corresponding to the lower end of the AASHTO correlation range:

$$Mr = 750(CBR) \qquad \text{(Eqn. 2)}$$

The highest SN shown in each classification for the AASHTO method results from a correlation to resilient modulus using Equation 2. This range should capture the range of results likely to result from actual resilient modulus testing. The ADOT method, which is also based on resilient modulus, was completed using the correlation recommended by AASHTO and presented here as Equation 1.

The MOC method was only applicable for the lightest roadway classification, the Sector Road. In every other case, the design equivalent axle loading for the TRIP roadways was well beyond the inference space depicted on the MOC design thickness charts. This result comes about due to the degree of overloading common on TRIP roadways, rather than to an excessive number of vehicles. The MOC method is based on a 16-kip axle load, requiring a large destructive effect factor when considering that up to 27-kip loads were used in the TRIP report.

As can be seen from Table 600.02, there is some variation in the results based on the method used. It is readily apparent that the TRIP thickness results are well within the range of modern pavement design methods. The TRIP results are well above the ADOT methods and firmly within the range of new AASHTO SN's**.** The method is non-conservative compared to the MOC method; however, this comparison is believed to result largely from the large truck overloads leading to huge traffic loadings compared to the 16-kip single axle loadings used for design in the MOC.

The conclusion is that the major modifications to the AASHTO methods which have occurred since the original TRIP method was devised have not significantly altered the designs which would be recommended if the same input variables were used to start the design process today. The suitability of the input variables, both standard and road specific, is therefore the most appropriate question for the development of a new method. Of the methods examined, the 1993 AASHTO method is the most appropriate choice.

The 1993 AASHTO pavement design method has been used extensively in a variety of climates across the United States and many other parts of the world, and has been found to work effectively in a wide range of conditions. The pavement design method outlined below is based on the 1993 AASHTO method with modifications tailored to local conditions.

The use of the AASHTO method will allow site specific treatment of individual roads within the Municipality of special importance or roads outside the Municipality on less familiar or less uniform soils. The following method should be used in conjunction with the 1993 AASHTO method for all Municipality pavement designs.

604.02 PAVEMENT DESIGN METHOD

Step 1: Develop Equivalent Single Axle Load, W_{18}

Traffic is represented in the 1993 AASHTO method by the equivalent single axle load (ESAL), or the number of 18-kip equivalent single axle loads that will pass over the pavement during its initial service lifetime (typically 20 years). To calculate this value, three components are required:

(1) the number of vehicles which will pass over the pavement during its lifetime, and
(2) the breakdown of those vehicles by weight classification, and
(3) a means of converting the number of vehicles in each class to an 18-kip equivalent single axle load.

To estimate the total number of vehicles utilizing a pavement during its design life, existing and projected traffic volumes are needed. To determine the total number of vehicles, use a straight line interpolation between the existing traffic volumes and traffic volumes of the design year. For existing pavement studies, calculate the average rate between the existing traffic volume and the traffic volume of the design year. That average rate is then multiplied by the projected design life of the pavement. For new pavements the number of vehicles would be estimated using the design period.