

TRAFFIC IMPACT ASSESSMENT (TIA) - A PRE-REQUISITE FOR PROJECT APPROVAL

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INTRODUCTION

Land use and heavy machinery generated on road networks caused by proposed development are likely to give rise to congested traffic conditions surrounding the proposed area. As a result, traffic impact assessment (TIA) is conducted to determine the possible implications of development on the transportation and traffic system and to minimize the negative impacts. The complexity and range of detail of TIA are governed by the type, size, and location of the development.

THE IMPORTANCE OF TIA

The objective of the TIA study for new development is to evaluate the ability of the existing road network surrounding the proposed development in accommodating the increased traffic while still maintaining an acceptable level of service (LOS).

With TIA, the forecast of the traffic impacts induced by proposed development is not depending on perception but accepted practices and thus provide more accurate information and result. The information secured is imperative in deciding the need for improvement to accommodate the traffic in the proposed development area. Hence, the funds can be allocated more efficiently. The information secured from the TIA can also be used for updating the traffic data. Besides, the TIA acts as a tool to evaluate the number, location, and design of the access point.

REQUIREMENTS FOR CONDUCTING TIA

A traffic impact assessment study is not mandatory for every development and it is only required in those that are likely to generate significant traffic. TIA Guidelines by Road Engineering Association Malaysia (REAM) has proposed a list of criteria and trigger levels to conduct TIA:

No.	Criteria	Trigger level
1	Peak hour trip generation (Commuter peak)	Additional 150 vehicle per hour
2	Off-peak hour trip generation (Generation peak occurs at the off-peak period)	Additional 200 vehicle per hour
3	Size of residential development	200 dwelling units
4	Size of commercial development	45,000 sq. ft. (gross floor area)

Table 1: The criteria and trigger levels to conduct TIA

Note: Trip Generation Rates shall be based on the Malaysian Trip Generation Manual published by the Highway Planning Unit of the Ministry of Works, Malaysia.

All the four criteria above shall be tested, and the TIA is necessary for development approval if any one of them meets the trigger level. However in some specific cases, TIA will be imposed by approving authority even if the additional trip generation is lower than the trigger level. In addition, whenever the time lapse between the dates of TIA study and its submission is more than **two (2)** years, TIA could be requested by Approving Authorities to reflect the latest condition of traffic.

During the commencement of development planning, the developer is responsible to appoint a qualified person as submitting person to prepare TIA report for the proposed development. The submitting person must be:

- Qualified civil engineer specializing in traffic/ highway/ transport engineering
- Professional Engineer with Practicing Certificate (PEPC) registered with BEM
- Minimum experience of 6 years in civil/ traffic engineering of which a minimum of 3 years in TIA
- Attended formal training course in Traffic Study/ TIA

Meanwhile, the consultant firm appointed shall be registered with the Ministry of Finance, Malaysia (MOF) with code 340202 or 340201.

PREPARATION OF TIA REPORT

The job scope of the submitting person encompasses determining the scope, study area and methodology, collecting existing data and information, traffic survey and analysis. After that, a complete TIA report will be prepared to conclude the findings and propose mitigation measures to alleviate the impact.

A TIA report typically includes:

- A description of the existing situation
- A description and analysis of existing traffic conditions surrounding the study area
- Traffic modeling of the study area
- Traffic forecasting based on future growth, trip generation, distribution, and assignment
- Proposed access point to the development area
- Traffic impact analysis
- Conclusion of findings and recommendations

There are some common recommendations that could be proposed:

- Upgrade unsignalized junction to proper signalized control system
- Provide internal traffic circulation system in the development area
- Widen the existing road
- Propose new junction in accordance with the JKR Standard
- Propose new roundabout
- Propose the entrance to the proposed development with the provision of stop control system with proper tapering for acceleration or deceleration lanes and lane widening
- Propose new flyover
- Provide sufficient public transport facilities such as bus lay by and taxi pick up point

Some other recommendations will be proposed by PEPC depending on the situation of surrounding traffic conditions to alleviate the impact due to the proposed development.

In conclusion, **Traffic Impact Assessment (TIA)** is one of the essential parts for a development project as it evaluates and minimize the traffic impacts and could be one of the pre-requisite for project approval. Hence, the developers should take serious on TIA and propose the best traffic solution to minimize the impacts due to the proposed development!

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