conversely, Electrotechnics College exhibited concerning results, with 60.0 per cent of graduates rating their training as only moderately aligned (score of 3), and no graduates rated it highly (scores of 4 or 5). This indicates a significant area for improvement in the curriculum to enhance relevance to the job market. (Table 31)

When analyzing by gender, female graduates reported a higher level of perceived alignment, with 37.5 per cent rating their training as significant, compared to 30.1 per cent of male graduates. This difference may indicate variations in the types of jobs pursued by females or differing perceptions of how well their training applies to their roles. (Table 31)

In essence the analysis of Table 31 indicates a mixed perception of alignment between VET training and job roles. While some institutions, such as Burabay College and Atyrau Business and Law College, show strong alignment, others, particularly Electrotechnics College, need to reassess their training programs to better meet labour market demands. (Table 31)

Table 31 —- Perceived alignment of Vocational Education and Training (VET) with current job roles- Quality rank 1 (low) to 5 (high) in per cent (%)Quality rank 1 (low) to 5 (high) in per cent (%)

F 3 Do you feel the level of your training is a close match to your current job role?						
VET college	1	2	3	4	5	TOTAL
Electrotechnics College	0.0	20.0	60.0	20.0	0.0	100
Burabay College	2.6	2.6	13.2	23.7	57.9	100
Aktobe College of Transport, Communications, and Technology	0.0	0.0	21.4	42.9	35.7	100
Atyrau Agrotechnical College named after O. Koshekov	0.0	0.0	15.4	69.2	15.4	100
Atyrau Polytechnic Higher College named after S. Mukashev	0.0	0.0	31.3	50.0	18.8	100
Atyrau Business and Law College	0.0	0.0	15.4	61.5	23.1	100
Karaganda Railway College	11.1	3.7	14.8	63.0	7.4	100
Higher College of Electronics and Communications	7.7	0.0	23.1	46.2	23.1	100
Zhezkazgan Business and Transport College	3.3	1.6	29.5	21.3	44.3	100
TOTAL	3.5	2.0	22.4	38.8	33.3	100
Gender	1	2	3	4	5	TOTAL
Male	1.8	0.0	27.4	40.7	30.1	100
Female	5.7	4.5	15.9	36.4	37.5	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

3.4.2. The perceived value of VET related to employment and income

The perceived value of vocational education and training (VET) in terms of employment and income is assessed in Table 32. Overall, the findings indicate that graduates generally view their VET training as beneficial. For instance, 35.3 per cent of respondents rated the value of their training in helping them find a job as high (scores of 4 or 5). This suggests that VET programs are effective to some extent in facilitating employment opportunities. However, a notable 22.9 per cent still rated the value as average (score of 3), indicating room for improvement.

When assessing how well their training helped them find a job they enjoy, 41.8 per cent rated it positively (scores of 4 or 5), which is a promising indicator of VET's role in personal satisfaction. However, 20.4 per cent still rated it as average, highlighting a potential mismatch between graduates' aspirations and their job experiences. In terms of job-relevant skills, 40.3 per cent of respondents rated their training positively, while 19.4 per cent saw it as average. This points to a recognition that while VET provides useful skills, there remains a significant portion of graduates who feel their skills may not be entirely aligned with labour market demands.

When it comes to helping graduates secure jobs at the desired level and income, 38.8 per cent rated their training positively, while 21.4 per cent perceived it as average. This reflects a critical area for enhancement, as securing satisfactory income levels is often a primary goal for vocational training. It is also possible that some graduates have unrealistic wage expectations, which may influence their perceptions of the training's effectiveness.

When looked at by gender, female respondents reported higher perceived value across most categories. For example, 39.8 per cent of female graduates felt their training helped them find a job they enjoyed, compared to 28.3 per cent of male graduates. This trend continues across other categories, suggesting that female graduates may have a more favorable view of the VET training they received.

It becomes clear from the analysis, while graduates recognize the value of their VET training in aiding employment and income, there are notable areas for improvement. Addressing the concerns related to matching graduates to the desired employment and income to meet expectations should be a priority for VET institutions to enhance the overall effectiveness of their programs.

Table 32 –-- Perceived value of Vocational Education and Training (VET) in job placement and income Quality rank 1 (low) to 5 (high) in per cent (%)

F 4 Overall how would you rank the value of your training?						
VET college	1	2	3	4	5	TOTAL
Helping you to find a job	3.5	2	22.9	36.3	35.3	100
Helping you to find a job that you enjoy	3	1	20.4	41.8	33.8	100
Providing you with job relevant skills	3.5	2	19.4	40.3	34.8	100
Helping you to find a job at the level and income you want	3	2.5	21.4	38.8	34.3	100
Gender	1	2	3	4	5	TOTAL
F 4.1 Helping you to find a job						
Male	0	1.8	29.2	37.2	31.9	100
Female	8	2.3	14.8	35.2	39.8	100
F 4.2 Helping you to find a job that you enjoy						
Male	0	0.9	25.7	45.1	28.3	100
Female	6.8	1.1	13.6	37.5	40.9	100
F 4.3 Providing you with job relevant skills						
Male	0	2.7	23.9	42.5	31	100
Female	8	1.1	13.6	37.5	39.8	100
F 4.4 Helping you to find a job at the level and income you want						
Male	0	2.7	24.8	43.4	29.2	100
Female	6.8	2.3	17	33	40.9	100

Source: Pilot Tracer Study Kazakhstan. NOTE: Percentages may not total 100 per cent exactly due to rounding.

4. Findings interpretation and stakeholder impact

While Chapter 3 of this report offers a detailed descriptive analysis of tracer study data, chapter 4 interprets these findings in the context of the surveys' objectives and the broader skills development and labour market context. It focuses on the meaning and significance of the findings, discussing their implications for key stakeholders (e.g., training providers, policymakers, employers, graduates). It also connects the findings back to the research objectives, providing insights into what the results mean for future actions or strategies.

4.1. Interpretation of key findings

Objective 1: Assessment of Training Program Effectiveness and Relevance (VET Quality)

This first research objective seeks to evaluate the effectiveness of VET courses and their alignment with the labour market. The study revealed notable strengths, especially in practical learning components, with 80.5 per cent of graduates expressing high satisfaction with work-based learning. This component enables graduates to gain hands-on experience, which is critical in the technical railway freight sector. Additionally, satisfaction with teaching quality was generally high (75.6 per cent, with institutions like Burabay College particularly praised for the effectiveness of its teaching staff and equipment availability.

However, there were significant quality disparities between institutions. For example, Electrotechnics College consistently received lower ratings in training equipment and course content relevance, indicating that not all VET institutions provide comparable learning environments. Graduates from such institutions reported feeling less prepared for the labour market entry, which may limit their job prospects and overall career choices.

In the broader context, these findings indicate that while the 'Organization of Transportation and Traffic Control in Railway Transport' program is implemented by some strong VET schools capable of preparing students for labour market needs, others lack adequate resources or up-to-date curricula. This inconsistency in VET quality hampers the overall effectiveness of VET courses taught and highlights the need for developing VET schools standards to ensure that all institutions can deliver high-quality, market relevant training.

Objective 2: Career Path and Employment Analysis

The second objective aimed to assess how well VET programs support graduates in transitioning to quality and sector relevant employment post-graduation. The pilot tracer study found that 71.1 per cent of graduates obtained employment within six months, a relatively high placement rate that speaks to the value of VET training for immediate labour market entry. However, only 22.5 per cent of these graduates found positions directly aligned with their qualifications. This suggests that while VET provides a solid foundation for entering the labour market, the alignment between training content and job roles is not always optimal.

Also, the alignment between training and job roles varied considerably by qualification. Graduates from specific roles, such as 'Cargo and Baggage Receiver' showed the highest employment rates directly within their fields, with 80 per cent securing positions related to their training. Conversely, 'Centralized Station Post Dispatchers' and 'Transportation Organizer Technicians' faced greater challenges in finding relevant roles, with many graduates employed in sectors unrelated to their qualifications. This misalignment reflects a need for regular curriculum updates in response to labour

market shifts, ensuring that training remains relevant and leads to career growth opportunities for graduates.

Overall, findings indicate positive employment outcomes are stronger for graduates of dual education programs, who generally transition to work faster, given their practical experience and readiness to meet job requirements from the outset. Dual education appears to be a critical factor in facilitating quick labour market entry, with graduates also commanding higher starting wages.

The findings also revealed gender-based trends in employment outcomes. Female graduates displayed a slightly higher rate of employment in wage positions (72.7 per cent) compared to males (69.9 per cent), while males were more inclined toward self-employment (7.1 per cent vs. 5.7 per cent for females). Additionally, male graduates were more likely to pursue further education, suggesting they may perceive a need for additional qualifications to advance within the sector or elsewhere in the labour market.

Objective 3: Graduate Satisfaction with VET

The third objective focused on assessing graduate satisfaction with their VET experience, providing insight into areas of strength and improvement from the student perspective. Graduate satisfaction varied significantly by institution. For example, graduates from Burabay College reported the highest satisfaction levels, with 81.6 per cent expressing that they would choose the same school again, citing reasons like quality facilities and a strong alignment with the job market fulfilling career expectations. Conversely, only 20 per cent of Electrotechnics College graduates would reselect their institution, with dissatisfaction tied to outdated equipment and perceived irrelevance of training to actual job requirements to just highlight some.

Across the sector, the most cited reasons for graduates' satisfaction with VET courses offered included high-quality facilities, effective teaching, and career guidance services, while reasons for dissatisfaction often stemmed from unmet expectations and limited training relevance. Additionally, many graduates saw their VET training as a steppingstone rather than a terminal qualification, with 8.5 per cent choosing to continue their studies post-graduation. The disparity in satisfaction levels among graduates from different VET schools and qualifications indicates that while some VET institutions excel in providing a rewarding vocational training experience, others need to enhance their facilities, teaching methodologies, and alignment with career objectives. Meeting these expectations is crucial for retaining students within the VET system and maintaining high graduate satisfaction, which can have positive implications for the sector's reputation and appeal.

Overall, it emerged from the analysis that a key factor influencing satisfaction and employment outcomes was the presence of career guidance and employment support services in VET schools. Graduates who had access to effective career guidance were more successful in finding jobs directly related to their qualifications, as career services helped them with industry contacts and job opportunities relevant to their training. Institutions that offered regular career guidance, such as job counseling, resume workshops, and networking opportunities, saw higher rates of job alignment and satisfaction among graduates.

The Pilot Tracer study shows that career guidance plays a crucial role in preparing students to transition smoothly into the labour market, as it equips them with tools to navigate the labour market and make informed decisions about career paths. In the broader context, strengthening career guidance across all VET institutions can help ensure graduates are better positioned to find relevant, well-paying jobs and to contribute effectively to Kazakhstan's economy and the expansion of the transport sector.

4.2. Implications of findings for relevant stakeholders

The findings from this Pilot Tracer study underscore the critical need for a collaborative approach among stakeholders to enhance the relevance and effectiveness of VET institutions, training practices and course content within the 'Organization of Transportation and Traffic Control in Railway Transport' program. Policymakers must focus on creating a robust framework that not only establishes sectoral standards but also fosters partnerships between VET schools, employers, and broader labour market stakeholders.

This collaborative effort is essential to ensure that VET programs align with actual demands, thereby improving graduates' employability and satisfaction in their careers. Further, by improving existing courses and promoting new flexible offerings while integrating reskilling and upskilling initiatives, VET institutions will be much better equipped to adapt to the rapidly changing labour market realities within the railway sector and beyond. The following Chapter will outline more precise policy recommendations and practical suggestions for stakeholders to facilitate these necessary improvements.

5. Recommendations

5.1. Policy recommendations

Based on the survey findings several key policy recommendations are proposed to improve VET efficiency and relevance in the the 'Organization of Transportation and Traffic Control in Railway Transport' program.

Establish sectoral VET standards

It is crucial to develop and implement clear sectoral standards for VET programs that ensure uniform training quality across institutions. These standards should be informed by the requirements of the labour market, which encompasses not only businesses but also the broader community of job seekers. By doing so, policymakers can enhance the credibility of VET qualifications and facilitate better alignment between training outcomes, graduate expectations and labour market realities.

Enhance Dual Education Opportunities

Expanding dual VET models that integrate classroom learning with hands-on workplace experience is essential for developing job-ready graduates. Dual programs allow students to apply theoretical knowledge in real-world contexts, enhancing both skills and employability. Policymakers should incentivize VET institutions to collaborate with businesses in designing dual programs, making sure that training meets current labor market demands and offers students exposure to workplace dynamics.

Strengthening Career Guidance Services

Robust career guidance services are essential for helping students make informed choices about their education and career paths. Introducing or expanding career counselling within VET institutions will support students in identifying opportunities that align with their skills and interests. Effective career guidance should provide individualized coaching on labour market transition strategies, resume building, and job placement to ensure graduates transition smoothly into the labour force. Given the increasing relevance of self-employment in Kazakhstan, entrepreneurship training could also be integrated into career guidance support.

Developing systematic tracer studies

The establishing of a good VET tracer system is critical for systematically and regularly monitoring VET school performance, graduates' employment outcomes and career paths, especially in the context of rapidly transforming labour market needs and the need for greater VET flexibility. Tracer systems[5] will provide insights that inform continuous improvements of VET institutions and programs, ensuring they are responsive to labour market needs.

Strengthening Collaboration Across Stakeholders

[5] ETF. Tracer studies: Evaluating the impact of training programmes. Available at: https://www.etf.europa.eu/en/publications-and-resources/publications/tracer-studies-evaluating-impact-training-programmes

Fostering stronger partnerships between the Ministry of Education, its agencies, VET institutions, employers, potential students and the broader labour market is vital to ensure that curricula and training programs are relevant and effective. Policymakers should create platforms for regular dialogue between relevant stakeholders to enhance VET governance. These collaborations can also facilitate a better understanding of labour market dynamics and ensure that VET programs align the actual skills and competencies needed in the labour market.

Conduct Regular Curriculum Reviews

Mandating regular reviews and updates of VET curricula is essential to maintain alignment with labour market changes and rapid technological advancements. Collaboration with relevant labour market actors should be a key component of this process. By incorporating insights from labour market experts, employers and job seekers, policymakers can ensure that VET programs reflect current skill demands and prepare students for successful careers.

Targeted Funding Initiatives

Providing targeted funding for VET programs from the 'Organization of Transportation and Traffic Control in Railway Transport' program that reward commitment to high-quality training and stakeholder collaboration is crucial. Policymakers could allocate special resources to VET schools or programs that actively engage with stakeholders, adapting their curricula to address needs and improve the satisfaction of graduates. Funding initiatives could include grants for curriculum development, infrastructure improvements, and industry partnerships. By directing resources to the most promising programs, policymakers can catalyze meaningful improvements in VET quality.

Enhance the Image of VET

To attract more individuals to VET courses from the 'Organization of Transportation and Traffic Control in Railway Transport' program, it is essential to enhance the public image of these courses. Efforts should focus on showcasing success stories of VET graduates, emphasizing the potential for career advancement, and highlighting the importance of reskilling and upskilling in today's job market. Promoting VET as a viable and respected pathway to meaningful employment in the transport sector can help to shift perceptions and encourage more individuals to consider vocational training.

5.2. Practical suggestions for stakeholders

The following practical suggestions outline specific actions that VET institutions, employers, and government agencies can take to enhance the effectiveness of VET programs. Implementing these strategies will require collaboration and commitment from all stakeholders involved.

For VET Institutions:

1. VET schools should prioritize the integration of dual education models that combine classroom instruction with practical workplace experiences. Upgrading training facilities and ensuring access to modern equipment and resources is essential for creating a learning environment that reflects real-world labour market settings. This investment not only enhances the quality of training but also equips students with hands-on skills directly applicable to their future careers. By fostering strong partnerships with local businesses and industries, VET institutions can ensure that students gain valuable experience and insights, ultimately improving their employability and readiness for the labour market.

2. Strengthening career guidance programs within VET institutions is essential for helping students navigate labour market dynamics. Providing access to up-to-date labour market information and personalized career counseling will empower students to make informed choices about their career paths. Educational institutions should invest in training career advisors and developing robust career services.

For Employers:

3. Employers in the transport sector should actively participate in the development of VET curricula for courses from the 'Organization of Transportation and Traffic Control in Railway Transport' program to ensure alignment with labour market skill needs. By sharing insights on current and future skill requirements, employers can help VET institutions create relevant training programs. This collaboration can lead to more job-ready graduates and reduced recruitment costs for employers.

4. Providing internship and apprenticeship opportunities for students is crucial for enhancing their practical experience and workplace readiness. Employers can play a significant role in bridging the gap between VET and employment.

Ministry of Education:

1. The Ministry of Education should provide resources and manpower to support the implementation of policy recommendations aimed at improving the effectiveness and relevance of VET programs. This includes allocating funding, facilitating partnerships among and between relevant agencies and labour market stakeholders and promoting best practices among VET institutions.

2. Creating platforms for ongoing collaboration among VET institutions, businesses, community organizations, and policymakers is essential for addressing challenges collectively. The Ministry in collaboration with other relevant Government agencies can organize forums, workshops, and conferences to foster dialogue and collaboration, enabling stakeholders to share best practices and identify solutions to common issues.

3. Establishing mechanisms for regular monitoring and evaluation of VET programs is necessary to assess their effectiveness and identify areas for improvement. Government agencies should develop key performance indicators to measure program outcomes, gather feedback from graduates and employers, and adjust policies and practices accordingly.

6. Conclusion

This Pilot Tracer Study provides essential insights into the effectiveness and relevance of VET programs within Kazakhstan's railway freight transportation sector, highlighting key areas where alignment with labor market demands can be strengthened. Designed primarily as a foundational step, this pilot serves to establish a clear blueprint for conducting systematic tracer studies in the future. Through its comprehensive methodology, the study demonstrates the value of tracer systems in capturing graduate outcomes and identifying areas for improvement, providing an evidence-based approach that will benefit ongoing VET development.

The study's systematic approach has proven highly effective in generating data that reflects both the strengths and challenges within the current VET system. By documenting this process, the pilot lays out a replicable framework for future tracer studies, ensuring that they can be conducted efficiently and yield consistent, actionable insights. As Kazakhstan's labor market continues to evolve, regular tracer studies built on this blueprint will be critical for monitoring long-term trends, assessing program responsiveness, and guiding adjustments that keep VET programs aligned with the changing needs of the workforce.

Considerations for future tracer studies

In light of this study's findings, several avenues for future research have emerged that will contribute to a deeper understanding of VET outcomes in Kazakhstan. Longitudinal tracer studies will allow stakeholders to track graduate career trajectories over time, providing a more comprehensive view of VET's long-term impact. Additionally, examining factors such as employer needs, technological advancements, dual education models, and the role of career guidance services will offer valuable insights into how VET programs can continuously adapt to better meet labour market demands.

Overall, this Pilot Tracer Study establishes a robust foundation for Kazakhstan's VET system to remain dynamic and responsive, supporting evidence-based decisions that enhance both graduate employability and the alignment of VET with labour market needs.

7. Resources

European Training Foundation. International Labour Organization and Cedefop. 2016. Carrying out tracer studies - Guide to anticipating and matching skills and jobs Vol. 6. Available at: https://www.etf.europa.eu/en/publications-and-resources/publications/carrying-out-tracer-studies-guide-anticipating-and-matching

European Training Foundation. Skills Anticipation and Matching Systems. 2012. in Transition and Developing Countries. Available at: https://www.etf.europa.eu/sites/default/files/m/84E964F6CBD16532C1257AAD0038EC27_Skills%20matching%20systems.pdf

EU – VET Toolbox. 2022. Tracer studies for VET: supporting their creation and implementation. Available at: https://vettoolbox.eu/publications/tracer-studies-for-vet-supporting-their-creation-and-implementation/