

Closed Projects

Highway 17 Bus Service Improvements

Final Cost: \$2.5 million

Year of Completion: 2011

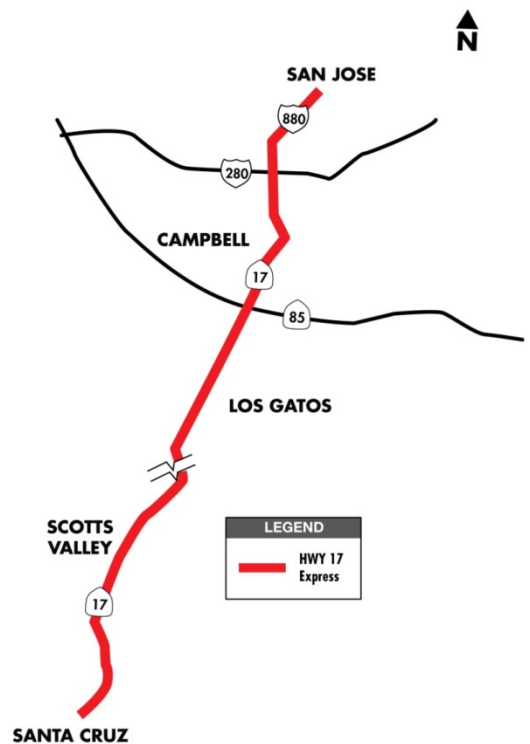
Project Manager: Jim Unites

Designer: Santa Cruz Metro

Project Description:

Santa Cruz Metro has procured five buses necessary to operate service between Santa Cruz, Scotts Valley, and Downtown San Jose. These buses replaced existing buses that are 20 years old, with an average of 950,000 miles each.

The five (5) buses went into service in March/April 2011. VTA has reimbursed Santa Cruz Metro for the \$2.5 million purchase price.



P-0589

Low Floor Light Rail Vehicles

Final Cost: \$200.6 million

Year of Completion: 2004

Project Manager: Art Douwes

Contractor: Kinkisharyo International, LLC

Project Description:

Purchased 70 low floor light rail vehicles to serve the entire VTA Light Rail system.

Low floor vehicles provide enhanced ADA accessibility and improved service by minimizing boarding and exit times for all riders. Low floor light rail vehicles eliminate the need for wheelchair lifts and enhance access for all VTA riders, as well as providing additional space for bicycles.



P-0447

APPENDIX A – COST ESTIMATE CLASSES

Figure 1 – Cost Estimate Classification Matrix
(Adapted from ACE Skills & Knowledge of Cost Engineering, 4th ed., Chapter 1)

Estimate Class	Level of Project Definition Expressed as engineering percent completion at time of estimate	Expected Accuracy Range Typical variation in low and high ranges
Class 5	0% to 5%	-50% to +100%
Class 4	5% to 25%	-30% to +50%
Class 3	35%	-20% to +30%
Class 2	65%	-15% to +20%
Class 1	90% to 100%	-10% to +15%

Figure 1 shows a mapping of Estimate Class to Level of Project Definition. Intuitively, estimates become more accurate and have less uncertainty as project definition increases. This table provides a rough framework to describe the accuracy of project estimated costs in this report. A discussion of cost estimate classes, in order of increasing accuracy, is presented below:

- **Class 5** (Order-of-Magnitude Estimates) – Order-of-magnitude estimates are sometimes referred to as “conceptual” or “ballpark” estimates. These estimates are made without detailed engineering data using only basic criteria such as area or distance. An estimate of this type would normally be expected to be accurate within +100 percent to -50 percent. Order-of-magnitude estimates are used to quickly screen several types of alternative designs.
- **Classes 4 and 3** (Preliminary Estimates) – Preliminary estimates are prepared once enough preliminary engineering has taken place to further define the project scope. An estimate of this type is normally expected to be accurate within +50 percent to -30 percent. Since the preliminary estimate is more definitive than the order-of-magnitude estimate, it is better suited for determining project feasibility.
- **Classes 2 and 1** (Final Estimates) – Final estimates are prepared from very defined engineering data. This data includes, as a minimum, fairly complete plans and specifications. An estimate of this type is usually expected to be accurate within +15 percent to -15 percent. The final estimate has a level of accuracy that is appropriate for setting project budgets.