

Transportation Control Measure (TCM) Summary Assessment

TCM Definition: Atlanta Region Transportation Management Associations (TMAs)

ARC Project Number: AR-221

TCM Project Description:

The development of Transportation Management Associations (TMAs) around major Atlanta Region activity centers will result in mobile source emissions reductions by encouraging alternative commute modes and maximizing the use of the existing transportation system in highly congested areas. This will be accomplished through the provision of seed money for the implementation of Transportation Control Measures (TCMs) and Transportation Demand Management (TDM) strategies, such as car/van pool matching, ride share incentives (e.g. guaranteed ride home), transit subsidies, flextime, pedestrian improvements, and telecommuting.

Initial estimates indicate that the current need and funding levels will allow for the development of five TMAs. The first three TMAs (most likely Clifton Corridor, Perimeter Center and Buckhead) are anticipated to be operational by 1999. The following two TMAs, that will be located at other regional activity centers, such as Town Center, Gwinnett Place, the Airport, or Midtown, should be operational for the 2005 analysis year. In light of this timing the final three TMAs were not considered in the 1999 analysis period.

The Perimeter Center TMA will impact approximately 66,000 employees while the other TMAs are projected to have a slightly smaller impact of 50,000 employees each. It was assumed that currently 90 percent of employees at the above activity centers drive alone to work and during related trip chaining activity. This is based on the current level of transit use and vehicle occupancy rate of 1.16. Of this 90 percent it was projected that TDM strategies would result in a two percent shift from single occupancy vehicles for both commute and non-work related trips. Since TMAs are intended to impact work trips as well as other non-work trips (e.g. lunch time errands), trips were analyzed for both peak and off-peak conditions.

TABLE 1.0 SUMMARY OF AIR QUALITY IMPACTS

Year	1999	2005	2010
HC Reduction Tons/Day	.081	.105	.096
NOx Reduction Tons/Day	.072	.106	.103

Assumptions:

- (a) Vehicle occupancy is 1.16 persons per vehicle.
- (b) TCM strategies will result in a two percent shift from single occupancy vehicles
- (c) 20% cold starts
- (d) Average length of work trip is 13 miles per direction
- (e) Average length of non-work trip is seven miles per direction
- (f) 50 percent off-peak trips, 50 percent peak period work trips

Calculations:

- (a) Total TMA employees multiplied by .9 (ninety percent) equals the number of SOVs. The number of SOVs multiplied by .02 (two percent) equals decreased auto trips due to TDM strategies. Decreased auto trips multiplied by the average round trip length for work trips and non-work trips will produce the decrease in VMT:
- (b) $VMT * \text{emissions factors for 20\% cold starts for peak and off-peak period, non-highway speeds} = \text{HC and NOx grams per day reductions}$:

Caveats:

- (a) Assumptions based on experiences gained from TMAs in other US metropolitan areas.