The Implementation of Level of Service for Development of Kuala Lumpur Transit Information System using GIS

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Abstract : Due to heavy traffic and congested roads, it is crucial that the most popular main public transport services in Kuala Lumpur i.e. Putra LRT, Star LRT, KTM Commuter, KL Monorail and Rapid Bus must be continuously monitored and improved to fulfill the rider's requirement and kept updated by the transit agencies. Evaluation on the current status of the services has been determined out by calculating the transit supportive area (TSA) and level of service (LOS) for each transit station. This research study has carried out the TSA and LOS mapping based on GIS techniques. The detailed census data of the region along the line of services has been collected from the Department of Statistics Malaysia for this purpose. The service coverage has been decided by 400 meters buffer zone for bus stations and 800 meters for rails station and railways in measurement the Quality of Service along the line of services. All the required information has been calculated by using the customized GIS software called Kuala Lumpur Transit Information System (KLTIS). The transit supportive area was calculated with the employment density at least 10 job/hectare or household density at 7.5 unit/hectare and total area covered by transit supportive area is 22516 hectare and the total area that is not supported by transit is 1718 hectare in Kuala Lumpur. The level of service is calculated with the percentage of transit supportive area served by transit for each station. In overall the percentage transit supportive areas served by transit for all the stations were less than 50% which falls in a very low level of service category. This research has proven its benefit by providing the current transit services operators with vital information for improvement of existing public transport services.

Keywords : service coverage, transit supportive area, level of service, transit system