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Traffic Capacity at Entrances and Exits of Universities, Hospitals and Shopping Centers in Jordan

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Abstract: The main objective of this research was to develop models to estimate the capacity at parking lot entrances and exits (gates) for different land uses (universities, hospitals, and shopping centers) in Jordan, and to determine the influence of geometric and control factors on their capacities. Continuous queues were recorded at each gate. Also, geometric elements were measured for each gate including; number of lanes, gate width, speed hump height and width, and slope of the gate. Regression analysis was used to develop six gates models. At first, a general model was developed in which the data of all land uses and gate types were included. Then, three models were developed; one model for each land use. Finally, a model for each gate type (entrance or exit) was developed. The analysis indicated that the number of lanes and control method have the major significant effect on gate capacity. University gates have the largest traffic capacities among the three studied land uses . The hospitals gates come in the second place whereas the shopping centers gates come at last. This can be referred to the fact that the users of gates may be different from one land use to another . This research found that exits have more capacity than entrances because usually there is no control on exits, and automatic control could reduce the traffic capacity at entrances due to that more time is needed for checking and processing .