APPENDIX 6: ALTERNATE PROCEDURE FOR CALCULATING CONSTRUCTION YEAR AADT

The following steps describe how to get a construction year AADT:

1) Go to the Division of Traffic Operations website (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm). Download the most current year AADT data available (such as "2011 AADT" in Excel file format). Find "Back AADT" and "Ahead AADT" numbers at the project location and average those two numbers to get the total AADT for both directions in the most current year.

2) Contact the Division of Transportation System Information for the "Annual Growth Rate of Traffic" or AADT values (in the most current and future years) expected at the project location. An approximate "Annual Growth Rate of Traffic" can be estimated with the available AADT values using Equation A6-1 below:

$$A = [(\frac{FT}{MT})^{(\frac{1}{FY-MY})} - 1] \times 100 \qquad \text{(Equation A6-1)}$$

Where

A = Annual Growth Rate of Traffic (%)

FT = Future Year AADT (total for both directions)

MT = Most Current Year AADT (total for both directions)

FY = Future Year in which AADT is available

MY = Most Current Year in which AADT is available.

Example:

Given:

Future Year AADT (total for both directions) = 18,000 (year 2025)

Most Current Year AADT (total for both directions) = 9,800 (year

The Annual Growth Rate of Traffic is

$$[(\frac{18,000}{9,800})^{(\frac{1}{2025-2005})} - 1] \times 100 = 3.09\%$$

Use the following equation to calculate the AADT total for both directions in the initial construction year or the beginning year of the analysis period:

$$I\_AADT = MT \times (1 + \frac{A}{100})^{(IY-MY)}$$
 (Equation A6-2)

Where:

I_AADT = Initial Construction Year AADT (total for both directions)

MT = Most Current Year AADT (total for both directions)

A = Annual Growth Rate of Traffic (%)

IY = Initial Construction Year (same as the first year of the analysis period)

MY = Most Current Year in which AADT is available.

Example:
Using the most current year AADT (2005) = 9,800
Determine AADT for 2007 as the Initial Construction year

The Initial Construction year AADT is:

$$(9,800)x(1 + \frac{3.09}{100})^{(2007-2005)} = 10,415$$

Use the following equation to calculate the AADT total for both directions in the initial construction year or the beginning year of the analysis period:

$$I\_AADT = MT \times (1 + \frac{A}{100})^{(IY-MY)}$$
(Equation A6-2)

Where:

I_AADT = Initial Construction Year AADT (total for both directions)

MT = Most Current Year AADT (total for both directions)

A = Annual Growth Rate of Traffic (%)

IY = Initial Construction Year (same as the first year of the analysis period)

MY = Most Current Year in which AADT is available.

Example:
   Using the most current year AADT (2005) = 9,800
   Determine AADT for 2007 as the Initial Construction year

   The Initial Construction year AADT is:

   $$(9,800)x(1 + \frac{3.09}{100})^{(2007-2005)} = 10,415$$