Calibration of Capacity Parameters for Signalized Intersections in Hawaii

The University of Hawaii ITE Student Chapter collected detailed field data in order to derive local base saturation flow rates and start-up lost time (SULT) for both through (TH) and exclusive left-turn (LT) movements. The data collection project investigated "touristy" vs. "non-touristy" areas on Oahu. The type of an approach was classified into Downtown, Waikiki, or Other. Both Downtown and Other are areas where the majority of drivers are local, i.e. non-tourist. Waikiki was classified as "touristy" because it is where the majority of visitors reside during their stay on Oahu.

All the data were averaged and classified by area type and movement. The main results may be summarized as follows:

- LT movements for the non-touristy area had a headway of 2.40 seconds, a saturation flow of 1594 pcphgpl, and a SULT of 2.52s.
- LT movement for the touristy area had a headway of 3.43s, a saturation flow of 1209 pcphgpl, and a SULT of 2.37s.
- TH movement for the non-touristy area had a headway of 2.39s, a saturation flow of 1591pcphgpl and a SULT of 2.31s.
- TH movement for the touristy area had a headway of 2.31s, a saturation flow of 1605pcphgpl and a SULT of 3.58s.

Based on the limited data collected, it is not possible to support that there is a difference in the "touristy" versus "non-touristy" areas. The data does show that in the touristy areas investigated, there were longer headways for left turn movements, but a shorter SULT for the same movements. For the through movements, it was expected for the non-touristy area to have a longer (i.e, more leisurely) headway, but instead the Downtown area measurements resulted in longer headways. Compared to the Downtown area, Waikiki had a longer SULT for the through movements.