



ABSTRACT

The accessibility to the airport is essential for air travellers since the late arrival will take a consequence to the missing flight and losing amount of money of the travel cost. It is observed that the level of accessibility tend to decrease during the road peak hour period. This condition is occurred in the road access to Leeds Bradford International Airport during morning peak and evening peak period. During this period, the punctuality to arrive to airport become vulnerable because the travel time becomes unreliable.

To improve the accessibility to the airport during peak period several measurement need to be taken. One of the alternatives is increasing the capacity of the junction to relieve the delay time and queue. This measures can be undertaken by adding new lane, providing left or right turning priority, setting signal stage time optimization and implementing traffic signal in priority junctions.

The improvements in several junctions, such as in A657/A658, A657/A6120 Greengates, A6120/Low Ln, A6120/Spen Ln, A657/Bayton Ln, A660/A658 Pool Bank New Rd, A658/Pool Rd, and A660/B6157, have been simulated using SATURN and it shows positive results. This measures managed to improve the accessibility by reducing the travel time and cost. Further, it has been estimated that the decrease in generalised cost due to the junction improvement scheme also give user benefits for the air travellers.

Keywords: *accessibility, airport, junction improvements, user benefit*



ABSTRAKSI

Aksesibilitas ke bandara sangat penting bagi pengguna transportasi udara sebab keterlambatan akan berakibat pada hilangnya kesempatan dan biaya perjalanan. Berdasarkan hasil pengamatan tingkat aksesibilitas cenderung menurun selama periode jam puncak. Kondisi ini terjadi di jalan akses ke Bandara Internasional Leeds Bradford selama jam puncak pagi dan sore. Selama periode ini, ketepatan waktu untuk tiba ke bandara menjadi rentan karena waktu perjalanan menjadi tidak dapat diandalkan.

Untuk meningkatkan aksesibilitas ke bandara selama periode puncak beberapa alternatif solusi perlu dilakukan. Salah satu alternatif adalah meningkatkan kapasitas persimpangan untuk mengurangi waktu tundaan dan antrian. Tindakan ini dapat dilakukan dengan menambahkan jalur baru, memberikan prioritas belok kiri atau kanan, pengaturan optimasi waktu tahap sinyal dan memasang sinyal lalu lintas di persimpangan prioritas.

Perbaikan di beberapa persimpangan, seperti di A657 / A658, A657 / A6120 Greengates, A6120 / Low Ln, A6120 / Spen Ln, A657 / Bayton Ln, A660 / A658 Pool Bank New Rd, A658 / Pool Rd, dan A660 / B6157, telah disimulasikan menggunakan SATURN dan menunjukkan hasil yang positif. Langkah ini berhasil meningkatkan aksesibilitas dengan mengurangi waktu perjalanan. Pengurangan waktu tempuh tersebut juga mampu meminimalisir biaya transportasi sehingga memberikan manfaat ekonomis (*user benefit*) bagi pengguna transportasi udara.

Kata kunci: *aksesibilitas, perbaikan simpang, user benefit*