In order to determine the effectiveness of the new signal timing plans, travel time studies were conducted to evaluate and document the results of the timing plan development process. These were completed in both directions for two separate segments: Chamblee-Dunwoody Road from Womack Road to Roberts Drive, and Mount Vernon Road from Ashford Dunwoody Road to Vermack Road. This report presents the results of the "before" and "after" studies that were conducted for both ends of the system. The travel time studies were conducted on typical weekdays during three time periods of the day: A.M. Peak, Midday, and P.M. Peak. The following charts show the average improvements for both directions of travel on both segments of the system during all three-time periods:



Improvements (based on field travel time studies) were shown in travel time, average number of stops, and total delay reductions. The new timings allowed motorists to better keep their speed through the system by coordinating successive intersections. Carbon monoxide, oxides of nitrogen and volatile oxygen compounds are three types of vehicle emissions that are regulated by Federal law. The following charts show the change in vehicle emissions for both directions of travel on both segments of the system during all three-time periods:



Delay incurs direct costs upon motorists in the form of increased fuel consumption and the value of their time wasted while waiting in traffic. Motorists using the Chamblee-Dunwoody system during the three peak periods will save 23,637 hours and 14,182 gallons of gasoline each year because of improved traffic flow due to the new timing plans. Conservatively assuming a vehicle occupancy rate of 1.2, \$12.00 per hour for the value of motorists' time and \$2.50 per gallon for gasoline, annual savings to motorists on the entire system will be \$340,374 in the form of reduced travel time delay and \$35,456 due to reduced fuel consumption, for a total annual savings of \$375,829. Based upon these figures, the new Chamblee-Dunwoody system timing plans pay for themselves every 26-27 workdays.