BATU KAWAN INDUSTRIAL ZONE TRANSPORT SURVEY 2024

Prepared by

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1. Background

Batu Kawan is renowned for its heavy industrial park in Penang. It is about 465.8 hectares in size and houses over 160 companies, which includes both multinational companies (MNC) and local companies.[1] The industrial park has been able to provide employment for more than 15,000 people.[2]

Currently, there is no public bus services that is servicing the Batu Kawan township. In order to gauge the urgency of such service to be provided, a survey was designed to understand the current travel pattern of **employees** at the Batu Kawan Industrial Park. The participation of the survey is voluntary. Results of the survey will contribute to the bottom-up planning for public transportation services at Batu Kawan.

2. Methodology

Based on random sampling from a population size of 15,000, with confidence level of 90% and margin of error at 5%, the recommended sample size is 266.

The English and Malay online surveys were disseminated directly to companies and through PGC's network. A total of **401 responses** were collected and analysed for this report.

Although sufficient data was collected to meet the sample size requirement, information provided by 140 participants from a specific company was omitted from the analysis. This decision was aimed to avoid misrepresentation of the entire dataset, as the company selectively excluded certain questions. However, conducting a separate analysis that includes the incomplete data from the company yielded similar results. Therefore, in this instance, it is reasonable for the report to exclude the latter dataset.

[1] https://www.nst.com.my/news/nation/2022/05/801073/penang-set-be-innovation-supercluster-manufacturing

[2] https://www.thestar.com.my/metro/metro-news/2022/10/19/rise-of-batu-kawan

3. Results

3.1 Section A: Demography

Respondents from this survey are from companies based in Batu Kawan. These companies include multinational corporation (MNCs) and large local companies (LLCs).

To provide a general overview of the survey respondents' background, they are full time employees from a diverse range of positions, with engineers contributing the highest number of responses (n= 106).

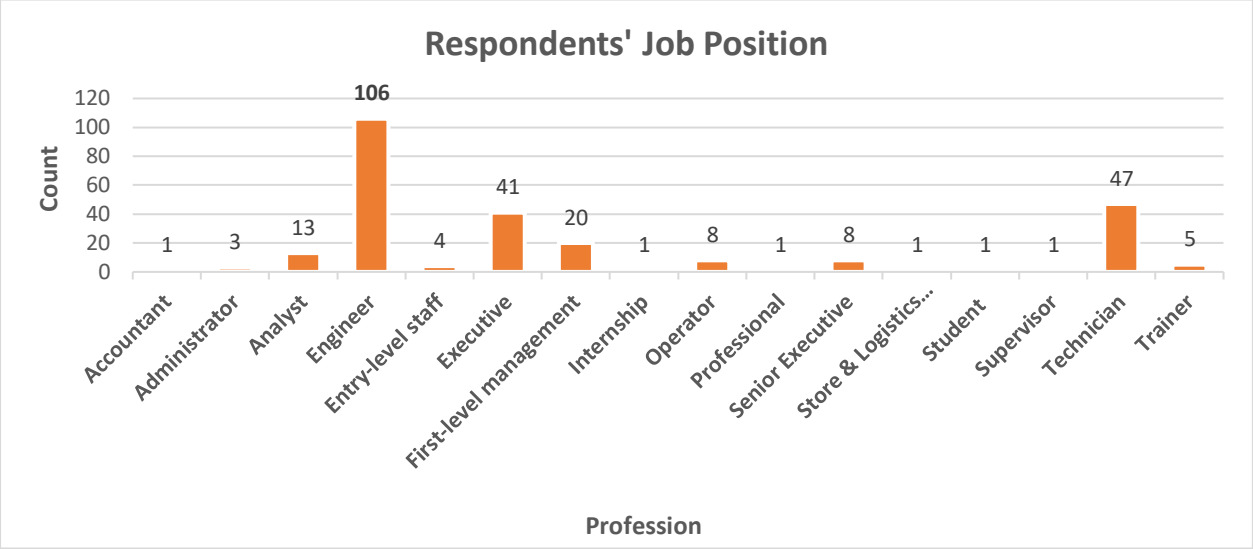

Figure 1. Positions of respondents within their company

In terms of age structure, the majority of survey respondents are between 26-35 years old (n=133; 51%).

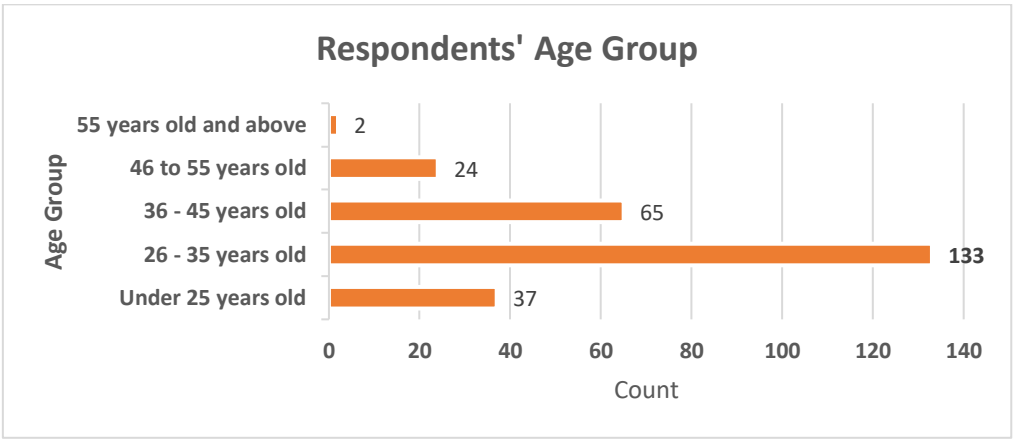

Figure 2. Age group of respondents

Based on the qualitative information provided by respondents regarding their place of residence, it can be assumed that the majority reside in mainland **Seberang Perai Selatan and Seberang Perai Tengah**, as well as in **Barat Daya** on the island. Respondents from outside Penang primarily come from **Kedah and Perak**.

3.2 Section B: Current Mode of Transport

This section aims to understand the current modes of transportation to and from work among employees in the Batu Kawan Industrial Zone.

The survey has found that the primary mode of transport to work is the **private car**, which accounts 77% of the responses.

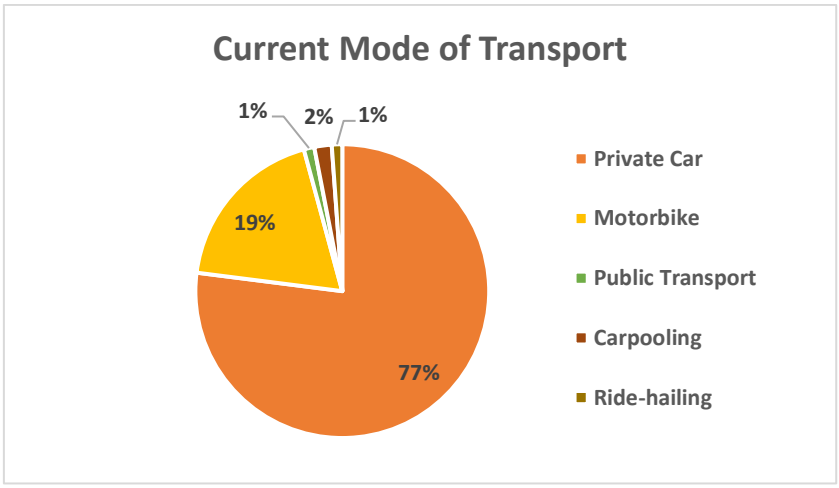

Figure 3. Main mode of transport

The majority of the respondents (n=134; 51%) travel distances of **more than 20km** each way to and from work. This is followed by 25% travelling between 10-20km.

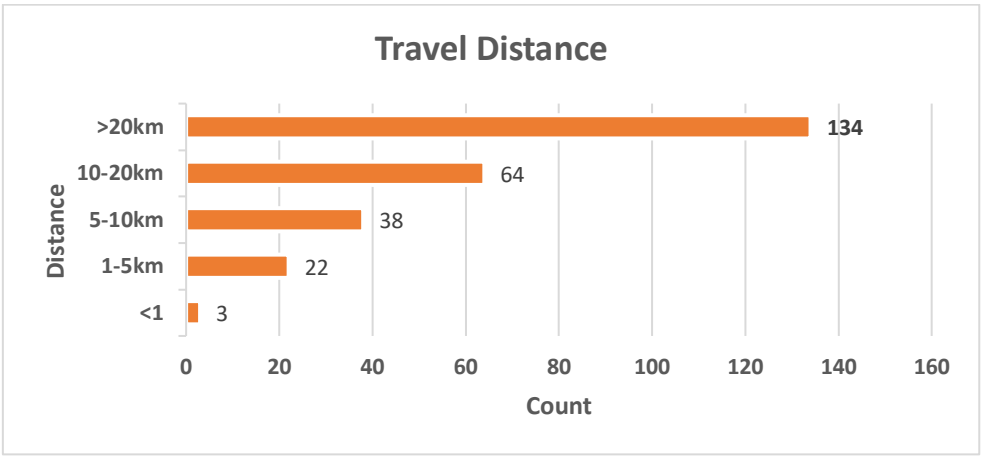

Figure 4. Travel distance of respondents

Many respondents (n= 112; 43%) travel for about **30-60 minutes each way to and from work**. This is followed by respondents that take 15-30 minutes (24%) and 60-90 minutes (21%).

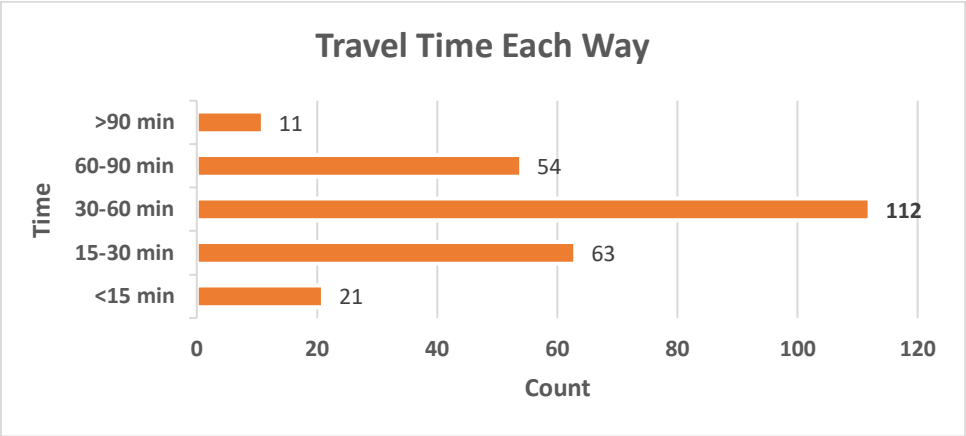

Figure 5. Travel time of respondents each way

The survey shows that most of the respondents (n=112; 43%) shoulder travel expenses that range between **RM100- RM300 per month**. The is followed by those that spends more than RM300 per month (34%).

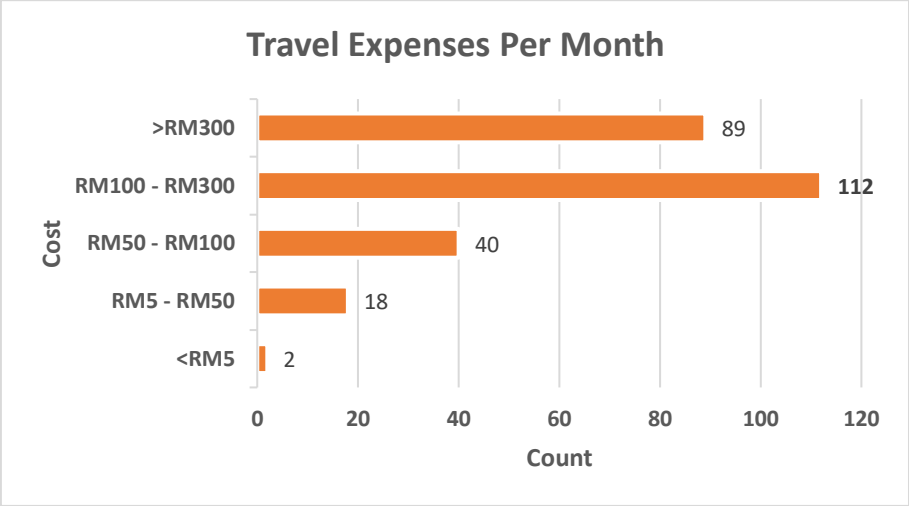

Figure 6. Travel expenses of respondents per month

Utilizing **Mode** function on the data, it has been found that the most frequently occurring times when respondents depart for and arrive at the company in the morning, as well as when they depart for and arrive at home in the evening are:

Table 1. Departure and Arrival Time

Morning	**Evening**
Departure Time: 8am Arrival Time: 9am	Departure Time: 6pm Arrival Time: 7pm

The survey results generally indicate **respondents' dissatisfaction** (76%) with their current main mode of transport, which, according to earlier results, refers to commuting via private car.

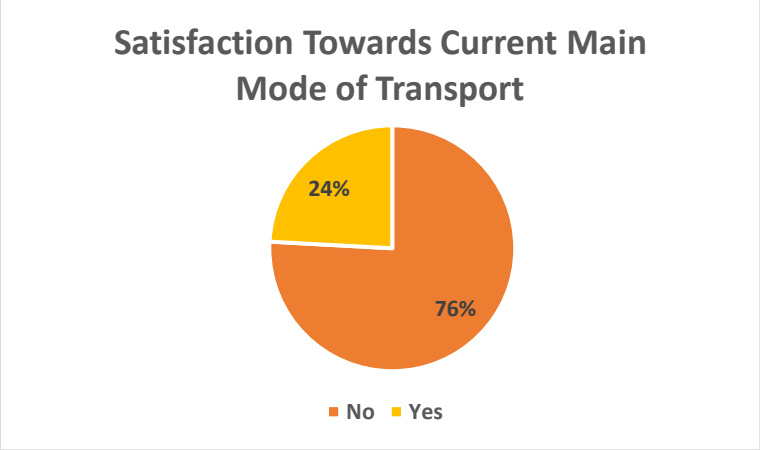

Figure 7. Employee satisfaction towards current mode of transport.

When the dissatisfied respondents were further asked what is the reason for dissatisfaction with their current mode of transport, **prolonged travel time** (n=174; 44%) emerged as the primary cause among respondents, followed by high cost (n=106; 26%).

Figure 8. Reasons of employee dissatisfaction.

When asked about the support provided by their respective companies for their current mode of transport, respondents have indicated that their companies primarily offer support through facilities such as **car park spaces** (n=119, 36%). Some respondents mentioned receiving cash for mileage and parking (26%). Many respondents also noted that their company does not offer supportive policy or incentives (22%).

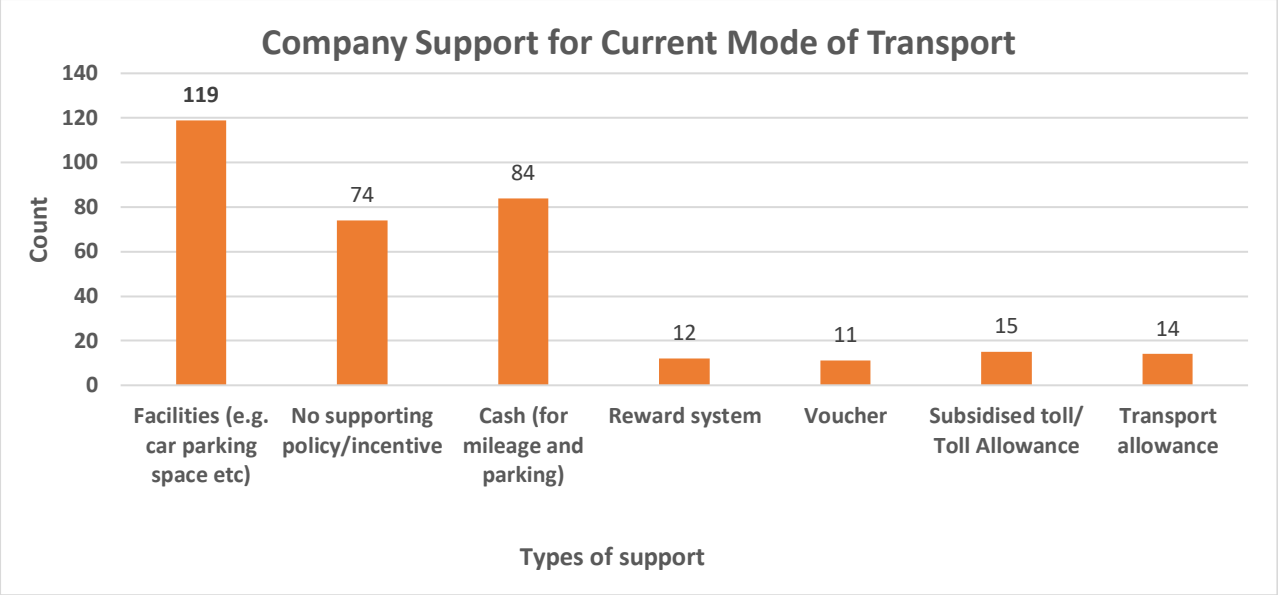

Figure 9. Types of support provided by respondents' companies.

The majority of the respondents (84%) indicated that the current mode of transport (i.e. mainly private car) suits their work shifts and arrangements.

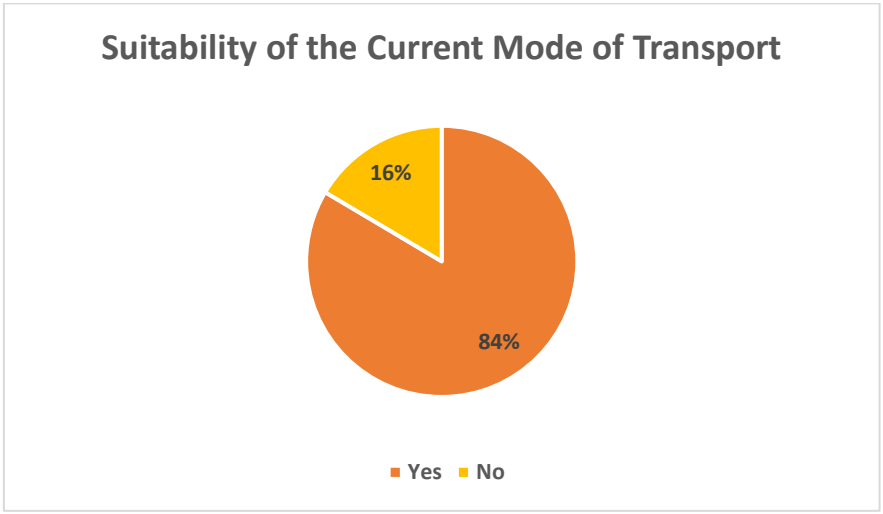

Figure 10. Respondents' perception towards current mode of transport

When asked about alternative transportation options apart from their current mode of transport, respondents strongly emphasized the **lack of alternatives** (n=163; 63%) for commuting to and from work.

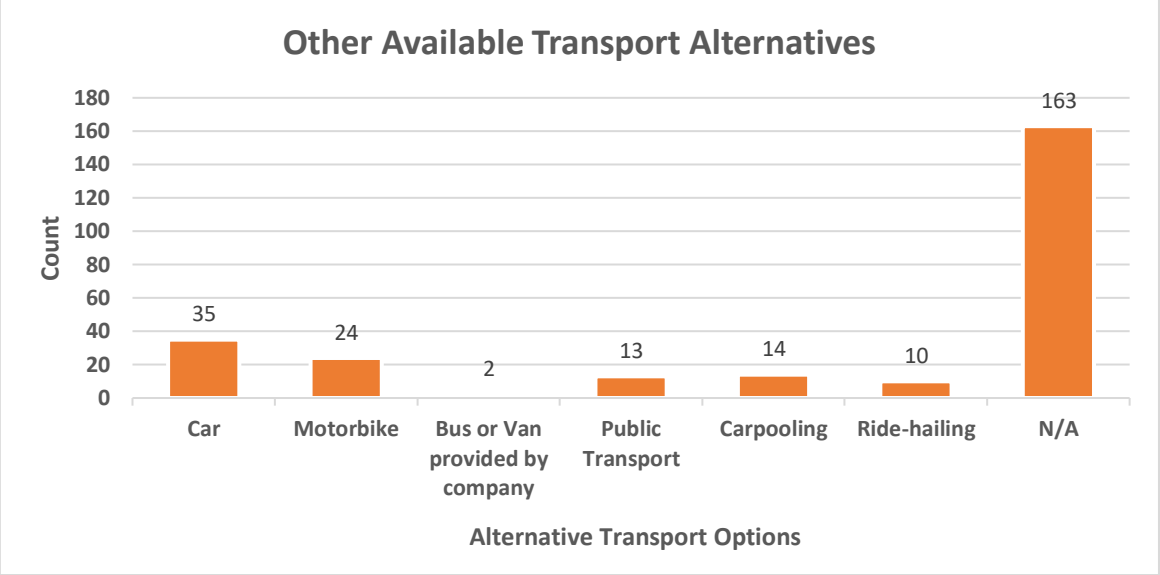

Figure 11. Respondents' opinions regarding alternative transportation options for commuting.

3.3 Section C: Demand for Public Buses

This section aims to evaluate the experience, perception and needs regarding public buses among employees in the Batu Kawan Industrial Zone.

Consistent with the findings regarding the lack of alternative transportation options depicted in Figure 11, the majority of respondents indicated a **lack of options for taking public buses** (97%) to work in Figure 12.

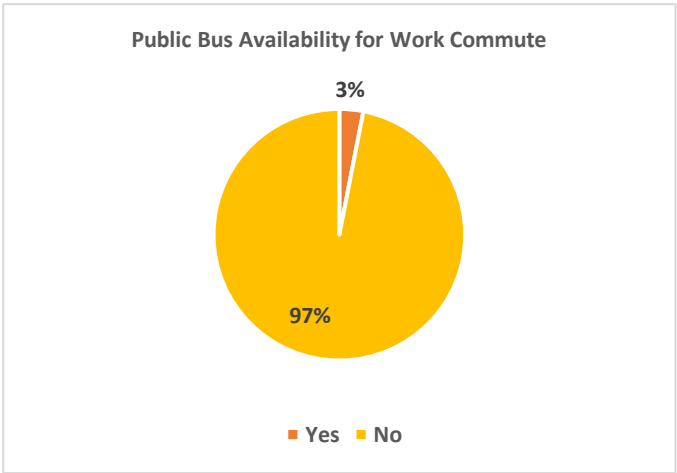

Figure 12. Respondents' perspective on availability of public bus for commute.

Many respondents (72%) are **willing to take public buses** if they are made available.

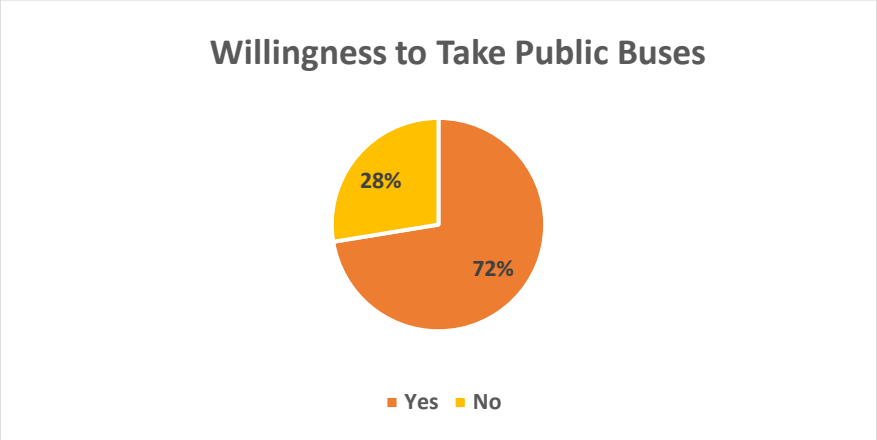

Figure 13. Willingness of respondents to commute via bus if it is available.

When asked about factors that would prevent them from taking public buses, the primary concern will be due to **prolonged travel time** (n=91; 35%). This is followed by clash with work time/ shifts (22%), and public buses that are not comfortable or inconvenient (16%).

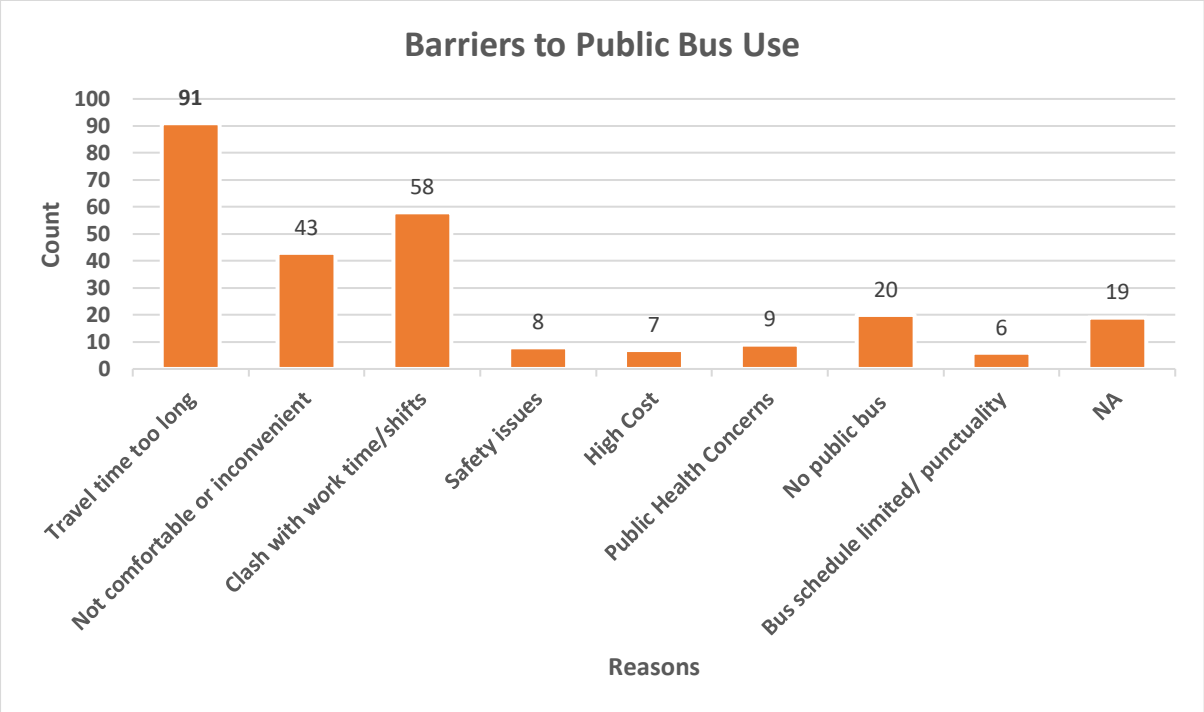

Figure 14. Primary Barriers to Public Bus Use

The majority of respondents (88%) perceive that public bus services are a **cheaper option** compared to their current mode of transport.

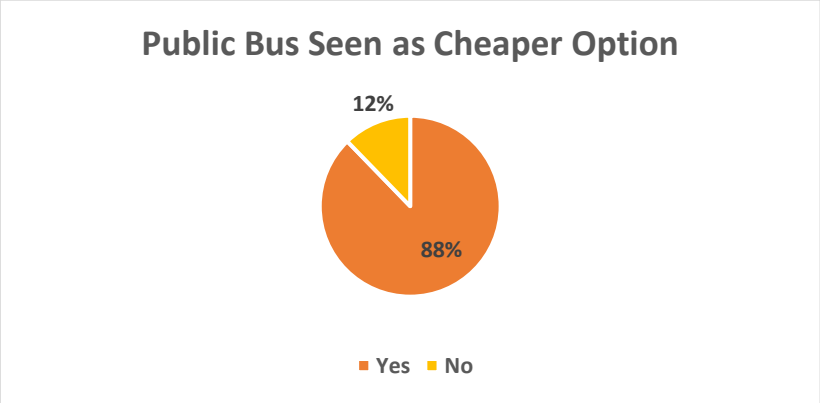

Figure 15. Perception of respondents towards public bus fare

Respondents are willing to pay a monthly **RM20-50** for public buses (n=92; 35%). This is closely followed by RM50-RM150 (30%).

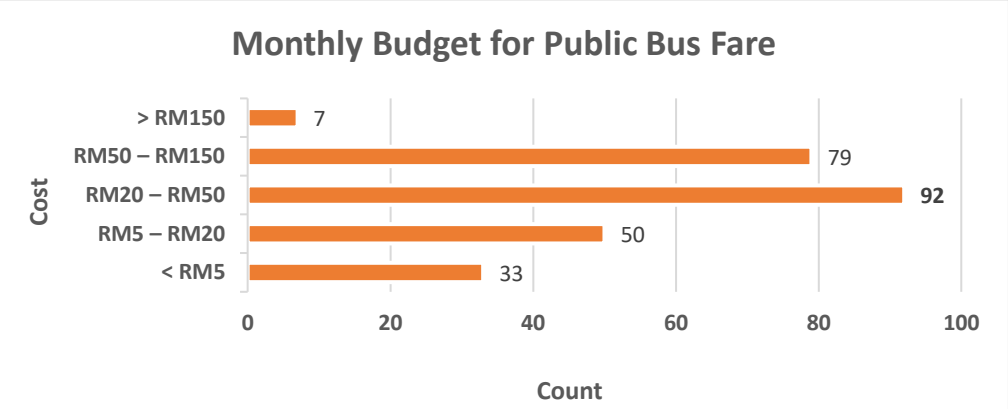

Figure 16. Range of amount respondents are willing to pay for public bus fare.

When respondents were asked about their willingness to take separate first or last mile transportation to reach the bus stop, 60% of respondents **expressed unwillingness**, with the remaining 40% accepting.

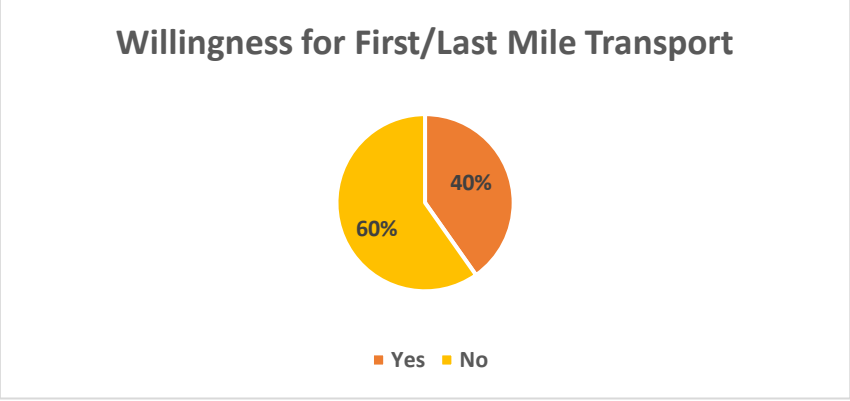

Figure 17. The willingness of respondents to use separate first or last mile transportation options.

Most of the respondents are willing to spend between **15-30 minutes** (n=113; 43%) commuting to and from work, followed by 30-60 minutes (31%).

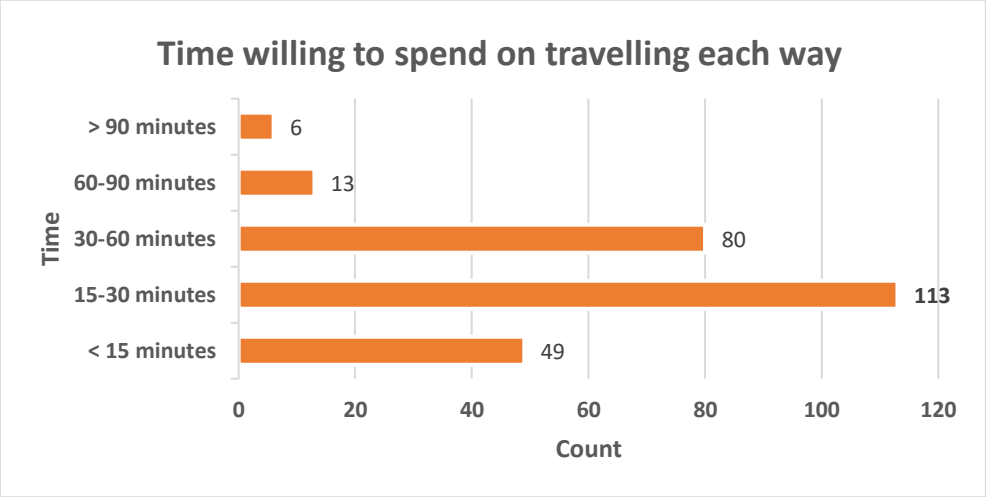

Figure 18. The time range respondents are willing to commute.

In Figure 19, the majority of respondents indicated that there are **no nearby bus stops** (90%) at their company's entrance; and also, in Figure 20, **no internal shuttle** (72%) within company compound.

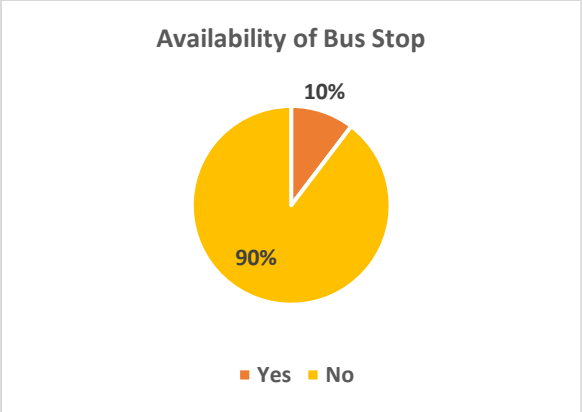

Figure 19. The availability of bus stops near the respondents' company vicinity.

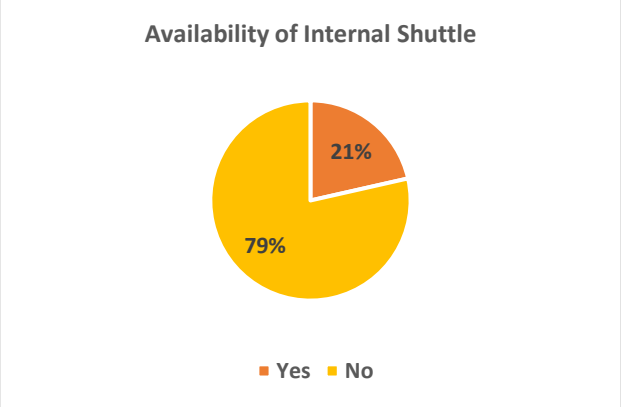

Figure 20. Availability of shuttle services within respondents' companies.

Within the company, 75% of respondents indicated that there is **no covered walkway** between the entrance of the company to the main building (Figure 21). However, more than half of respondents (61%) indicated that their **company provides changing/ shower/ locker facilities** (Figure 22).

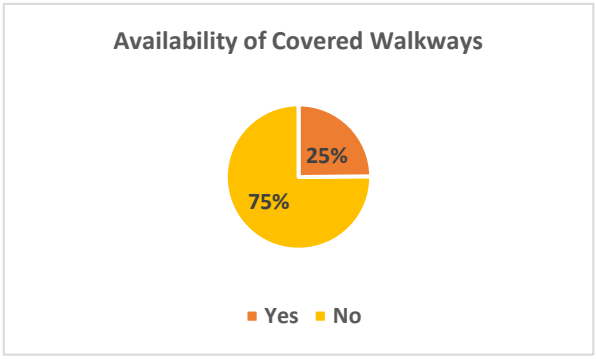

Figure 21. Presence of covered walkways at respondent's companies.

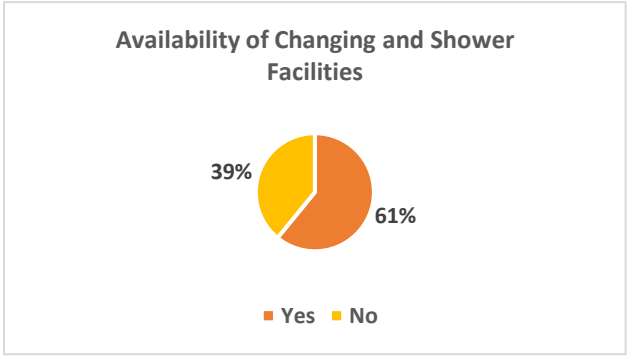

Figure 22. Availability of facilities at respondent's companies.

3.4 Section D: Additional Support for Public Buses

This section examines the potential factors that could influence employees' decisions to use public buses for commuting to work in the Batu Kawan Industrial Zone.

Prior to that, respondents were asked if they are aware of their company's ESG plan. More than half of respondents (59%) are **unaware of their company's ESG commitment plan**.

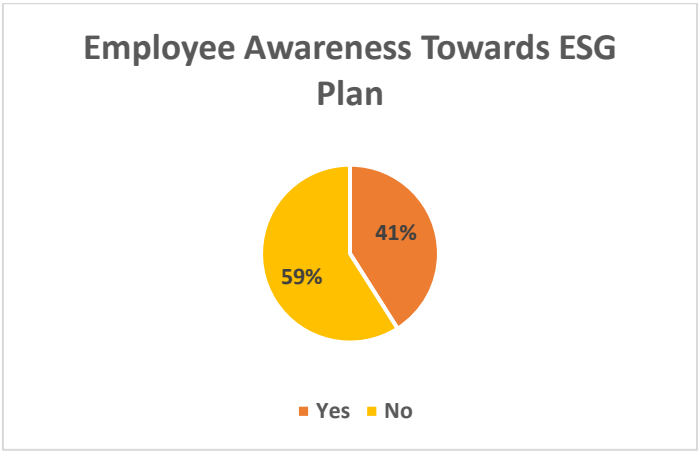

Figure 23. Employee awareness towards companies' ESG plan

Furthermore, results show that only a small proportion (26%) of respondents are aware of initiatives and programmes under their company's ESG plan related to sustainable commuting. A significant proportion of respondents are **unaware of these initiatives and programs**.

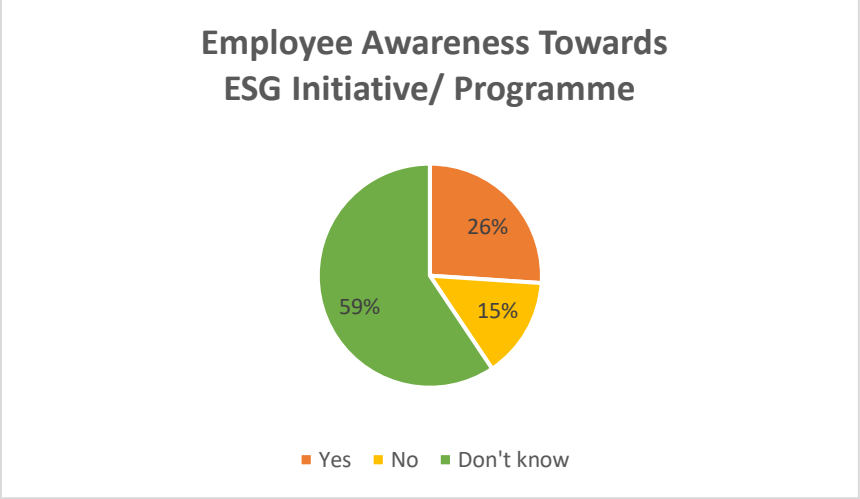

Figure 24. The level of employee awareness level regarding company's ESG initiatives and programmes.

The majority of respondents **indicated willingness** (91%) to commit to reducing carbon footprint wherever possible, with or without ESG plan.

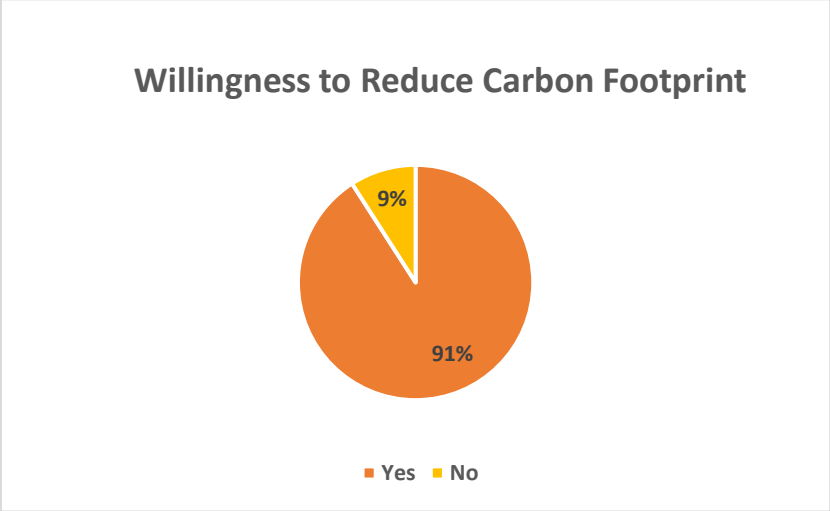

Figure 25. Respondents' willingness to commit to carbon reduction

When asked the preferred carbon footprint reduction action in commuting, **public transportation** (n=116; 44%) has been given highest preference. This is followed by commuting during off peak hours to reduce excess fuel burn (23%), and commuting via electric vehicle (19%).

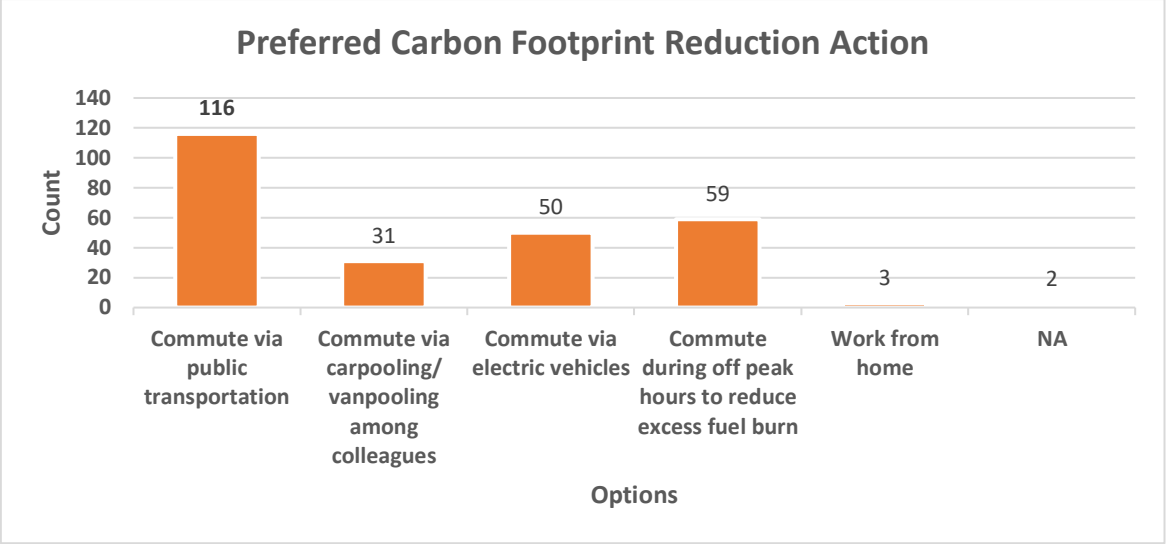

Figure 26. Respondents' preferred carbon reduction method

The majority of respondents (79%) expect companies to provide support in taking public buses.

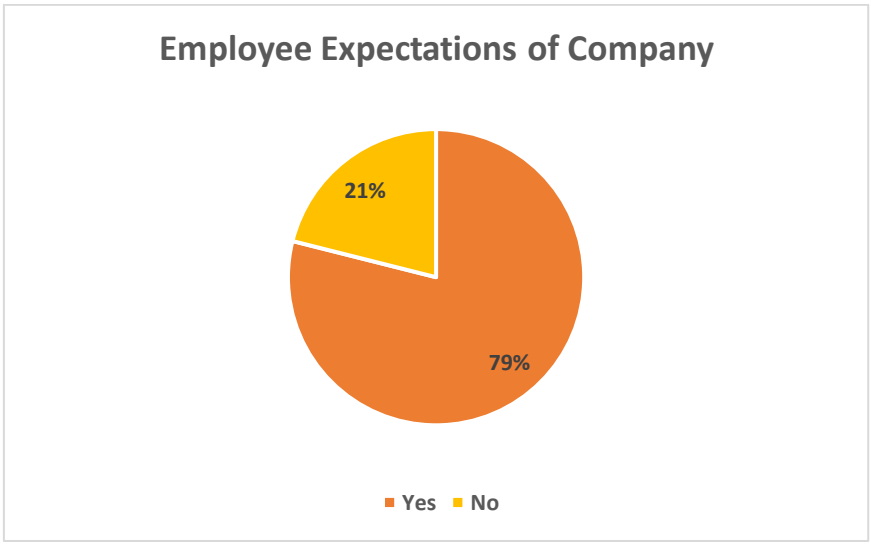

Figure 27. Employees' expectations for company support

When asked about the types of support they expect from companies, respondents mentioned **facilities such as bus stops and sheltered walkways** (n=72; 28%) as their top priorities. Flexible work hours and shifts (26%) closely followed. Provision of cash (20%) ranked third in terms of priority.

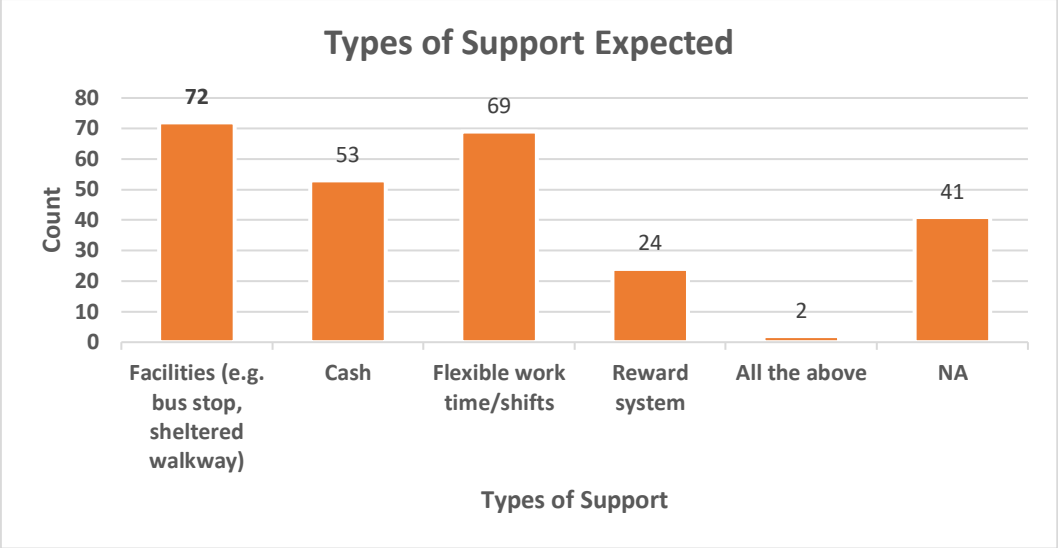

Figure 28. Types of support employees expect from companies.

Nearly half of respondents (46%) expressed concern for safety in taking public buses. When further asked to elaborate on the reasons of their concerns, respondents cited the following issues:

- Covid and hygiene
- Safety concerns, especially women
- Reckless bus driver
- Area safety concerns

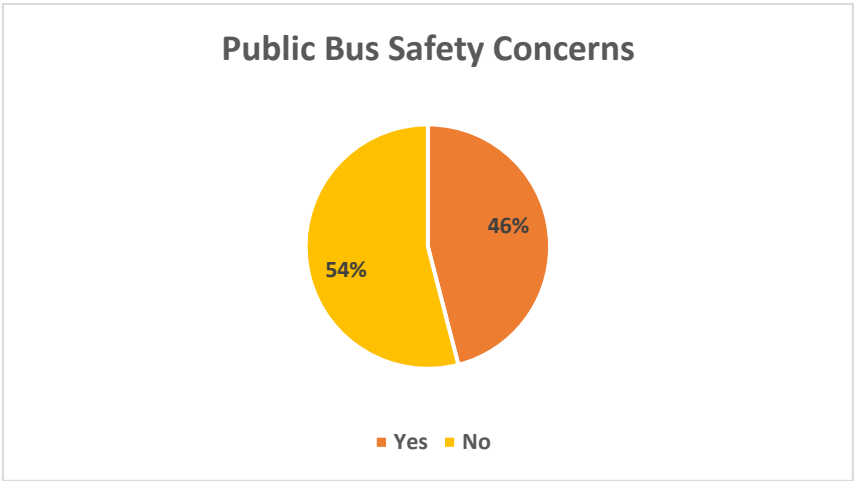

Figure 29. Safety concerns of taking public bus

If bus fares were subsidized, the majority of respondents (75%) expressed willingness to commute via public buses. When asked to elaborate on their decision-making factors in the absence of subsidization, key concerns included accessibility to bus stops, frequency and punctuality of buses, cleanliness and safety, as well as overcrowding.

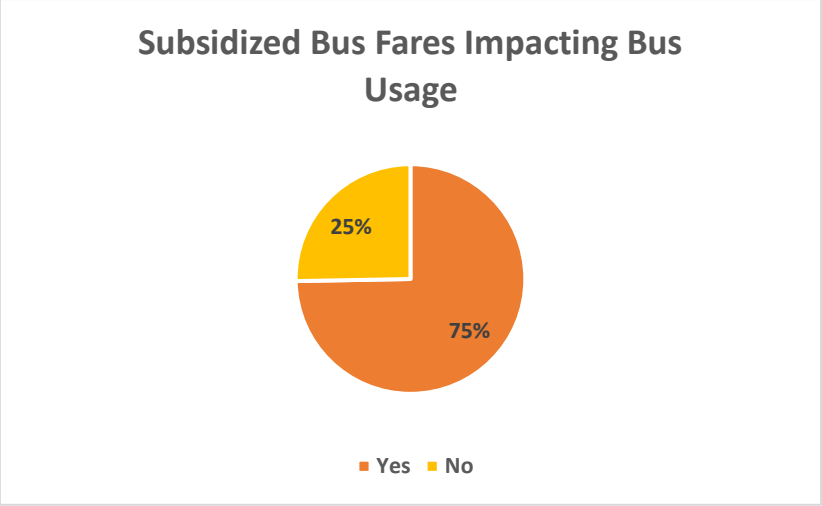

Figure 30. Potential influence of subsidised bus fares on public bus utilization decisions.

4. Conclusion

The findings from the survey conducted in Batu Kawan Industrial Park shed light on the pressing need for public bus services in the area. With a workforce primarily reliant on private cars for commuting, dissatisfaction arises from prolonged travel times and high costs associated with this mode of transportation. Despite the lack of current usage, there is a clear willingness among employees to embrace public buses if made available, indicating a significant latent demand.

Key concerns such as safety, accessibility, cleanliness, and reliability of bus services underscore the importance of thoughtful planning and implementation. Additionally, the report highlights the potential role of companies in supporting employees' transportation needs through initiatives like flexible work hours and providing facilities such as bus stops and sheltered walkways.

Furthermore, addressing environmental considerations, including reducing carbon footprints, aligns with broader sustainability goals. While there is a need for increased awareness among employees regarding their companies' environmental commitments, there is a clear willingness to engage in carbon reduction actions, including the use of public transportation.

In conclusion, the provision of public bus services in Batu Kawan Industrial Park presents an opportunity to enhance accessibility, reduce commuting costs, and contribute to sustainability efforts. By addressing the identified concerns and leveraging support from both companies and public authorities, the implementation of public bus services can significantly improve the transportation landscape in the area, benefiting employees, businesses, and the environment alike.