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Fundamentals of Traffic Simulation

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Fig. 9.11 Link outflow and occupancy in Ljubljana model at 16:30

Tables 9.2 and 9.3 show travel time comparisons for some of the main routes in the network for the AM and PM scenarios, respectively. These routes normally consist of a sequence of several network links and the empirical data is collected by actually driving the routes several times during the peak period and taking the average measured travel time. The reported travel times are rounded to the nearest minute, while the percentage differences are computed based on the exact values. The goodness of fit of the travel time results were found to be excellent: the relative differences for the AM paths were between 5% and 8%, while the PM results had similar values, but with one path at 12%.

It should also be mentioned that this calibration was carried out without the use of matrix adjustment algorithms or techniques. Matrix adjustment algorithms, which automatically adjust the demand matrix in order to provide a better fit to a set of traffic counts, have been available for many years for static assignment models and can be used to pre-process the demand matrices for a DTA model as well. Their use poses some difficulties in the context of long-term planning studies for which future demand scenarios must be modeled, since future traffic counts are not available for adjusting those matrices. Avoiding matrix adjustment in these cases maintains a stronger linkage between the DTA results and the synthetic demand model.

Some basic software performance metrics for this project, as well as a few other recent projects, are presented in Table 9.4. These include the following: