

November 16, 2017

TCM Removal Methodology Memo

Transportation Control Measures (TCMs) are transportation projects or programs codified into federal law through inclusion in Georgia's State Implementation Plan (SIP). ARC tracks the implementation of these projects through the Conformity Determination Report associated with regional transportation plan updates. A complete list of currently codified TCMs is included as Table 1 of this document. TCMs in the Atlanta SIP cover the gamut of transportation improvements from transit enhancements and commuter incentives to the HOV system and bridges associated with the Atlantic Station redevelopment.

Many TCMs were included in the SIP during the period of the middle 1990s to help advance attainment of the 1-hour ozone nonattainment area. In these cases, the State took off-travel model credit for their implementation in the SIP directly. Later in the 1990s and early 2000s, during the conformity lapse, several TCMs were added to allow for the continued advancement of certain key infrastructure project in a period when all non-exempt projects were frozen. Outside of these periods, no TCMs have been added to the Atlanta nonattainment area's transportation program.

TCMs inserted in the State's SIP do not have a sunset, unless specifically mentioned. Many are outdated, with new technologies or programs being implemented. In some cases, TCMs have affected land use decisions and can prevent the implementation of newer best practices in travel demand management or transit operations. Many TCMs have outlived their useful life and are due to be retired.

ARC staff have reviewed the methodologies and tools used to prepare the original TCM emission reports from the mid to late 1990s and recommend the following methods (Tables 2 and 3) to assess the emission impacts removing each TCM would have on the region's air quality. To advance this project, ARC staff will work with new and updated assumptions, tools and methodologies, where appropriate, to assess the impact the TCMs have on regional emissions.

The TCM calculations will fall in two broad methodological categories: Activity-Based Model (ABM) projects (Table 2) and off-model projects (Table 3). Those projects evaluated through the ABM will be coded and run through in one system-wide run. The resulting travel networks will be carried through full MOVES emission runs, similar to a conformity determination analysis run, to determine the amount of pollution offsets the projects require. The ABM method is preferred and all eligible projects will be evaluated using this methodology.

Projects evaluated using off-model methods cannot be run through the ABM. These projects will rely on updated methodologies based off those used in the 1990s. ARC staff will update inputs and assumptions, as applicable, to bring these techniques into the 21st century. The methodologies will focus on vehicle mile traveled (VMT) calculations to apply set MOVES-based emission factors to determine the amount of pollution offsets the projects require. Individual off-model methodologies are outlined in the attached appendices.

Table 1 – Status of Atlanta SIP TCMs

Description	ARC Project #	GDOT PI #	TIP	Status
HOV LANES Sponsor – GDOT	AR 073B	713760	98-00, 99-01	Implemented
I-85N from Chamblee-Tucker Rd to SR 316 (HOT Lanes), I-85 @ SR 316, Interchange Reconstruction	GW-AR 053A GW-AR 053B	110530	01-03 02-04 03-05 05-10	Implemented Implemented
ALTERNATIVE FUEL STATION Sponsor – Douglas County	DO-AR 211	771035	98-00 99-01 00-02 01-03 02-04	TCM removed from SIP on 11/28/2006 (71 FR 68740, November 28, 2006)
ATLANTIC STATION, 17 th STREET BRIDGE Sponsor – City of Atlanta A – Bridge and Southbound off ramps C – Northside Dr over Norfolk Southern Railroad to Atlantic Station D – Northbound off ramp to 17 th Street Bridge, Williams St Relocation	AT-AR 224A AT-AR 224C AT-AR 224D	714190 0001297 0001298	00-02 01-03 02-04 03-05 05-10	A – Implemented C – Implemented D – Implemented
CLEAN FUEL BUSES Sponsors – MARTA and CCT	M-AR 232	N/A	94-95	Implemented
EXPRESS BUS ROUTES Sponsor – MARTA	M-R 160 M-R 162	770632 770632	94-96	Implemented
IMPROVE / EXPAND BUS SERVICE Sponsor – MARTA	M-R 161	770633	96-98	Implemented
INTERSECTION UPGRADE, COORDINATION & COMPUTERIZATION Sponsor(s) – GDOT in partnership with local Jurisdictions	AT 089	04Y108	93-95	Implemented
	CL 094	770600	94-96	Implemented
	CO 249	770601	94-96	Implemented
	DK 118	770603	94-96	Implemented
	FN 086	770605	94-96	Implemented
	FS 068	770605	94-96	Implemented
	GW 135	170950	94-96	Implemented
	R 098	04418	93-95	Implemented
ITS – ADVANCED TRAFFIC MANAGEMENT SYSTEM / INCIDENT MANAGEMENT PROGRAM Sponsor – GDOT I-75/I-85 within I-285, Northern portion of I-285 between I-75 and I-85	R 098	770391	94-96	Implemented
CLEAN FUELS REVOLVING LOAN PROGRAM	R 195	770790,	96-98	Implemented



Description	ARC Project #	GDOT PI #	TIP	Status
Sponsor – GEFA		770795		
HOV LANES Sponsor – GDOT I-75 and I-85 within I-285	R 174	320H94	94-96	Implemented
PARK & RIDE LOTS Sponsor(s) – Douglas & Rockdale Counties Douglas County – Chapel Hill @ I-20, Rockdale County – Sigman @ I-20	DO 211C		94-96	Implemented
REGIONAL COMMUTE OPTIONS & HOV MARKETING PROGRAMS Sponsor(s) – GDOT	R 159	770631	94-96	Implemented
SIGNAL PREEMPTION Sponsor – MARTA	M-R 164	770636	94-96	Implemented
TRANSIT INCENTIVES PROGRAM Sponsor - MARTA	M-AR 231A M-AR 231B	771031 771119	98-00 99-01 00-02	Implemented
TRANSPORTATION MANAGEMENT ASSOCIATIONS Sponsor – ARC	AR 221A AR 221B AR 221C AR 221E AR 221F	771033 771140 771141 0000570 0000571	98-00 99-01 00-02 01-03	Implemented
UNIVERSITY RIDESHARE PROGRAM Sponsor - ARC	AR 220A AR 220B AR 220C AR 220D AR 200E	771032 771113 0000351 0000567 0000568	98-00 99-01 00-02 01-03 02-04	Implemented

Table 2 – ABM-Based TCM Emission Offset Methodology

TCM Name	TCM Description	Brief Methodology Description
HOV Lanes	I-75 & I-85 ITP HOV lanes	Convert the HOV lanes to GP lanes in the model
HOT Lanes	I-85 HOT lanes	Convert the HOT lanes to GP lanes in the model
Atlantic Station	17 th St bridge & ramps 17 th St bridge over rail	Remove the bridges, ramps and transit
Express Bus Routes	#5, #6, #36, #125, XPPRESS #428 & #426	Remove the transit routes from the model
Improve/Expand Bus Service	#15, #114, #111	Remove the transit routes from the model
Park & Ride Lots	West Douglas P&R Sigman Rd @I-20	Remove the transit stops & associated routes from the model
Transit Signal Preemption	MARTA Routes #15 and #39	Remove the benefit of TSP from the model

Table 3 – Off-Model-Based TCM Emission Offset Methodologies

TCM Name	TCM Description	Brief Methodology Description
Clean Fuel Buses	200 CNG buses for MARTA & CCT	Prepare emission comparison for 200 CNG & diesel buses
Clean Fuels Revolving Loan Program	1,800 vehicle revolving clean fuel program	The emissions benefits of this TCM have phased out as Tier II and Tier III emissions standards and fuels have replaced Tier I and clean fuel fleet (CFFV) standards
Intersection Upgrade, Coordination & Computerization	Upgrades to 1,708 signals in Clayton, Cobb, DeKalb, Fulton and Gwinnett counties	Copy method used in 1990s with updates to planning assumptions
ATMS/Incident Management	I-75 & I-85 ITP & I-285 northern perimeter	Copy method used in 1990s with updates to planning assumptions
Regional Commute Options & HOV Marketing	Marketing and incentives to carpool & use transit	Copy method used in 1990s with updates to planning assumptions
Transit Incentives	Transit subsidies to employees in TMAs	Copy method used in 1990s with updates to planning assumptions
Transportation Management Associations (TMAs)	Formation and programs run by TMAs to encourage mode split	Copy method used in 1990s with updates to planning assumptions
University Rideshare Program	Carpooling and transit incentives program for university students/staff	Copy method used in 1990s with updates to planning assumptions