Ultimate strength design for reinforced concrete structures emphasis-
es structural behavior at the ultimate limit state. Load factors corelate to
the construction condition and functions of the building are required in the
design process and they must to achieve an acceptable safety level. In this
research, various data concerning dead load and live load were collected for
several buildings categorised by their functions such as offices, bus termi-
nals, colleges or universities and car parks in department stores. Total
live loads which consist of the sustained live loads and the transient live
loads were analysed on the basis of the live load model recommended by Peir
and Cornell, which is the same method used by the American National Standard
Institute (ANSI A58.1-1982)

The results indicate that the live load for office buildings in
Bangkok area is higher than that specified by the Building Code. On the
other hand, the live load for car parks has shown a smaller value than the
specified one. On the other hand, the live load for bus terminals and col-
leges or universities show good agreement with the code and the ANSI Standard

The load factors calculated on the basis of the generally accepted
safety index with the capacity reduction factor as recommended by Amattayakul
using structural reliability theory of first order approximation were found
to be 1.2 for dead load and 1.6 for live load. The load factors calculated
by second-moment theory to give a safety index at the same level as in the
ACI Code may be taken as 1.5 for dead load and 2.0 for live load respectively
The resulting safety index is slightly less conservative than the value that
would have resulted from using the EIT Standard (EIT-1001-16).