Service Volume Example

From Exhibit 15-2 HCM 2000, for a Class II Arterial, the average speed (S_A) threshold for
LOS C is 22.0 mi/h.

Using the procedure documented in the level of service computations file, the following results are
obtained for an AADT input of 25200.

Calculating Average Speed (S_A) gives:

$$\text{SegRunTime} := 83.3 \quad \text{seconds/mile} \qquad \text{CtrlDelay} := 26.75 \quad \text{seconds}$$

$$\text{Length} := 0.333 \quad \text{miles}$$

$$\text{TotTravTime} := \text{SegRunTime} \cdot \text{Length} + \text{CtrlDelay}$$

$$\text{TotTravTime} = 54.5 \quad \text{seconds}$$

$$S_A := \frac{3600 \cdot \text{Length}}{\text{TotTravTime}}$$

$$S_A = 22.0 \quad \text{mi/h}$$

Thus, the maximum service volume (AADT) for LOS C for the conditions in the example calculations file
is 25200. Note that ARTPLAN gives 25600 due to the difference in the running time calculation (i.e.,
table versus equation).