

June 14, 2003

Ms. Kay T. Prince, Chief Air Planning Branch US Environmental Protection Agency, Region 4 61 Forsyth St. S.W. Atlanta, GA 30303-8960

Dear Ms. Prince:

The Triad Early Action Compact Stakeholders Group submits the attached list of ozone reduction strategies as required by the Early Action Compact "Protocol" and the Holmstead memorandum. In the next months, the 11 counties and 20 municipalities in our EAC will work with local governments, environmental groups, business and industry to adopt local control measures designed to achieve the 8-hour ozone standard in this region.

The Triad EAC Stakeholders Group is a broadly representative group of more than 30 participants. Members include elected officials, representatives of environmental groups, business and industry leaders, transportation and air quality professionals. Phase I of our stakeholder process has involved extensive self-education during which we have considered hundreds of potential strategies. The attached list is still long. However, given the number of jurisdictions in our region and variety of emissions reductions strategies already under consideration, we do not want to foreclose viable options. During Phase I we have also met with and obtained feedback from 60 representatives of leading industry, construction and real estate firms in the region. In addition, we have communicated through newsletters and e-mail with environmental coalitions in the region and state.

Phase II of our process has already begun. The focus of this phase will be educating and obtaining input from local officials and the public in the 30 local governments in our EAC. We expect this process to continue through the fall. In the meantime, we are moving quickly to collect benchmarking data from industries, local governments and PART (regional transportation service) in order to quantify estimated reductions.

Let me know if you have questions about our submission or process. You may also contact Ginger Booker (336-294-4950 <u>gbooker@ptcog.org</u>) and Matthew Dolge (336 761-2111 mdolge@nwpcog.dst.nc.us) who provide staff support for our EAC.

We look forward to working with EPA and the N.C. Division of Air Quality in implementing measures that will help our region achieve attainment.

Sincerely,

Dan Besse, Chair Triad Early Action Compact Stakeholders Group Winston-Salem City Council Member Sandy Carmany. Vice Chair Triad Early Action Compact Stakeholders Group

Cc: Richard Schutt, Chief Regulatory Development Section, USEPA Sheila Holman, Chief, Planning Section, NCDAQ Triad Early Action Compact Stakeholders Group

Triad Early Action Compact Potential Local and Regional Ozone Emission Reduction Strategies For Attainment of 8 Hour Ozone Standard

(Strategies include quantifiable and non-quantifiable measures. Non-quantifiable measures are included for the purpose of showing regional and local context, affirmative efforts in areas such as planning and outreach, and initiatives to support future maintenance measures.)

ID #	Ozone Reduction Strategies	Quantifiable?	NOx	VOC	PM	Comments
۸	Least Covernment Initiatives (non-transit):	Potential impact	Impact	Impact	Impact	
A A1	 Local Government Initiatives (non-transit): Implement energy efficiency in operation and design of facilities, purchase and use of equipment. (e.g. Davidson County Energy Savings contract 6/11/03) For example: Design and construction standards for energy efficient buildings Retrofitting public buildings and schools for energy efficiency Seek out and purchase energy efficient products. Use programmable thermostats and lighting to lessen use when the office is closed. Turn off computers, printers and other office equipment when not in use. (SA) Practice energy efficient vehicle operating tips: shut off engine when parked; limit idling; operate vehicle only as needed; avoid travel through congested areas. Reschedule nonessential operations (lawn maintenance, outdoor painting, tree trimming, paving) to non-peak ozone times 	Yes – Medium To Low Impact	X		X	Identify local governments and school systems that have significant programs; then quantify the savings.
A2	<u>Contract Specs</u> - Require/provide incentive in contract bids that contractors use electric or manually powered equipment.	Yes-Low	X	x	x	Identify local governments and school systems willing to do this and number of contracts affected
A3	Bus Passes – Promote the purchase and use of bus passes to minimize use of individual vehicles. [similar to B1]	Yes-Low	x	x	X	Determine based on measure of ridership
A4	Purchase cleaner vehicles - Buy low emission or alternatively fueled vehicles (AFV).	Yes-Low				Need goals, % of fleet and AFV type – obtain from Greensboro and

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		-		-	-	Winston-Salem
A5	<u>Construction projects (heavy duty off-road fleets</u> (state and local government): Specify in bidding that contractors must achieve emission reductions in their heavy duty off road fleets relative to standard practice. Methods might include using diesel equipment retrofitted with exhaust control technologies or other clean diesel/alternate fuel engines to reduce emissions. The available retrofit technologies include: diesel oxidation catalysts, diesel particulate filters, enhanced combustion modifications and crankcase emission controls (PM, CO, VOC, toxics); selective catalytic reduction, lean NOx catalyst technology and engine modifications (NOx).	Yes-High	X	X	X	Obtain goals, concrete numbers from municipalities where this is included in contracts.
A6	<u>E-government / increase available locations</u> . Provide web-based services, both for information and transactions and/or multiple locations for payments, etc	Yes-Medium	X	X	X	Already exists in larger municipalities - Need goals and # of trips reduced from smaller jurisdictions.
AB	Transportation					
AB1	Intelligent Transportation Systems (ITS) – Local transportation departments to use detection loops and other systems which monitor traffic. The system provides drivers with information such as lane closures, traffic delays and is used to reduce non-recurring congestion and associated emissions.	Yes-High	x	x	x	Determine extent of implementation in Burlington, High Point, Winston-Salem and Greensboro; calculate impact by 2007.
В	Mass Transit (Transportation Choices)					
B1	Increase ridership on Regional Bus Service (PART Express) – The regional bus service travels from downtown transit centers in Greensboro, Winston-Salem and High Point to the PART regional bus station. There, shuttles travel to hotels and businesses in the airport business area and to the airport itself. Begun in September 2002.	Yes – Low	x	x	x	Information for benchmarking available from PART (Piedmont Authority for Regional Transportation)
B2	Park and Ride – Create park and ride lots with safe parking areas and enhancements. PART has a Federal Transit Administration grant to establish multiple regional park and ride lots by 2007.	Yes - Low				
B3	<u>More Bus Stops</u> - Add bus stops for municipal bus systems at employers. (This is in addition to employers served by PART Express, the regional bus service.)	Yes-Low	X	x	X	
B4	Mass Transit Passes or Allowance - Employers purchase or	Yes-Low	Х	х	X	

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	provide an allowance for ozone season bus passes to give unlimited use of bus service on every ozone hazard day.					
B5	Pricing - Transit operators consider demand sensitive pricing.	Yes-Low	X	X	х	
B6	Subsidize mass transit passes - Local governments institute a public pass subsidy program	Yes-Low	X	X	X	(Apply for CMAQ funds)
B7	Mass Transit Enhancements - Improve existing transit systems with bus shelters, web based schedules	No	X	X	X	
B8	Proceed with Plans for Commuter and Intercity Rail – PART has					
	completed a Major Investment Study for regional commuter rail in					
	the urban area. NC DOT is studying feasibility of intercity rail from					
	eastern to western NC, through the Triad. Initiatives will be					
	implemented post 2007,					
С	Commuter Choice Programs:					
C1	Expand PART Ride Sharing and Vanpooling of the Piedmont					Information for
	(RSVP) – Provides vanpool and ride-match services to employers					benchmarking
	and employees. Program has served commuters in region for 10					available from PART.
	years. As of 2003, 75 vehicles in fleet					
C2	Carpool – Continue to promote PART program to assist	Yes-Low	x	x	х	
	employers to facilitate establishment of more carpool programs to					
	supplement situations for employees who live in proximity and					
	work at the same or closely located sites.					
C3	Employer Programs to Reduce Commuting - Encourage					
	employers to establish voluntary programs with vehicle miles					
	traveled goals and incentives.					
C4	<u>Flex or compressed work time</u> - Promote compressed work weeks	No	x	x	х	
	or flexible work hours across work sectors. This reduces traffic					
	congestion during peak driving hours by spreading out number of					
	vehicles on the roadway over a longer period of time. Also grant					
	flexibility for additional time needed to ride mass transit.					
C5	Employer Tax Credits – Promote use of federal tax credit for	Yes-Low	X	X	х	
	employer offered tax-free transit/vanpool benefits.					
C6	<u>Telecommuting</u> - Promote telecommuting as an option in which	Yes-Low	X	X	XX	
	an employer allows an employee to perform their job tasks either					
	from home or from a designated telework center.					
C7	Expand Ridership on PART Connections – This is a regional out-	Yes-Low				Benchmarking
	of-county numan services transportation program administered by					information available
	PARI, begun July 2002. It coordinates non-emergency medical					trom PART
	transportation to regional medical centers in the central portion of					
	North Carolina, brokered through human services transportation					

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	agoncios in each county	r otentiai impact	impact	impact	impact	
П	Air Quality Education and Outroach					
	Outreach Programs - Supplement regional services provided by	No				
	Forsyth County Environmental Affairs Department Air Awareness					
	Program - On a county level implement outreach programs with					
	added emphasis on ozone season (May – Sentember) and ozone					
	enisodes. Can include a wider distribution of educational					
	materials increased media alerts promotion of the NC Air					
	Awareness program, and others					
D2	PSAs - Place PSAs on ozone reduction methods and green	No				
02	products in movie theaters TV					
D3	Ads and Special Events - Place media ads and develop special	No				
20	events highlighting ozone reduction strategies and green					
	products.					
D4	Business Participation – Seek business and industry participation	Νο				
	in a year round ozone reduction program.					
D5	Targeted outreach - Hispanic outreach program	No				
D6	Targeted outreach - School based outreach	No				
D7	Media Reports - Increase Air Quality reports to TV, radio,	No				
	newspaper, web sites, air bulletins					
	Episodic Programs – Initiate ozone season programs in public		4			
	and private sector operations Episodic program(s) should be					
	incentive based with documented commitments obtained from					
	participants. Examples:					
D8	Making operation of heavy construction equipment and/or	Yes-Medium	Х	x	х	
	use of small gasoline-powered lawn care equipment time of					
	day sensitive;					
D9	Making heavy construction, landscaping, and mowing	No				
	activities time of day sensitive.					
D10	Delaying high emissions producing activities to non-ozone	No				
D 44	action days;					
D11	Placing Idle restrictions on drive-thrus, (banks, restaurants)	Yes-Low	x	x	x	
D40	and airports	Maalawa				
D12	Promoting use, selling and purchase of cleaner burning gas	Yes-Low		X	x	
	powered equipment (e.g., edgers, blowers, and chainsaws					
E	Motor Vahicle Alternatives					
	Encourage Non Meterized transportation Shifts from automobile	No				
	to pormotorized transportation can impact energy conservation					
	to nonmotorized transportation can impact energy conservation		1			

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	and emission reductions by reducing short motor vehicle trips which have high per-mile fuel consumption and emission rates. (e.g. Winston-Salem and Greensboro bike patrol and bike commuters)					
E2	Increase bicycle parking and create changing facilities.	Yes-Low	Х	х	X	
E3	Encourage walking and cycling by improving pedestrian and bike infrastructure – Provide sidewalks, crosswalks, paths and bike lanes, and improve maintenance.	Yes-Low	X	x	x	
E4	<u>Correct hazards</u> – Repair roadway hazards specific to nonmotorized transport.	No				
E5	Provide Street Furniture – such as benches and design features such as human-scale street lights	No				
E6	Security - Address security concerns of pedestrians and cyclists.	No				
E7	<u>Pedestrian Commercial Streets</u> - Make pedestrian-oriented commercial streets where driving is discouraged or prohibited.	No				
E8	<u>Non-auto Park Access –</u> Design parks that encourage or require non-automotive access.	No				
F	Planning:					
F1	<u>PART Coordinated Land Use Plan</u> – Continue regional transportation initiatives based on the Coordinated Land Use and Transportation Policies adopted by PART and endorsed by 22 jurisdictions throughout the region.	No				
F2	<u>Planned Growth Including Pedestrian Friendly and Sound</u> <u>Transportation Strategies</u> - Continue to apply and expand these principles throughout jurisdictions in the region, thereby intentionally altering the urban environment to improve air quality (e.g. Forsyth County Legacy Plan, Greensboro Comprehensive Plan, Asheboro, Lexington, Elon, etc., etc.).					
	 Principles include: Transportation-related land use strategies that reduce vehicle miles traveled, Promote multi-modal mobility including biking and walking Increase infill development Strengthen downtowns Balance location of housing and employment opportunities. Provide for transit oriented development, locating high-density development around transit stations). 					

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	 Locate employment, retail and public services close together in walkable commercial centers Revise land use ordinances to put maximums on parking lot size Plan subdivisions with streets that interconnect – encourage walking, biking – minimize driving 					
F3	<u>Manage Traffic</u> to affect the relative speed, convenience and safety of nonmotorized transportation.					Cities have strategies in place
	 Principles include: Traffic Calming - roadway design features that reduce vehicle traffic speeds and volumes. Roundabouts replace stop signs and traffic signals to 					
	 Rodinaziouts replace stop signs and tranc signals to improve traffic flow. Traffic signal timing to limit stop-and-go driving that reduces vabials officiancy (i.e., helpw 20 mph) 					
	 Manage roadway access by limiting number and location of curb cuts and driveways. Consolidate access to multiple businesses to reduce congestion, vehicle delay and emissions. 					
F4	<u>Green communities</u> - Promote tree ordinances, open space, greenways and significant landscaping/buffer requirements in all jurisdictions establishing minimum tree preservation and planting standards for new development; and promote strategic tree planting, street trees, and parking lot trees and buffers, increase acreage for greenways and open space.	No				
F5	<u>"Heat Island Initiative"</u> – Reduce or eliminate "urban heat islands," caused by a shortage of green space and a concentration of dark-colored, impermeable surfaces that absorb heat in urban areas, resulting in higher temperatures, which not only increase ozone but also increase electrical usage.					
G	Enforcement of current local, state and federal regulations:					
G1	Smoking vehicles - Actively enforce North Carolina smoking vehicle statute and require repairs (NCGS 20-128.1 – "Control of Visible Emissions").	Yes-Low				
G2	Open Burning - Consider additional open burning restrictions	Yes-Low	Х	Х	Х	
G3	Emitters - Focus on finding and penalizing extreme emitters	No				

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G4	<u>Stage 1 Vapor Recovery -</u> Increase enforcement of stage I vapor recovery which is used during refueling of gasoline storage tanks to reduce hydrocarbon emissions.	Yes-Low		x		
Н	Industries and Utilities					
H1	Expand NOx Rules - Consider implementing NOx rules on large industrial boilers greater than 100,000,000 btu/hr input or lower	Yes	x			Partially in place through NOx SIP call
H2	 Institute Fuel switching projects (point source) – examples R.J. Reynolds Tobacco Co changing from coal fired boilers at Tobaccoville plant to gas fired boilers with fuel oil and propane backup in 2004 R.J. Reynolds tobacco Co. changing from coal fired boilers at Whitaker Park facility to fuel oil fired boilers in 2004-2007 	Yes-High	x			Need inventory of facilities that will change and data.
H3	 Implement Energy saving projects affecting local combustion sources (point source) – examples Reduction in steam use resulting in less fuel burned in boiler and corresponding reduction in NOx emissions Reduction in temperature of a dryer resulting in less fuel consumption and lower NOx emissions 	Yes	X			Need projections of reductions from facilities.
H4	<u>Time shifting</u> at point sources – example Performing tests of emergency generators early in morning to reduce afternoon NOx load	Yes-Low	X			Need number of facilities and emission estimates
H5	Date shifting at point sources– example Performing tests of emergency generators on forecast green or yellow days and not on forecast orange or red days.	Yes-Low				Need number of facilities and emission estimates
H6	<u>Fleet modification</u> (mobile source) – purchase lower emission vehicles	Yes-Low	x			Need number of vehicles
H7	<u>Fleet modification</u> – (non-road mobile source) Replace uncontrolled combustion fork lifts with electronic fork lifts Purchase retrofit emission controls for non-road combustion powered equipment	Yes-Low	x			Need number and size of vehicles
H8	<u>Process modification</u> (mobile source) – Revise processes to eliminate driving, e.g. Duke Power's remote electronic meter reading which replaces 56 pick-up trucks	Yes-Low				Need estimates from source – for Duke, for example number of driving hours avoided.
H9	<u>Awareness</u> – Join Triad Air Awareness Program Use company materials to promote ozone awareness to	No	x			

ID #	Ozone Reduction Strategies	Quantifiable? Potential Impact	NOx Impact	VOC Impact	PM Impact	Comments
	employees					
H10	Establish Controls – Set appropriate limits and controls on new	Yes	Х			
	stationary sources of NOx					
I	Vehicle care, repair, retrofits					
I-1	Enhance current car care clinics – Conducted as a part of state I&M program, by offering the following services:	Ν				
I-2	Gas cap leak program to check and replace if leaking	Yes-Low		X		
I-3	 "Stop at the Click" program: Reduce gasoline vapor emissions by distributing stickers for gas pumps that encourage individuals to stop at the click. 	No		X		
1-4	 Distribute Free Tire Pressure Gauges – Distribute free tire pressure gauges to area motorists at time of vehicle registration/renewal and subsidizing maintenance/operation of service station air pumps so they are functioning properly and available free of charge 					Increasing % of vehicles w/ proper tire inflation will help reduce fuel use and, overall emissions; and reduce PM _{2.5} production.
I-5	<u>Diesel Retrofits on School Busses</u> – Retrofit or replace old diesel school buses with cleaner running buses, using EPA grant funds and private sector support. EPA provides seed money to non- profit organizations for fund-raising and program administration	Yes-Medium	x		x	
I-6	Diesel Retrofits on Other Vehicles - Promote pollution control retrofits on other diesel vehicles, assisted by EPA Voluntary Diesel Retrofit Program	Yes-Medium	X		x	
1-7	<u>Truck Stop Electrification</u> (TSE) An inverter/charger system equipped to take advantage of shore power connections will allow standard 110V AC appliances to be powered from either the truck's electrical system or an electrified truck stop. To realize the benefits of TSE, trucks would ideally be equipped with a DC/AC inverter connected to the truck's batteries and charging system to allow use of the AC appliances while en route or for short durations while parked. For longer duration overnight stops, the truck would be plugged into the local electric utility, similar to existing arrangements at RV parks and boat marinas.	Yes-Medium	X		X	NCDOT is studying the possibility of doing a project at one of the rest stops along I-85 or I-40.
I-8	<u>Idling Reduction Efforts</u> - Install idling-reduction systems on trucks using EPA grants to help offset cost. Each fleet can choose which system will work best for them, whether it is an auxiliary power unit, a generator, an inverter-charger paired with an electrical HVAC system, or something else. "Shore power connections"					

ID #	Ozone Reduction Strategies	Quantifiable? Potential Impact	NOx Impact	VOC Impact	PM Impact	Comments
	allow truckers to utilize AC power at truck stops and terminals.					
J	Promote Efficient Freight Transport					
J1	Electrification of Rail switching yards	Yes-High	X		x	Need more information regarding local application.
K	Fleet Scrappage:	•				
K1	Accelerate Replacement of Heavy Duty Diesel Non-Road Fleets in public and private sectors (non-road includes bulldozers, excavators, backhoes, graders, forklifts and similar machinery) - Accelerate replacement/turnover of non-road diesel fleets with new engine technology being introduced in 2001 - 2005 (Tier 2) and 2006 - 2008 (Tier 3). Provide incentives such as sales tax credits for companies that replace older vehicles with Tier 2 and 3 vehicles over the next 5 - 7 years.	Yes-High	x		x	Need to set goals
К2	Accelerate Replacement of Heavy Duty Diesel On-Road Fleets in public and private sectors (on-road includes dump trucks, garbage trucks and buses) - Accelerate replacement/turnover of on-road diesel fleets with new engine technology scheduled for introduction in 2004 and 2007. Develop incentive programs to accelerate vehicle turnover.	Yes-High	X		X	
K3	Accelerate Replacement of Gasoline Powered On-Road Fleets in public and private sectors with hybrid low emission vehicles and/or other new engine technology.	Yes-Medium	X	X	x	
K4	Accelerate Replacement of Gasoline Powered Equipment in public and private sectors: Accelerate equipment turnover by providing incentives for citizens and companies to replace older equipment with types meeting California standards over the next 5 - 10 years. Gasoline powered (spark ignition) engines include chainsaws, lawnmowers, and generators.	Yes-Low	x	x		
K5	Lawnmower exchange - Trade in old gas powered equipment for discounts on zero emission models	Yes-Medium		X		
K6	Gas powered/2cycle engine buy outs	Yes-Medium		Х		
L	Energy Conservation in Buildings:					
L1	Promote solar water heating, passive solar design, and photovoltaic and other renewable energy generation.	Yes-Low				
L2	<u>Green Buildings</u> - Promote environmentally sustainable and healthy building practices through community education. Green buildings encourage reduction of air pollution through energy	Yes-Low				

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	efficiency, renewable non-polluting energy, protection of existing landscapes, native plant conservation, and low VOC finishes See http://hes2.lbl.gov/hes/db/zip.taf?f=carbon&zipcode=28801					
Μ	Regional Strategies:					
M1	Form an ozone transport region - Ozone transport region formed in Northeast US. Region composed of group of states whose aim is to reduce NOx and VOCs as precursors to Ozone.	No				Specific measures are quantifiable. SE states work together on regional haze for PM2.5. These efforts can lead to better coordination on O3.
M2	<u>Earn a Clean Cities Designation</u> - Sponsored by the U.S. Department of Energy (DOE), the Clean Cities Program supports public and private partnerships that deploy AFVs and build supporting infrastructure. Funds awarded competitively to designated Clean Cities coalitions for specific projects related to developing alternative fuel vehicle infrastructure,; acquiring AFV school buses; and acquiring commercially available AFVs, particularly for niche market activities.	No				If entities within area commit to purchasing AFVs, then we can quantify benefits. The emissions reduction depends on the fuel.
M3	<u>Regional Consortium</u> - Continue the Early Action Compact as a regional air quality consortium involving county and municipal governments to initiate and carry out mandatory and voluntary initiatives to improve air quality in the region. Need revenue stream to fund this	No				This is in effect being done through the EAC process.
Ν	Clean Fuels - Alternative Fuels					
N1	Participate in regional initiative to bring ultra-low sulfur diesel fuel to the southeast earlier than scheduled. Continue conversations with regional organizations in charlotte NC area about this. Ultra-Low sulfur fuel can be available now if market demands are adequate (Current legal limit for sulfur in diesel fuel is 500 ppm; new EPA rulemaking imposes a limit of 15 ppm.) The new fuel must be available at retail stations by September 1, 2006, although a phase-in option allows up to one-fifth of all diesel fuel produced to meet only the 500 ppm limit through early 2010.) http://www.eia.doe.gov/emeu/plugs/plulsd.html Using ultra-Low sulfur fuel even without retrofit technology	Yes-High	x		X	

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	primarily dump trucks, garbage trucks and buses. Non-Road fleets include bulldozers, excavators, backhoes, graders, and forklifts.					
N2	<u>Promote Clean Fuels</u> – promote low sulfur in diesel fuel, gasoline, heating oil, and #2 diesel fuel, and promote 7.0 Reid vapor pressure in all gasoline in NC	Yes-High	x	x		
N3	Clean Fuel Incentives: use incentives to influence clean fuel use.	Yes-Low				
N4	Encourage and identify use of clean-fuel vehicles in the public sector	Yes-Low				
N5	Promote alternative fuels for public and private on-road fleets where and when feasible: Alternative fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, natural gas, P-series fuels, and solar energy as well as hybrid gasoline/electric.	No				
0	Other:					
01	<u>Direct Deposit</u> - Offer employees direct deposit. This saves at least one vehicle errand per pay period	Yes-Low	X	X	X	Need to know # of trips reduced