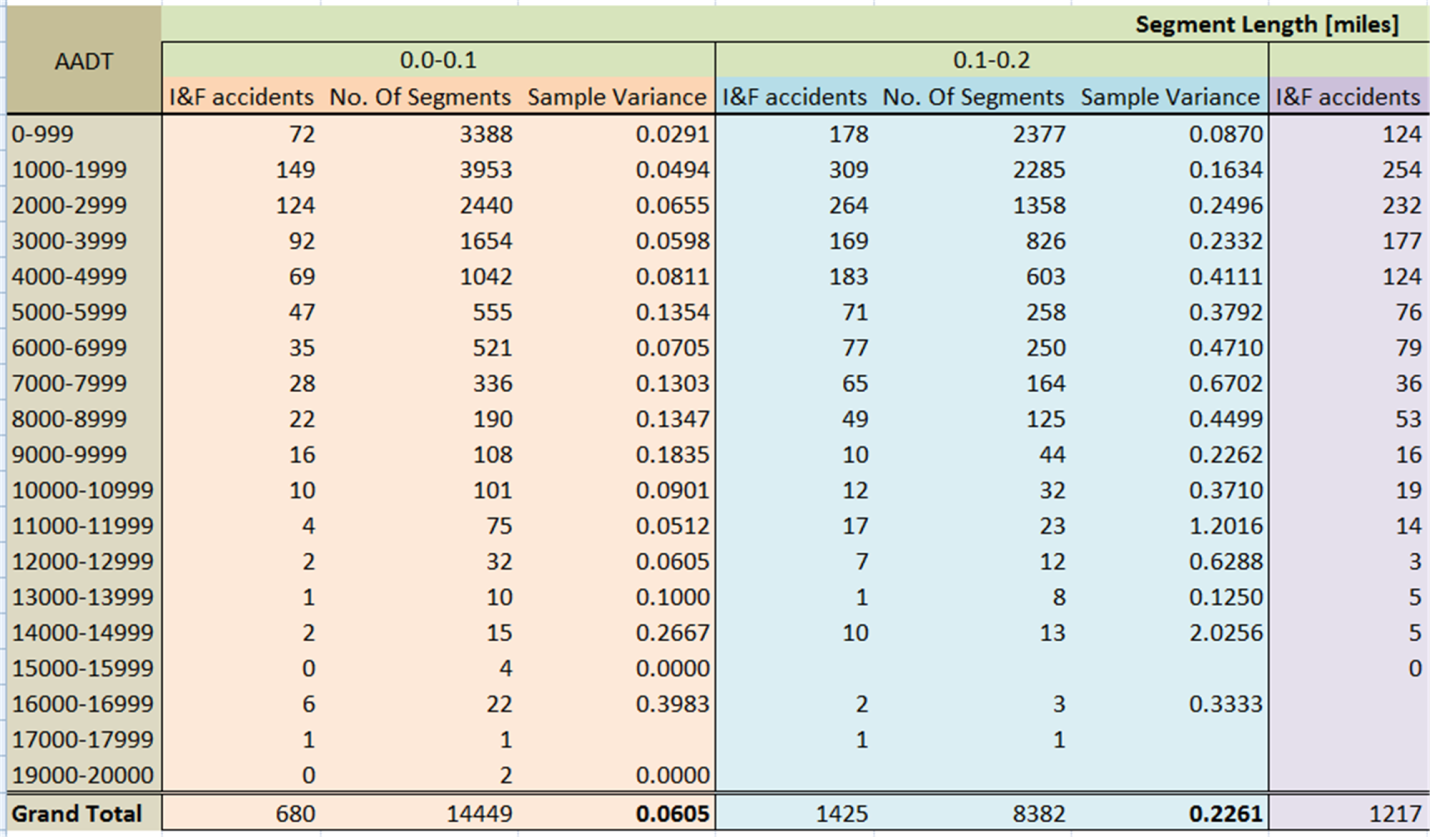
# Chapter 2. A Safety Performance Function for real populations

The purpose of this chapter is to make the concepts of Eμ} and σ{μ} tangible using data for real populations. The data are for rural two-lane road segments for a State (not Colorado). Populations are obtained by placing segments into AADT and Segment Length bins.

The original data set is in the ‘Data’ folder in the ‘State data and attributes.xlsx’ file. From here, using the Pivot Table tool (described in Section 3.3 of the book), data were extracted for selected AADT and Segment Length bins. These are in the ‘Data for Chapter 2.xlsx’ spreadsheet. A part of the data is in Figure 1.



Figure

Using data for one or two a chosen segment length bin:

1. Obtain estimates of E{μ} and of for all AADT bins (as in Table 2-1 in the book) and plot the corresponding SPF (as in Figure 2-1 in the book). Discuss
2. For the chosen segment length bins estimate the σ{μ} and provide plots against AADT (as in figure 2-3 of the book).
3. Examine the relative magnitude of the estimates of and of σ{μ}. Discuss.