



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Prashanth Vijayanandan	Project Number J1220
Project Title How Does Travel Time Vary between Segments on SamTrans Route 260?	
Objectives/Goals The objective of my project was to find out how travel times varied between segments on SamTrans Bus route 260 from my home in Redwood Shores to Ralston Middle School in Belmont.	
Abstract Methods/Materials First I divided the route I wanted to study into several segments. I identified the end points of the various segments by traveling the bus route in a car and noting the distances from the start point. For 23 school days, I used a stopwatch to record the time the bus took to cross the endpoint of each segment. I stopped the watch whenever the bus stopped and children boarded to eliminate boarding delays. I computed the average travel time and the variation for each segment. Since the segments were not of equal distance, I estimated the time per kilometer for each segment before comparing them.	
Results The segment near Belmont Train Station had the longest travel time of 298 sec./ Km. The segment near Oracle had the lowest travel time of 99 sec./Km. Travel times varied 418% in the segment after Notre Dame High School, while the segment near Oracle showed a 183% variation. The average running time for the section of Route 260 studied was 31:11 min., excluding boarding time. This is more than the SamTrans scheduled time of 27 min., which includes boarding times. The running time was highest on Fridays, with 33:20 min., while it was least on Wednesdays, with 28:59 min.	
Conclusions/Discussion My hypothesis was partly correct - of the two segments that I thought would cause undue delays, only one proved to be correct. The travel time in the segment near the Belmont Train Station was long while the time for the segment near Oracle was not. The reason for the result being different from my original hypothesis is the direction of traffic. There is more eastbound traffic on Marine Parkway near Oracle in the mornings while the bus travels in the opposite direction. The travel time was the lowest per kilometer in the segment where there were most lanes. The variation was highest in the segment with a single lane. The impact of traffic and signals, however, could not be determined conclusively because there was not sufficient information. Although Fridays appeared to have the longest running time, the sample size was too small to state this with confidence.	
Summary Statement I investigated the relationships between segments and travel times along SamTrans Bus Route 260.	
Help Received My dad drove me along the bus route so I could divide the route into segments. My mom reviewed my report and the poster.	