

MINUTE ORDER NO. 74-19

SIP Revisions  
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FINDINGS: The Arkansas Plan of Implementation for Air Pollution Control (SIP) is designed to achieve compliance with federal air quality standards by state enforcement action, in part through delegation by the United States Environmental Protection Agency, acting through the Department of Pollution Control and Ecology. Additional policies regulations with respect to the prevention of significant deterioration and attainment of the national primary ambient air quality standard for ozone are necessary. Statutory hearing and review procedures for adoption of said policies and regulations have been complied with.

ORDER: The Commission on Pollution Control and Ecology promulgates and adopts the following which are attached hereto:

(a) Prevention of Significant Deterioration Supplement to the Arkansas Plan of Implementation for Air Pollution Control;

(b) Revision of the Arkansas Plan of Implementation for Air Pollution Control to Attain the .12 PPM National Ambient Air Quality Standard for Ozone, including

(i) Control Strategy for the Attainment of the National Ambient Air Quality Standard for Ozone;

(ii) Regulations for the Control of Volatile Organic Compounds;

(iii) Proposed Development of a Transportation Control Plan for Pulaski County.

The SIP is revised accordingly.

COMMIS-  
SIONERS

*JB*  
*3/23/79*  
*John A. Mitchell*  
*R. R. [unclear]*  
*3/23/79*

*Ralph A. [unclear]*  
CHAIRMAN

SUBMITTED BY John A. Mitchell DATE PASSED 3-23-79

REVISION OF THE ARKANSAS PLAN OF IMPLEMENTATION  
FOR AIR POLLUTION CONTROL TO ATTAIN THE  
.12 PPM NATIONAL PRIMARY AMBIENT AIR  
QUALITY STANDARD FOR OZONE

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

March 23, 1979

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CONTROL STRATEGY FOR THE ATTAINMENT OF THE  
NATIONAL AMBIENT AIR QUALITY STANDARD  
FOR OZONE

CONTROL STRATEGY FOR THE ATTAINMENT OF THE NATIONAL  
AMBIENT AIR QUALITY STANDARD FOR OZONE

INTRODUCTION

The Clean Air Act as amended in 1977, specifically Section 107(d)(1), required the identification of air quality with respect to the National Ambient Air Quality Standards in all areas of the States. This requirement led to the designation of Pulaski county, Arkansas, as a non-attainment area for ozone and a notice to this effect was published in the Federal Register on March 3, 1978.

Such a designation requires that the Arkansas Plan of Implementation for Air Pollution Control (SIP) be revised to describe the actions that will be taken to reduce the emissions of volatile organic compounds (VOC or hydrocarbons) to the extent that the standard for ozone will be attained. The methods used to evaluate air quality data and thereby establish the reduction of VOC necessary to attain the ozone standard are based on those suggested in EPA guidance documents and correspondence with EPA personnel.

Although laboratory studies have shown that ozone can be created by reactions involving volatile organic compounds and nitrogen oxides in the presence of sunlight, there has been no practical demonstration that a relatively low ambient standard can be achieved through reduction of only volatile organic compounds. Studies indicate, however, that the control of hydrocarbons have beneficial effects aside from that of reducing ozone and, therefore, some air quality improvement is certain to result from the control strategy.

Control Strategy to Attain the Standard for Ozone

Basically, there are four identifiable programs that can be used to reduce VOC emissions and thereby possibly reduce ozone concentrations. These programs, listed in order of greatest potential reduction are: (a) the federal motor vehicle control program (FMVCP); (b) the automobile and light duty truck inspection and maintenance program (I/M); (c) the reasonably available control technology program (RACT) for point and area source emissions, and (d) transportation control measures (TCM) which may reduce emissions from mobile sources by various means. The programs to be used and the stringency to be applied depend upon whether a demonstration can be made that attainment is possible by December of 1982 or if an extension past 1982 must be requested in order to reach attainment. The FMVCP is a federal program already in progress and one that will continue indefinitely. The other three programs are to be used by State and/or local governments to achieve the necessary reductions for attainment of the standard.

A method of demonstrating reasonable further progress (RFP) toward the attainment of the standard is required to be contained in the SIP. This involves showing that reductions in emissions are greater than additions due to new sources such that the standard may be attained by the required date. Several topics expanding upon the above measures and methods and their impact follow.

### The Ozone Problem

Pollution problems are usually examined relative to primary and secondary national ambient air quality standards. These standards for ozone are set at the same level of 0.12 parts per million by volume. Therefore, the following evaluation uses the 0.12 PPM standard for comparison.

The highest measured ozone concentrations in Pulaski County are approximately 0.16 PPM. The standard is for a one hour average, not to be exceeded more than one time per year. The 0.12 PPM standard was exceeded on seven separate days during the summer months. The second highest value at either sampler site was 0.15 PPM, a concentration that is, according to EPA's interpretation of health effects studies, barely at a point where health effects are indicated.

The EPA guidelines for developing a control strategy require that air quality data for past years be used. The year 1977 was the first year in which ozone air quality data was gathered for Pulaski County. The evaluation of the collected data raises questions as to exactly what contribution can be attributed to manmade sources in Pulaski County. Cross wind data at the sampling sites indicate that either a substantial part of the problem is transported from other areas or the natural background is so high under adverse meteorological conditions that attainment of the standard may not be possible from a local control program.

Necessary VOC Reductions

The available data for the Pulaski county metropolitan area is not sufficient for sophisticated modelling efforts. The model chosen for use is an EPA approved modification of the linear rollback equation. That is, allowances are made for transport and background concentrations.

The equation below is used to obtain the amount of reduction necessary to theoretically attain the standard:

$$\% \text{ Reduction} = \frac{(C-A \times T) - (S-A \times B)}{(C-A \times T)} \times 100$$

Where:

- C is the design ozone concentration value
- A is the additivity factor (.5)
- T is the ozone concentration measured upwind of the metropolitan area.
- S is the ozone standard (0.12 PPM)
- B is the assumed future transport and background which is considered non-reducible.

The "additivity" factor is applied as an adjustment to account for a scrubbing effect that locally generated hydrocarbon and nitrogen oxides would have on entering ozone. EPA guidelines suggest that this factor may range from 0.2 to 0.7 depending on the conditions listed in Table 1.

Table 1 is a copy of Table 3, page 60 of EPA-450-2-77-021a.

A comparison of conditions in the Pulaski county metropolitan area to the conditions of Table 1, suggests the factor that should be used would be considerably higher than .5. Calculations from available data indicate a factor greater than .5 for each of the conditions listed in the table. However, .5 is used in the Department's calculations at EPA's suggestion.

A comparison of conditions in the Pulaski county metropolitan area to the conditions of Table 1, suggests the factor that should be used would be considerably higher than .5. Calculations from available data indicate a factor greater than .5 for each of the conditions listed in the table. However, .5 is used in the Department's calculations at EPA's suggestion.

In determining the percent reduction in VOC emissions necessary to attain the 0.12 PPM ozone standard, the day of highest concentration in 1977 is used for modelling purposes. On this day, July 28, 1977, the wind was from a northerly direction which places the North Little Rock sampler site upwind and the Little Rock site downwind. The highest reading at the Little Rock site is taken as the design value and the high reading at North Little Rock as the present transport value. A final transport value of .08 PPM is chosen based on the assumption that upwind metropolitan areas will at least attain the standard and that the distance of Pulaski county from any large metropolitan area is great enough to allow considerable dispersion.

Substitution of these factors in the previously mentioned formula results in the following:

$$\frac{(.16 - .5 \times .12) - (.12 - .5 \times .08)}{(.16 - .5 \times .12)} \times 100 = 20\%$$

Therefore, if a proportional relationship exists between VOC Emissions and ozone concentration and if the assumption concerning additivity is correct, a 20 percent reduction in VOC emissions should yield a local

reduction of .02 PPM in the highest concentration of ozone. This reduction in addition to a drop of .02 PPM due to a reduction in transport should cause attainment of the standard.

#### Emission Inventory and Control Strategy

An emissions inventory was compiled by the TRW Environmental Engineering Division of Vienna, Virginia for the Arkansas Department of Pollution Control and Ecology under BOA contract no. 68-02-2613, Task no. 11. This inventory is for base year 1977.

Table 3, Summary of 1977 Emissions and 1982 Emissions Projections, is based on the latest emissions factors and other data and was prepared by the same company as above under BOA contract no. 68-02-2541, Task no.2.

The results of these two contracts were relied upon to a considerable extent in the preparation of the plan revision.

#### Obtaining Reductions from RACT and FMVCP

Table 3 shows a comparison of projected 1982 emissions to 1977 base year emissions. The 1982 emissions are based upon reductions that may be obtained by application of RACT regulations to point sources and certain area sources as well as reductions due to the FMVCP applied to mobile sources. This table includes the projected growth rate for mobile and area sources but a growth factor of 1.0 is used for all point sources. This approach is taken because permit data for the past

Table 1

IMPACT OF VARIOUS FACTORS ON THE ADDITIVITY (A) OF TRANSPORTED  
OZONE TO MAXIMUM OZONE CONCENTRATIONS IN URBAN AREAS

<u>Factor</u>	<u>Factor Value</u>	<u>Additivity</u>
1) Dilution Rate (i.e., the Extent and rate at which the diurnal mixing depth increases).	Relatively High (e.g., >13% hour)	Relatively High (>.45)
2) Quantities of locally emitted precursors	Relatively Low (e.g., small city ~ 200,000)	Relatively High (>.45)
3) NMHC/NO <sub>x</sub> Ratio	Relatively Low (e.g., <6:1)	Relatively High (>.45)
4) Importance of post 9 a.m. emissions. (This reflects both diurnal emission patterns and the larger atmospheric dilution capacity which generally occurs during the mid-morning and afternoon).	Relatively high (e.g., significant NO emissions in the afternoon such as would occur if an air parcel remained within the city limits in the afternoon during a stagnation period).	Relatively Low (<.45)

ten years indicate virtually zero growth for VOC point sources.

The necessary reduction calculations show that Pulaski county must obtain a net reduction of 20 percent to attain the standard. Table 2 shows a decrease of 26.5 percent by 1982 with 4.7 percent coming from stationary source controls and 21.9 percent coming from mobile source controls. Although it may appear that a comfortable margin exists between what the model shows necessary and the expected reductions, a great deal of uncertainty is involved in the reduction calculation and 20 percent may be an optimistically low number. Additionally, some margin must be allowed for industrial growth in the county. Table 2 may be considered sufficiently comprehensive and accurate as required by the Clean Air Act and should be adequate to use in calculations to show approximate reductions necessary for attainment of the standard.

Combined reductions from RACT for existing sources and the continuing FMVCP show that Pulaski county should attain the 0.12 PPM standard based on a linear percentage reduction in VOC by December 31, 1982.

#### Commitments

For an attainment date of December 31, 1982 for the 0.12 PPM primary ozone standard, the Arkansas Department of Pollution Control and Ecology commitments include the following:

- (a) the adoption and submittal of regulations based on EPA CTG documents published prior to January, 1978 for applicable major sources in Pulaski county. (Regulations are included in SIP revision).
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## SUMMARY OF 1977 AND 1982 EMISSION PROJECTIONS

STATIONARY SOURCES		VOC EMISSIONS (TONS/YEAR)					
		1977 EMISSIONS		1977 TOTAL	1982 EMISSIONS		1982 TOTAL
		POINT	AREA		POINT	AREA	
PETROLEUM REFINERIES	REFINERY FUGITIVES (LEAKS)						
	MISCELLANEOUS SOURCES						
	A. PROCESS DRAINS AND WASTE B. VACUUM PRODUCING SYSTEMS C. PROCESS UNIT BLOWDOWN						
	OTHER						
STORAGE, TRANSPORTATION & MARKETING OF PETROLEUM PRODUCTS	OIL & GAS PRODUCTION FIELDS						
	NATURAL GAS AND NATURAL GASOLINE PROCESSING PLANTS						
	GASOLINE & CRUDE OIL STORAGE <sup>1</sup>						
	SHIP AND BARGE TRANSFER OF GASOLINE, CRUDE OIL, AND CHEMICALS		0.2			0.3	
	BULK GASOLINE TERMINALS <sup>2</sup>	829.0		209.1			
	GASOLINE BULK PLANTS <sup>3</sup>	120.7		120.7			
	SERVICE STATION LOADING		987.1		765.2		
	SERVICE STATION UNLOADING		766.0		935.4		
AVIATION GASOLINE HANDLING		110.8		129.2			
INDUSTRIAL PROCESSES	ORGANIC CHEMICAL MANUFACTURE						
	PAINT MANUFACTURE	7.0		7.0			
	VEGETABLE OIL PROCESSING	22.0		22.0			
	PHARMACEUTICAL MANUFACTURE						
	PLASTIC PRODUCTS MANUFACTURE	335.6		335.6			
	RUBBER PRODUCTS MANUFACTURE	62.8		62.8			
	TEXTILE POLYMERS MANUFACTURE	43.6		43.6			
	OTHERS	1.9		1.0			
INDUSTRIAL SURFACE COATING	LARGE APPLIANCES		5.7			5.1	
	MAGNET WIRE	99.7	182.4		99.7	204.6	
	TRANSPORTATION EQUIPMENT		41.2			39.7	
	CANS		14.1			14.1	
	METAL COILS						
	PAPER	22.4	358.0		22.4	404.0	
	FABRIC		163.7			163.7	
	METAL FURNITURE						
	WOOD FURNITURE	144.0	44.1		0.0	41.1	
	FLAT WOOD PRODUCTS	1.2	51.1		1.2	18.8	
	OTHER METAL PRODUCTS	35.9	200.0		35.9	216.7	
	OTHERS	1.2	353.8		1.2	319.5	
NON-INDUSTRIAL SURFACE COATINGS	ARCHITECTURAL COATINGS		113.0			140.2	
	AUTO REFINISHING	7.4	90.7		7.4	97.5	
	OTHERS						
OTHER SOLVENT USE	DEGREASING	5.7	182.1		5.7	182.1	
	DRY CLEANING		150.2			131.1	
	GRAPHIC ARTS	34.2	950.0		34.2	1104.6	
	ADHESIVES						
	CUTBACK ASPHALT		0.0			0.0	
	OTHER SOLVENT USE		3726.5			2961.3	
OTHER MISCELLANEOUS	FUEL COMBUSTION						
	SOLID WASTE DISPOSAL						
	FOREST, AGRICULTURAL, AND OTHER OPEN BURNING		105.1			105.1	
TOTAL VOC EMISSIONS FROM STATIONARY SOURCES		1774.3	8397.4	10371.7	1009.5	7999.3	9008.3
MOBILE SOURCES	HIGHWAY VEHICLES		16637.3			10192.8	
	OFF-HIGHWAY VEHICLES		195.5			217.5	
	RAIL		74.0			74.7	
	AIRCRAFT		749.0			767.0	
	VESSELS AND PLEASURE CRAFT		1006.9			1068.8	
TOTAL VOC EMISSIONS FROM MOBILE SOURCES			18682.7		13682.7	12320.8	12320.8
TOTAL VOLATILE ORGANIC COMPOUND EMISSIONS				29054.4		21329.6	

<sup>1</sup> INCLUDES ALL STORAGE FACILITIES EXCEPT THOSE AT SERVICE STATIONS AND BULK PLANTS.

<sup>2</sup> EMISSIONS FROM LOADING TANK TRUCKS AND RAIL CARS.

<sup>3</sup> EMISSIONS FROM STORAGE AND TRANSFER OPERATIONS.

- (b) the adoption and submittal of a schedule to perform feasibility studies for transportation control measures. Provided adequate funding is available to complete these studies, and where the results indicate measures which may be of benefit in attaining the ozone standard, the Department shall consult with local elected officials concerning the feasibility of implementing the measures of greatest potential.
- (c) the adoption of regulations based on CTG documents published after January, 1978 for applicable major sources.
- (d) the adoption of regulations for source categories not included on EPA CTG lists, but for which reasonably available control technology exists.
- (e) require every new or modified source with potential to emit over 100 tons/year of VOC to meet lowest achievable emission rate (LAER) and demonstrate compliance with all applicable emission limitations under the Clean Air Act for all other existing major sources within the State which are owned, controlled, or under common control of the operator or owners of the new or modified source.

The regulations for (a) are provided for in the VOC regulations of this revision submittal. New Source Review (NSR) procedures are to be developed by July 31, 1979 and shall include all the special provisions necessary for ozone non-attainment areas.

The transportation provision of the revision is largely the responsibility of the metropolitan planning organization (Metroplan) for the urban area of Pulaski County. Metroplan has been designated as the lead planning

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agency by the Governor and a statement of understanding has been signed by the Director of Metroplan, the Arkansas Highway Department and the Arkansas Department of Pollution Control and Ecology. This agreement outlines the duties of each with regard to the SIP revision for ozone.

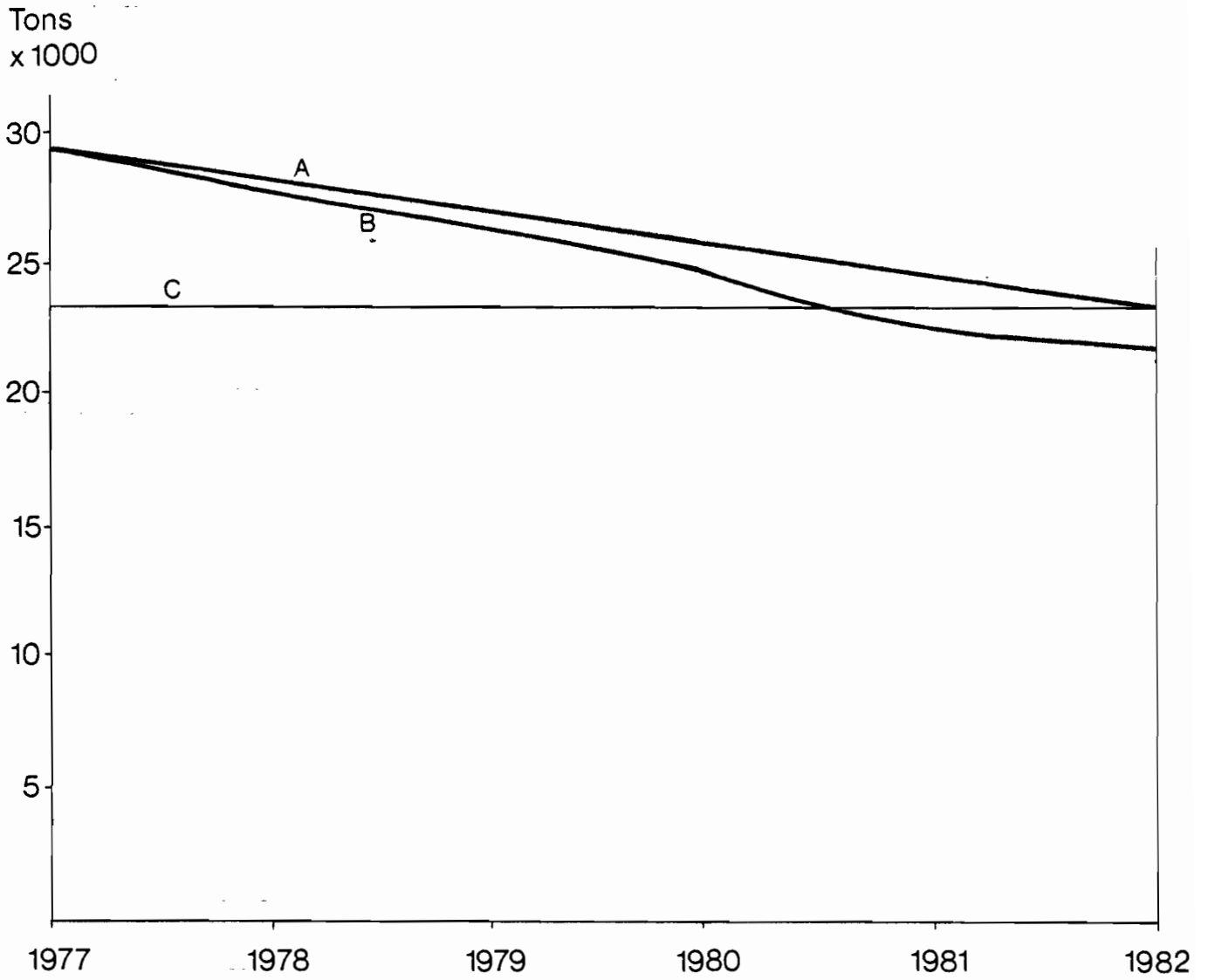
Both (c) and (d) require an evaluation of existing sources with respect to available control technology. A cursory review of the emissions inventory indicates very few sources offering possibilities for significant reductions.

#### Growth

Historically, Pulaski county has attracted few industries which would be considered major sources with reference to VOC emissions. This trend is not expected to change. However, Section 5 of the existing regulations of the plan already provide for special emission limitations in areas of non-attainment for any standard. As stated in previous commitments, an accurate emission inventory shall be maintained such that RFP may be calculated on an annual basis. The permit and emissions limitations regulations shall be administered such that on and after December 31, 1982, the current emissions will be below the RFP line. The permit review procedures and policies may include an offsets requirement as stated in Section 173(1)(A) of the Clean Air Act if the permit review determines such to be necessary to maintain RFP. Minor sources are covered by the same existing regulations and shall meet emission requirements such that RFP will be maintained.

Figure 1

# 20% Reduction



- A. Reasonable Further Progress Line
- B. Expected Progress Line
- C. VOC Emissions Target, TONS/YR

### Reporting Requirements

Such information as may be required by EPA shall be included in the Department's regular reporting schedule. Such information may include progress reports on transportation control measures, stationary source reduction or growth, and emissions inventory updating.

### Financial and Manpower Resources

A reasonably accurate estimation of the additional resources necessary to carry out the plan revision is not possible at this time. The Department of Pollution Control and Ecology is presently authorized to increase its staff to a level that should be adequate to operate the additional permit requirements of the plan revision. Budget requests for the next biennium (FY 80 and 81) have already been submitted for the approval of the legislature at its regular session starting January, 1979. The Director of the Department of Pollution Control and Ecology will request funds for additional personnel and operating expenses for the added programs required by the plan revision, if such additions are necessary. The request will be made in time for action at the legislative session of 1981.

### Economic Impact

The cost to industries for the application of reasonably available control technology to existing sources cannot be accurately estimated at this time because individual sources are allowed alternative methods of control under the regulations and economic feasibility of compliance is allowed on an individual basis. Expenditures for control equipment

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may in some cases be offset by the recovery of product, but in others the methods of control may be such that no offset is possible.

In an economic evaluation relative to the health protection aspects of the primary standard for ozone, expenditures for medical treatment due to high concentrations of the pollutant are not expected to have occurred because second high concentrations have barely reached a level of .15 PPM and then for only a one hour time period per year. The control program may at least prevent concentrations from becoming higher and thereby prevent expenditures for medical care.

The implementation plan requires that a major new source meet lowest achievable emission rates. If a permit is granted, the source must demonstrate that by the time it is to begin operation, the addition of its emissions to the emission inventory will still allow for demonstration of reasonable further progress. In the first years of this control program, a large source may have to obtain offsets. This requirement will probably encourage prospective industry to favorably consider alternate sites. This will have an economic impact that cannot be quantified, but could have a considerable detrimental effect on the economics of the county.

#### Energy Impacts

Whether the application of control technology has a positive or negative effect on energy consumption depends on the method of control chosen. However, an overall increase in energy consumption is probable.

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A process may be changed to prevent loss of solvent with a net decrease in energy consumption, but most devices in control technology require fairly large electric motors to drive compressors and fans or require large amounts of auxillary fuel for incineration. Energy savings should result from certain transportation control measures when implemented.

#### Health Impacts

The annual second high concentrations thus far have been of no more than one hour duration and have reached only the .15 PPM health effect level. Since this health effect level is still the subject of considerable debate, the conclusion drawn here is that we have not reached a level of ozone high enough to cause noticeable health impacts.

#### Social and Public Welfare Impacts

Because reasonable available control technology requirements apply to major sources in non-attainment areas, certain industries may choose to relocate or prospective industries may choose to locate elsewhere in attainment areas. This could lead to a loss of jobs in non-attainment areas along with the likelihood that new comparable jobs will not be created. New major industries, however, won't find a great advantage in locating in attainment areas because best available control technology requirements are in effect over the entire state.

### Public Participation

Public meetings were held September 5, October 4, and November 1, 1978 to inform the public of the SIP revision requirements and the revision process. These meetings were announced through the news media and through direct mail to environmental organizations, public officials and business or trade organizations. A number of informal meetings were held with interested groups or individuals and the Arkansas Legislative Council has been informed of the revision process and the draft RACT regulations were submitted to the Council. Additionally, the presentations were made to the Metroplan Board which is composed in part of local elected officials.

On December 14, 1978, a public hearing was held and comments were received on the proposed revision to meet the 0.08 PPM standard. The majority of the comments from representatives of industry with VOC emissions spoke in favor of placing more emphasis on mobile source control such as transportation control measures and inspection/maintenance rather than point and area sources. No comments were received on health impacts, but concern was expressed for the social and welfare impacts which may result from an adverse economic situation following an overly zealous application of RACT regulations.

Comments were received about the draft regulations and suggestions were made at the hearing and during the extended written comment period. The Department has attempted to accommodate these suggestions in

the regulations.

Several comments were made to the effect that the Department proposes implementing an unproven program as a solution in a situation where no apparent problem exists. That is, no quantifiable relationship can be shown between VOC and ozone and that there is no reasonable evidence that the concentrations of ozone occurring in the county have adverse effects on health or property.

On January 26, 1979, EPA changed the ozone standard from 0.08 PPM to 0.12 PPM. On March 16, 1979, a public hearing was held for comment on the proposed control strategy and regulations to attain the new standard. At this hearing comment was received urging the Department to resist any further relaxation of the standard because medical evidence indicates adverse affects from low levels of ozone. No comments were received concerning the substance of the strategy or the regulations. Transcripts of both public hearings are available for inspection at the Department of Pollution Control and Ecology.

PROMULGATED this 23rd day of March, 1979,  
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY

By \_\_\_\_\_  
Chairman

ATTEST:

\_\_\_\_\_  
J. E. Southall, Director

APPROVED:

\_\_\_\_\_  
Bill Clinton, Governor  
State of Arkansas

PREVENTION OF SIGNIFICANT DETERIORATION SUPPLEMENT TO THE  
ARKANSAS PLAN OF IMPLEMENTATION  
FOR AIR POLLUTION CONTROL

SECTION 1. TITLE

The following rules and regulations of the Department of Pollution Control and Ecology of the State of Arkansas, adopted in accordance with the provisions of Part II of the Arkansas Water and Air Pollution Control Act, hereinafter referred to as the "Act" (Ark. Stats. Ann. Sec. 82-1901, et, seq.), shall be known as the Prevention of Significant Deterioration Supplement to the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, hereinafter referred to, respectively, as "PSD Supplement" and "Regulations of the Plan" and the "Plan".

SECTION 2. PURPOSES

Promulgation and enforcement of this PSD Supplement is intended to further the purposes of the Regulations of the Plan and the Plan itself, including but not limited to acceptance of delegation by the Environmental Protection Agency of authority for enforcement of regulations governing the prevention of significant deterioration of air quality.

SECTION 3. DEFINITIONS

Words used herein shall have the same meaning as set forth in the Regulations, or other supplements thereto, or in 40 CFR Sec. 52.21(b), unless manifestly inconsistent with the context in which they are used.

SECTION 4. GENERAL PROVISIONS

(a) Any revision to the Arkansas Plan of Implementation for Air

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Pollution Control which would result in increased air quality deterioration over any baseline concentrations shall include a demonstration that the revision will not cause or contribute to a violation of the applicable increment(s).

(b) At the end of each calendar year the plan will be assessed with reference to each air quality increment for the purpose of demonstrating the adequacy of the strategy to protect the increments.

(c) Upon determination by the Department or the Administrator of the Environmental Protection Agency that the Plan is inadequate to prevent significant deterioration or that an applicable increment is being violated, the Plan shall be revised to correct the inadequacy or the violation. The Plan shall be revised within 60 days after determination of inadequacy or violation or within such other reasonable period of time as may be agreed upon through consultation with said Administrator.

#### SECTION 5. ADOPTION OF REGULATIONS

(a) Except where manifestly inconsistent with the provisions of the Clean Air Act, as amended, or with federal regulations adopted pursuant thereto, and as amended specifically herein by subsections (b), (c), and (d) of this Section 4, the Arkansas Department of Pollution Control and Ecology shall have those responsibilities and that authority, with reference to the State of Arkansas, granted to the Administrator of the Environmental Protection Agency under 40 CFR Sec. 52.21(b) through (s), as published in the Federal Register, Vol 43, No. 118, Monday, June 19, 1978. In the absence of a specific imposition of responsibility or grant of authority, the Department shall be deemed to have that responsibility and authority necessary to attain the purposes of the Plan, this PSD Supplement and the

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applicable federal regulations, as incorporated herein by reference.

(b) Exclusions from the consumption of increments, as provided in 40 CFR Sec. 52.21(f)(1)(iii), shall be effective immediately.

(c) 40 CFR Sec. 52.21(o) is amended by the addition of the following subparagraphs (3), (4), (5), and (6):

(3) Where air quality impact analyses required under this part indicate that the issuance of a permit for any major stationary source or for any major modification would result in the consumption of more than fifty (50%) percent of any available short term increment, the person applying for such a permit shall submit to the Department, an assessment of the following factors:

(a) Effects that the proposed consumption would have upon the industrial and economic development, including the development of recreational facilities, within the area of the proposed source; and

(b) Alternatives to such consumption, including alternative siting of the proposed source or portions thereof;

(4) The assessment required under paragraph (3) above shall be made part of the application for permit and shall be made available for public inspection as provided in Subsection (s) of Section 52.21 hereof;

(5) The assessment required under paragraph (3) above shall be in detail commensurate with the degree of proposed increment consumption, both in terms of the percentage of the increment consumed and the area affected.

(6) The assessment required under paragraph (3) above may be made effective where a proposed source would cause an incremental consumption less than that specified in said paragraph if the Director finds that unusual circumstances exist in the area of the proposed source which warrant such an

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assessment. The Director shall notify the applicant in writing of those circumstances which warrant said assessment. The Commission may rescind or modify the Director's action, upon a showing by the applicant that the circumstances alleged by the Director either do not exist or do not warrant the aforesaid assessment.

(d) In all instances wherein the aforesaid 40 CFR Sec. 52.21 refers to the Administrator or the Environmental Protection Agency, the reference, for the purposes of subsection (a) of this Section 4, shall be deemed to mean the Department of Pollution Control and Ecology, unless the context plainly dictates otherwise.

#### SECTION 6. SEVERABILITY

If any provision of this PSD Supplement or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this PSD Supplement which can be given effect without the invalid provision or application, and to this end the provisions of this PSD Supplement are declared to be severable.

#### SECTION 7. EFFECTIVE DATE

This PSD Supplement shall be in full force and effect upon the date that the PSD Supplement is approved by the United States Environmental Protection Agency.

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PROMULGATED this 23rd day of March, 1979,  
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY

By \_\_\_\_\_  
Chairman

ATTEST:

\_\_\_\_\_  
J. E. Southall, Director

APPROVED:

\_\_\_\_\_  
Bill Clinton, Governor  
State of Arkansas

REGULATIONS FOR THE CONTROL OF VOLATILE ORGANIC COMPOUNDS

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REGULATIONS FOR THE CONTROL OF VOLATILE ORGANIC COMPOUNDS

Section 1. TITLE

The following rules and regulations, adopted in accordance with the provisions of the Arkansas Water and Air Pollution Control Act and pursuant to the provisions of the Federal Clean Air Act, shall be known as the Regulations for the Control of Volatile Organic Compounds.

Section 2. PURPOSE

The Regulations for the Control of Volatile Organic Compounds are designed to provide for the attainment and maintenance of the National Ambient Air Quality Standards for Photochemical Oxidants in those areas of Arkansas which have been designated as non-attainment areas by the United States Environmental Protection Agency pursuant to the Federal Clean Air Act and are further designed to bring the Arkansas Plan of Implementation for Air Pollution Control into compliance with the provisions of said Act.

Section 3. DEFINITIONS

When used in these regulations, the following definitions apply:

(a) "Commission" means the Commission on Pollution Control and Ecology of the State of Arkansas.

(b) "Control Technique Guideline" means any of the guideline series documents describing an emission control technology for a specific source

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or category of sources; which documents being published by the United States Environmental Protection Agency.

(c) "Cutback Asphalt" means asphalt cement which has been liquified by blending with petroleum solvents (diluent). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.

(d) "Department" means the Arkansas Department of Pollution Control and Ecology.

(e) "Director" means the Director of the "Department".

(f) "Delivery Vessel" means tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources of supply to stationary storage tanks of gasoline dispensing facilities.

(g) "EPA" means the United States Environmental Protection Agency.

(h) "Existing Source" means any source of volatile organic compounds other than a new source.

(i) "Gasoline Dispensing Facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(j) "Lowest Achievable Emission Rate" means, for any stationary source, that rate of emission which the Department determines to reflect the most stringent limitation which is achieved in practice for such class or

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category of source unless the owner or operator or the proposed source demonstrates that such limitations are not achievable. This term, applied to a modification, means the lowest achievable emission rate for the new or modified facilities within the source.

(k) "Major Source" means any stationary source which has the potential to emit 100 tons or more per year of volatile organic compounds.

(l) "Modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(m) "New Source" means any stationary source of volatile organic compounds, the construction or modification of which is commenced after July 1, 1979.

(n) "New Source Standard of Performance" means those standards which are adopted by the EPA pursuant to the provisions of Section 111 of the Federal Clean Air Act.

(o) "Operator" means any person who leases, operates, controls, or supervises any source, facility or equipment affected by these regulations.

(p) "Owner" means any person who has legal or equitable title to any source, facility, or equipment affected by these regulations.

(q) "Person" means any individual or other legal entity or their legal representative or assignee.

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(r) "Plan" means the Arkansas Plan of Implementation for Air Pollution Control.

(s) "Potential to Emit" means the capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment. "Air pollution control equipment" includes control equipment which is not, aside from air pollution control laws and regulations, vital to production of the normal product of the source or to its normal operation. Annual potential shall be based on the maximum annual rated capability of the source, unless the source is subject to enforceable permit conditions which limit the annual hours of operation. Enforceable permit conditions on the type or amount of material combusted or processed may be used in determining the potential emission rate of a source.

(t) "Reasonably Available Control Technology" (RACT) means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology that has been applied to similar, but not necessarily identical source categories.

(u) "Source" means any structure, building, facility, equipment, process, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties, which is under common management, and which emits volatile organic compounds.

(v) "Volatile Organic Compounds" (VOC) means any compound of carbon that has a vapor pressure greater than .78.0 millimeters of mercury

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at standard conditions excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonates. The term includes hydrocarbons controlled by New Source Standards of Performance and by the National Ambient Air Quality Standards.

(w) Unless manifestly inconsistent therewith, terms and phrases used herein shall have same meaning as used in the Arkansas Water and Air Pollution Control Act and the Federal Clean Air Act.

#### Section 4. GENERAL PROVISIONS

##### 4.1 Applicability and Effective Dates

(a) Sources which are subject to the provisions of the Regulations for the Control of Volatile Organic Compounds include:

- (1) any source for which controls are governed by Section 5 hereof,
- (2) any source which is subject to the terms of a Commission Order issued pursuant to Subsection 4.4(a) hereof, and
- (3) any new major source.

(b) The provisions of the Regulations for the Control of Volatile Organic Compounds shall be limited to Pulaski County, except as provided in

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Subsection 4.4(a) and shall go into full force and effect on July 1, 1979 provided, however, that the provisions of Subsection 4.4(a) shall go into full force and effect on April 1, 1979.

#### 4.2 Exemptions and Variances

(a) For the purposes of these Regulations, the following will not be considered Volatile Organic Compounds:

- (1) methane,
- (2) ethane,
- (3) 1,1,1 - trichloroethane (methyl chloroform), and
- (4) trichlorotrifluoroethane (freon 113).
- (5) dichloro - methane (methylene chloride)

(b) The requirements of Section 5 are based upon information presented in the Control Technique Guidelines as published by the EPA and are intended to be consistent with reasonably available control technology. The owner or operator of equipment affected by the provisions of Section 5 may be granted a variance from the specific provisions of such section provided that such owner or operator can demonstrate to the reasonable satisfaction of the Commission that full and strict compliance is technologically or economically infeasible or that alternative techniques to be employed by such owner or operator will result in substantially the same environmental benefits as would be achieved with full and strict compliance with the provisions of Section 5. In no event, however, shall the Commission issue variances from the requirements of Section 5 if such variances will prevent reasonable further progress for the attainment of the National Ambient Air Quality Standards for Photochemical Oxidants.

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#### 4.3 Toxic Compounds

The Regulations for the Control of Volatile Organic Compounds are not intended as appropriate controls for sources which emit volatile organic compounds which are hazardous air pollutants. For such sources, the Commission may prescribe more restrictive requirements than contained herein where, in the judgement of the Commission, such more restrictive requirements are necessary to protect the public health or welfare.

#### 4.4 Determination of Reasonably Available Control Technology

(a) Where the Department proposes the existence of reasonably available control technology for existing sources, other than the sources for which the provisions of Section 5 are applicable, the Department shall give public notice of such determination and shall, in such notice, describe the nature of such technology and shall list by size, type, source, category or by individual source name, the affected sources. The public notice shall also give notice of public hearing concerning the subject proposals. If, after review of the information produced through the public hearing process, the Commission determines that such technology does exist and that the application of such technology is necessary to maintain reasonable further progress toward the attainment of the National Ambient Air Quality Standards for Photochemical Oxidants, the Commission shall issue an order requiring the installation of such technology.

(b) Any order issued pursuant to Subsection (a) above may require the owner or operator of sources affected by such order to file such schedules and reports as the Commission feels necessary to assure that the

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subject technology is placed into operation as expeditiously as practicable. The terms of such orders may be modified where the Commission finds that such modifications are necessary to avoid economic hardship and where such modification would not interfere with reasonable further progress toward the attainment of the previously cited standards.

#### 4.5 Permits and Compliance Schedules

(a) Existing Sources:

- (1) No person shall cause or permit the operation or use of an existing source to which any provision of Section 5 applies unless the owner or operator of such source shall have submitted to the Department, prior to October 1, 1979, a compliance schedule indicating what steps have been, or will be taken to bring the operation of such source into compliance with the provisions of Section 5. The compliance schedule shall be of such form and contain such information as the Commission may reasonably require.
  - (2) No person shall cause or permit the operation or use of an existing source which is affected by any provision of Section 5 after February 1, 1980, if the compliance schedule of such source under Subsection (a) above has been disapproved by the Commission. No compliance schedule for any source shall be approved by the Commission unless the Commission finds that the controls proposed by the
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owner or operator will comply with the provisions of Section 5 and that such controls will be installed and placed into operation prior to June 1, 1981. Extensions beyond June 1, 1981 may be granted by the Commission provided the Commission finds that such extensions are necessary to avoid economic hardship and that such extensions will not prevent reasonable further progress toward the attainment of the National Ambient Air Quality Standards for Photochemical Oxidants.

- (3) No person shall cause or permit the operation of an existing source in a manner which violates the terms of a compliance schedule which has been approved or amended by the Commission or which violates the terms of a Commission Order issued pursuant to the provisions of Subsection 4.4(a).

(b) New Sources

Except as provided herein, no person shall commence the construction, installation or modification of a new source after July 1, 1979 unless that person has first received a permit from the Commission. Application for permit shall be of such form and contain such information as the Commission may reasonably require.

(1) New Major Sources

No permit shall be issued for the construction, installation or modification of a new major source after July 1, 1979 unless the Commission determines the following conditions to have been met:

(A) The emissions resulting from the proposed source when considered together with all other existing and proposed emissions of volatile organic compounds in Pulaski County will not cause or contribute to emission levels which exceed the allowance permitted for volatile organic compounds under the Arkansas Plan of Implementation for Air Pollution Control, as revised on March 23, 1979, to comply with the provisions of the Clean Air Act.

(B) The emissions resulting from the proposed new source will comply with the lowest achievable emission rate.

(C) The owner or operator of the proposed new or modified source has demonstrated that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in Arkansas are in compliance, or on a schedule of compliance with all applicable emission limitations and standards under the Federal Clean Air Act, including

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the Arkansas Plan of Implementation for Air Pollution Control.

(D) A permit may be issued to a new major source which would otherwise cause or contribute to emission levels which exceed the allowable levels for Pulaski County, as described in the State Implementation Plan for Air Pollution Control, as amended March 23, 1979, if the owner or operator of that source first submits legally binding agreements to the Commission which reflect emission reductions from other sources in Pulaski County, or from sources within seventy-two (72) miles of the North Little Rock Municipal Airport, which would more than offset the emissions from such proposed new major source. Emission reductions claimed by such owner or operator may not include those emission reductions in Pulaski County which are necessary to reduce the total Volatile Organic Compound emission to the allowable level in Pulaski County.

(2) Other New Sources

(A) No permit shall be issued for a new source of the size, type, class, or category for which the

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provisions of Section 5 apply unless the Commission finds that such new source incorporates reasonably available control technology developed for the kind and amount of Volatile Organic Compounds to be emitted by the source and that, as a minimum, the source will be designed, constructed and operated such that the emissions therefrom, will not exceed the allowable emission rate provided by such Section for existing sources.

(B) No permit shall be issued for a new source of the size, type, class or category for which a Commission Order has been issued pursuant to Subsection 4.4(a), unless the Commission finds that such source incorporates "reasonably available" control technology developed for the kind and amount of Volatile Organic Compounds to be emitted by such source and that, as a minimum, the source will be designed, constructed and operated such that the emissions therefrom will not exceed the rate required of existing sources by such order.

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#### 4.6 Compliance Testing and Reporting Requirements

(a) Any person owning or operating sources which are affected by the provisions of the Regulations for the Control of Volatile Organic Compounds shall, upon the request of the Director, furnish such information as may be required to demonstrate compliance with said Regulations. For purposes of this section, the provisions of Section 7 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control shall apply.

(b) For purposes of administering the provisions of the Regulations for the Control of Volatile Organic Compounds, the Director shall not be limited to the results obtained from emission tests but may, where appropriate, determine the compliance status of any source with respect to the emission limitations contained herein by the results of engineering evaluations, by inspection reports or by such information submitted, and certified, by the source owner or operator. For purposes of this Section, a source may be deemed to be in compliance with the emission limitations of said Regulations if the equipment of such source is designed and operated in accordance with the provisions of Section 5 or, where Section 5 is not applicable, is designed and operated in accordance with the provisions of a Commission Order or a permit issued hereunder, provided however, where an emission limitation is applicable to a certain source and where emission testing has been conducted in a manner approved by the Department and where such tests demonstrate compliance with such limitations, the source shall be deemed to

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be in compliance with such limitations.

#### 4.7 Circumvention

(a) No owner or operator subject to these Regulations may build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of these Regulations.

(b) The provisions of paragraph (a) above includes, but is not limited to, the use of gaseous diluents to achieve compliance and the piecemeal carrying out of an operation to avoid coverage by a Regulation that applies only to operations larger than a specified size.

#### Section 4.8 Malfunctions, Breakdowns, Upsets

(a) Emissions in excess of these Regulations which are temporary and result solely from a sudden and unavoidable breakdown, malfunction or upset of process or emission control equipment, or sudden and unavoidable upset of operation will not be considered a violation of these Regulations provided:

- (1) the owner or operator notifies the Department of any such occurrence within twenty-four (24) hours of the occurrence; and
  - (2) the owner or operator demonstrates to the Director that the suggested period of time for correction is as expeditious as practicable; and,
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(3) the breakdown or upset is determined by the Director to be unavoidable and not the result of negligence; and

(4) within five (5) days after the beginning of the occurrence, a written report is submitted to the Director which includes the cause and nature of the event, estimated quantity of volatile organic compounds emitted, time of emission and steps taken to control the emission and to prevent recurrence; and

(5) the Director is immediately notified when corrective measures have been accomplished.

(b) If the occurrence to be reported under (a) (1) above involves the release of volatile organic compounds in such quantities to pose a hazard to the public safety or to the environment or if the volatile organic compounds are released into the waters of the State or are likely to enter such waters, the owner or operator shall notify the Department as quickly as reasonably possible, but in no event shall the period for notification exceed 24 hours.

#### Section 5. PROVISIONS FOR SPECIFIC PROCESSES

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### 5.1 Gasoline Storage and Marketing

(a) No person shall cause or permit the loading of gasoline into a storage tank in excess of 4,000 liters (approximately 1,000 gallons) except through a submerged fill pipe or by bottom filling.

(b) No person shall cause or permit the operation of a gasoline bulk facility of less than 87,000 liters (23,000 gallons) per day throughput unless all gasoline delivery vessels are loaded by submerged fill pipe or bottom filling.

(c) No person shall cause or permit the operation of a gasoline bulk facility having a daily throughput equal to greater than 87,000 liters (23,000 gallons) per day unless a vapor control system is in place, is properly maintained and is used to prevent gasoline vapors from being emitted into the atmosphere at a rate in excess of 80 milligrams per liters of gasoline loaded (4.7 grains per gallon).

### 5.2 Petroleum Liquid Storage

(a) No person shall cause or permit the storage of volatile organic compounds having a true vapor pressure in excess of 10.5 kilo Pascals (1.52 psia) in tanks having a capacity equal to or greater than 150,000 liters (approximately 39,000 gallons) unless such tanks:

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(1) meet the equipment specifications and maintenance requirements of the federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids, 40 CFR 60.110, as amended by proposed rule change, Federal Register, May 18, 1978, pages 21617 through 21625; or

(2) are retrofitted with a floating roof or internal floating cover using a non-metallic resilient seal as a primary seal which meets the equipment specifications in the federal standards referred to in (1) above, or its equivalent; or

(3) have a covered floating roof or internal floating cover which is maintained in effective working order and which meets the manufacturer's equipment specifications in effect at the time it was installed.

(b) All seals necessary to meet the requirements of (a) (2) and (3) of this subsection are to be maintained in good operating condition.

(c) All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use.

### 5.3 Cutback Asphalt

No person shall mix, use or apply cutback asphalt for roadway paving except where the cutback asphalt is used solely as a penetrating prime

coat or when the maximum ambient temperature on the day of application is less than 15°C (59°F).

Section 6. SEVERABILITY

If any provision of the Regulations for the Control of Volatile Organic Compounds or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the Regulations for the Control of Volatile Organic Compounds which can be given effect without the invalid provision or application, and to this end, the provisions of the Regulations for the Control of Volatile Organic Compounds are declared to be severable.

PROMULGATED this 23rd day of March, 1979,  
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY

By \_\_\_\_\_  
Chairman

ATTEST:

\_\_\_\_\_  
J. E. Southall, Director

APPROVED:

\_\_\_\_\_  
Bill Clinton, Governor  
State of Arkansas

PROPOSED DEVELOPMENT  
of a  
TRANSPORTATION CONTROL PLAN  
For  
PULASKI COUNTY

Pursuant to the  
1977 Clean Air Act Amendments

Metroplan

December 1978

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## INTRODUCTION

Clean air has long been a local and national goal. Since the 1960's concentrated efforts have been directed towards cleaning up the emissions from industries and automobiles. The 1977 Clean Air Act goes one step further by requiring state and local government to develop revisions to State Implementation Plans (SIPs) for areas where national ambient air quality standards have not been attained. The revised plans are to provide for attainment of these standards for photochemical oxidants and carbon monoxide by December 31, 1982.

Pulaski County, as all areas containing an urbanized population of more than 200,000, was designated by the Environmental Protection Agency (EPA) as a nonattainment area for photochemical oxidants or ozone. Thus, Pulaski County and its local jurisdictions and the State of Arkansas will need to amend the SIP to reflect plans to alleviate the ozone problem. Stationary source controls and the Federal Vehicular Emissions Control Program may be able to reduce the ozone level sufficiently to meet the standards. Other transportation control strategies will be evaluated for their potential in improving air quality.

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agencies have executed an agreement that set forth the basic areas of responsibilities for air quality planning (see Appendix, page A-2). Generally, the agreement states that Metroplan staff will be responsible for the analysis of alternative control strategies and coordinating the involvement of the appropriate agencies, AHTD will provide travel trend information and PC&E will monitor air quality. The agreement also has responsibilities for the PATS Policy Committee which is a body of local elected officials that will adopt and endorse recommended plans. The specific details of responsibilities and duties of the participating agencies are outlined in the following sections.

#### Metroplan

The staff of Metroplan will have the responsibilities of administering a public involvement and information program and of technically analyzing the alternative transportation strategies. Special emphasis will be given to involving elected officials through the PATS Policy Committee as stated in the Agreement.

Metroplan is proposing to use the existing PATS organization as much as possible in the public involvement portion of the planning process. The PATS Policy Committee, which consists of elected officials of general purpose local governments, will be the endorsing or adoptive body. This committee will help formulate the applicability

AHTD and PC&E will also review strategies for potential application in Pulaski County. Central Arkansas Transit (CAT) representatives will sit on this committee to comment on transit related improvements. The technical subcommittee will be useful for the critique of the alternative strategy analysis.

Both the Citizen's Advisory and Technical Subcommittee on air quality will be asked to make recommendations on air quality planning issues to the Policy Committee. Therefore, both community desires and technical practicality can be weighed in the decision making process.

The other major task of Metroplan's staff will be the evaluation of alternative transportation control strategies. This evaluation process will be conducted in two steps - a simplified sketch analysis and a detailed analytical analysis.

The sketch analysis process will identify the respective alternatives and their general characteristics. Examples of strategies which have been implemented in other non-attainment areas will be examined for applicability in Pulaski County. Documented travel changes which have resulted from existing transportation control strategies in other areas will also be included in the simplified analysis. A brief analysis of control measure costs shall be investigated when applicable. All this information should

these efforts in the future. Their analysis will determine the necessary level of ozone reduction required to attain health standards by 1982.

The changes to the SIP that are required by EPA will be submitted by PC&E. These submittals will include both the final Transportation Control Plan and the interim commitments and plan programs.

#### Arkansas Highway and Transportation Department

The Arkansas Highway and Transportation Department (AHTD) will be another party in the development of a TCP for Pulaski County. AHTD will assist Metroplan staff in the development of plan alternatives by supplying information on potential emission reduction and on political and institutional feasibility.

AHTD has been providing much of the technical data for the transportation planning process for PATS. During the coming year additional travel data will be needed to ascertain reasonable further progress under a TCP. Data on estimated vehicular miles of travel, vehicle hours of travel and automobile related trips by trip purpose are some of the travel trends AHTD will likely be asked to provide.

#### Pulaski Area Transportation Study Committee

The adoptive or endorsing body for the TCP is proposed to be the PATS Policy Committee. This committee consists of local elected officials and an AHTD official and is the logical organization for such action. The Policy Committee has endorsed

to listen and comment on air quality requirements and their potential impact on mobile and stationary sources. Existing air quality conditions and its relationship to health standards were outlined in the meetings. Metroplan presented a proposed evaluation program for the various control strategies and solicited comments from attendees. In addition, several meetings of the PATS Policy Committee and the Metroplan Board of Directors had presentations on air quality topics and issues.

These initial efforts will be supported by a more detailed planning process during the study period. The following tasks outline the process Metroplan proposes to follow in developing a TCP.

1. Literature Research

Information and data will continue to be accumulated by participating agencies for future reference. Most of the information needed regards the impact of the control strategies and their effectiveness in reducing vehicular emissions and usage. Journals and publications will be reviewed for pertinent examples of strategies and their indirect and direct costs and benefits. The EPA Informational Documents will be used to supplement these resources.

2. Description of Alternatives

A simplified description and analysis of the various transportation control alternatives will be developed. Examples, descriptions and potential socio-economic, air quality, travel

### 3. Review of Objectives

Existing transportation programs and objectives will be reviewed for consistency with the air quality goals. If necessary new objectives will be developed to serve as guidelines in the air quality planning process. A final photochemical oxidant standard and its relationship to the air quality in Pulaski County will be used to document the reduction level for ozone and vehicular emissions.

### 4. Detailed Analysis of Alternatives

For those strategies which survive the initial screening analysis a more detailed analysis will be conducted. Each of these strategies will be evaluated for air quality, energy consumption, community factors, funding sources, capital and operating costs, travel impacts, political acceptance and institutional feasibility. During this period Metroplan will coordinate the development of a reference document which describes the methods and results of the alternative analysis. The document will include the description of alternative measures and packages of measures that are studied in the initial simplified analysis, the justification of the rejection or selection of measures for the more detailed analysis, the process and methodology for analyzing the transportation measures in both the simplified and detailed analysis and a summary of the alternative analysis results. This procedure should finalize the study plan approach for the development of the Transportation Control Plan.

## 7. Public Involvement Program

Throughout the entire planning period an extensive public involvement program shall be undertaken. Local elected officials, agencies, local interest groups and the public will all be invited to participate in the air quality planning process. The existing Pulaski Area Transportation Study (PATS) organization shall be used as much as possible in the involvement program. The PATS Policy Committee which consists of elected officials of general purpose local governments will be an excellent forum for obtaining political viewpoints. This body is also the logical organization to adopt and implement the reasonable control measures in their respective jurisdictions. The Policy Committee will also be informed of air quality issues and ideas from participating agencies, interest groups and the general public. A PATS Technical Subcommittee under the guidance of the Study Director will involve the applicable state, local and federal agencies in the plan development. This body will also be involved in all stages to give input into study design, alternative analysis and evaluation and implementation programs. A representative Citizens' Advisory Committee will be formed to solicit community goal and attitudes towards air quality planning. Public interest groups in the area will also be involved by either serving on the Citizen's Committee or by directly giving input to the lead agency. These groups will likewise be informed of the planning elements and be requested to state their ideas and concepts. Metroplan will actively seek

TRANSPORTATION CONTROL PLAN

Tasks	Scheduled 1979	Development 1980
1. Literature Review	_____	
2. Description of Alternatives	_____	
3. Review of Objectives	_____	
4. Detailed Analysis	_____	
5. Evaluation of Alternatives	_____	
6. Development of Implementation Plan	_____	
7. Public Involvement	_____	
8. Final Report and Adoption	_____	

J F M A M J J A S O N D J F M A M J

The administration of expenses will conform to the requirements set forth in the UMTA External Operating Manual for Technical Studies. The scope of work and proposed funding levels will also be included in future Unified Work Programs.

### COMMITMENTS

#### Public Transportation

Pulaski County public transportation services are provided by Central Arkansas Transit (CAT) and two taxi companies. CAT services presently meet basic transportation needs of county residents within the higher density urbanized areas. Approximately 85 per cent or 188,500 persons of the area defined by the U.S. Census as urbanized are living within a quarter mile of CAT routes. The 18 routes provided by CAT represent 14 local service fixed routes, 3 express routes and a semi express route which collectively cover 5,650 miles daily. Ridership on CAT has shown a continual decline for many years. However, 1978 passenger and revenue figures show an increase over 1977 figures and may indicate a reverse in this downward trend. CAT has approximately 67 operating vehicles and a pending UMTA grant for eight additional buses. These mid-sized buses with a seating capacity for 17-25 passengers should be operating by the Spring of 1979.

CAT has programmed additional capital acquisitions for transit system during the next several years. This capital program includes the purchase of buses for replacement and

to actual traffic conditions. This project is presently in the preliminary engineering phase and will be completed in 1980 or 1981. All these measures will likely be implemented to some degree by 1982. Although difficult to estimate these projects will have a positive impact on air quality. These and future TSM and air quality related transportation elements will continue to be implemented using the TIP planning process. Additional strategies which are derived from the air quality planning process will be incrementally phased into the TSM element and TIP.



STATE OF ARKANSAS  
OFFICE OF THE GOVERNOR

October 31, 1978

DAVID PRYOR  
GOVERNOR

LITTLE ROCK 72201  
(501) 371-2345

Mr. Reagan Broyles  
U.S. Environmental Protection Agency  
First International Building  
1201 Elm Street  
Dallas, Texas 75270

Dear Mr. Broyles:

On March 31, 1978, I designated the Arkansas Department of Pollution Control & Ecology as the lead planning organization in complying with 42 U.S.C., Sec. 174 of the Clean Air Act (as amended 1977). At that time funds had not been appropriated which would have allowed the local metropolitan planning organization (Metroplan) to assume a large part in the State Implementation Plan revision as the Clean Air Act had recommended.

This funding difficulty is expected to be alleviated soon and it appears Metroplan will have no difficulty in carrying out the transportation planning requirements of the Act (23 U.S.C., Sec. 134). The funds which will be appropriated will only be available to organizations responsible to locally elected officials. Since the oxidant problem is localized (Pulaski County) and Metroplan is already responsible for certain local transportation programs, it would be appropriate that Metroplan be the lead agency.

Therefore, I am withdrawing my initial designation and designating Metroplan.

If there are any problems with this, do not hesitate to get in touch with my office.

Sincerely,

David Pryor

DP:dlt

cc: Metroplan  
Arkansas Department of Pollution Control & Ecology  
Arkansas State Highway & Transportation Department

planning for the Pulaski Area Transportation Planning process which was revised on May 4, 1976, and

WHEREAS, pursuant to the requirements of Section 112 of the Federal-Aid Highway Act of 1973, Metroplan, on January 16, 1974, was designated by the Governor as the MPO responsible together with the ASHTD to carry out the provisions of Section 134, Title 23, and Section 1604, Title 49, for the Pulaski Urban Area, and

WHEREAS, the Pulaski Area Transportation Study Policy Committee, which is the forum for transportation policy decision making by principal elected officials of general purpose local governments in cooperation with the State of Arkansas, was established by agreement dated May 4, 1976, to provide general policy guidance for the Pulaski Area Transportation Planning Process, and

WHEREAS, Section 174 of the Clean Air Act, as amended, 42 U.S.C., 1857 et. seq., requires State and local elected officials of affected local governments to jointly determine which elements of a revised State Implementation Plan will be planned for and implemented or enforced by State or local governments including any necessary Transportation Control measures, so as to provide for attainment of the national primary ambient air quality standard for photochemical oxidants, by December 31, 1982, and

WHEREAS, under Section 174 of the Clean Air Act, as amended 42 U.S.C., 1857 et. seq., the MPO has been designated by the

on January 16, 1974, to perform transportation planning along with the AHTD and local governing bodies as required by Section 134, Title 23, U.S.C.

IT IS FURTHER AGREED that the foregoing MPO, as previously established, will be the continuing body described herein as the MPO and will have overall direction for the development of the TCP as identified herein.

The responsibilities of the MPO consist of those duties enumerated in the Agreement of Understanding and Section 112 (PL) agreement, said duties and responsibilities incorporated by reference in this agreement.

The responsibilities of the Pulaski Area Transportation Study Policy Committee under this agreement will also include the following:

1. To submit a commitment to develop strategies which will lead to the development of a TCP to ADPCE for inclusion in the State Implementation Program by January 1, 1979.
2. To adopt the TCP for mobile sources which, when considered jointly with stationary source reduction, shall, provide for attainment of the national primary ambient air quality standard for photochemical oxidants, by December 31, 1982, or by December 31, 1987, if attainment is not possible by 1982 despite implementation of control measures.

1. Assist in the development of the TCP.
2. Provide technical support in assessing the change in emissions that would be achieved through implementation of the TCP measures.
3. Work with the MPO in determining the feasibility and reliability of various transportation control measures.
4. Monitoring transportation trend indicators.

IT IS FURTHER AGREED that the ADPCE will have the following responsibilities:

1. Provide necessary technical information and calculations of reduction of emissions from stationary sources.
2. Assist in calculating overall changes in emissions for mobile and stationary sources.
3. Provide technical information on the reduction of emissions from a vehicle inspection-maintenance program and on the direct and indirect cost and benefits of said program.
4. Assist in the development of the TCP.
5. Submit the completed TCP as a revision to the State Implementation Plan.

IT IS AGREED that the participating agencies will cooperate in all phases of development of the TCP which require joint efforts of all participants.

IT IS FURTHER AGREED that this agreement may be terminated by any party giving the other parties written notice six (6) months in advance of the termination date. Such notice shall

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this the 27<sup>B</sup> day of November, 1978.

METROPLAN

Laurel K. Gubay  
Executive Director

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

Jerald E. Saults  
Director

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

James R. [Signature]  
Director

PULASKI AREA TRANSPORTATION STUDY POLICY COMMITTEE

Donald R. [Signature]  
Chairman

Enclosure - Transportation Improvement Program

cc: Mayor Don Mehlburger, Little Rock  
Mayor Eddie Powell, North Little Rock  
County Judge Roger Mears, Pulaski County  
Mayor B. E. Henson, Sherwood  
Mayor Robert Gray, Cammack Village  
A. E. Johnson, Jr., (2) ASHTD  
Bob Seay, North Little Rock  
Ernie Peters (2), Little Rock  
Jim Lynch, Pulaski County  
Eric Phillips, ASHTD  
Roger Almond, ASHTD  
Bob Lee, Central Arkansas Transit  
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PULASKI AREA TRANSPORTATION STUDY

TRANSPORTATION IMPROVEMENT PROGRAM

1979 - 1983

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# TRANSPORTATION IMPROVEMENT PROGRAM

## I. INTRODUCTION

The Transportation Program for the Pulaski Area Transportation Study is the area's statement of intent with respect to major improvements taken from the adopted Transportation Plan, including projects and programs to improve the management of the total transportation system. The TIP covers a five-year period. Those projects with the highest priority are listed in the Annual Element of the TIP, which covers the first year of the TIP. Projects which either have a lower priority or are not as advanced in the programming process are grouped into a four-year period from fiscal years 1980, through 1983. Each year, the TIP will be updated and those projects in the latter grouping will eventually advance into the Annual Element. Other projects will enter into the succeeding Annual Elements as the result of planning studies and changing conditions.

Projects listed in this TIP are developed from either the Long-Range element of the transportation plan or the Transportation System Management element of the plan. The Long-Range element was first developed in 1966 as the Pulaski Area Transportation Study (PATS) Highway and Transportation Plan, and it consists mainly of street and highway improvements. Such Long-Range element projects as the I-630, Barrow Road widening, and the North Riverside Expressway are in the TIP.

Transportation System Management (TSM) is viewed as a process of planning projects and concepts to increase the efficiency of the existing highway and transit networks. The 1979-83 TIP

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2. Description: The projects are further explained by describing where or what the improvement is that has been programmed. For road projects this would describe the point to point area for improvement and the approximate length. Public transportation funding descriptions differentiate between capital improvements or operational assistance.

3. Type of Work: The actual work that will be done with funds programmed in the period is listed in this column. The major categories are Construction (con.) (which includes installation projects), Right-of-Way Acquisition (ROW), and Preliminary Engineering (PE).

4. Revenue Source: This column reflects the proposed sources of funds for implementation and the approximate contribution for the projects by these participating sources and agencies. Under revenue sources for CAT programs the local contributions have not been differentiated between the individual support of the three governments of Pulaski County and the cities of Little Rock and North Little Rock. AHTD is the Arkansas Highway and Transportation Department.

5. Plan Designation: The TIP is the instrument which implements the plan, and the plan is divided into broad categories: the Long-Range Element, and the Transportation System Management (TSM) Element. The Long-Range Elements consist mainly of street and highway improvements, and was first developed in 1966 as the PATS Highway and Transportation Plan. The TSM Element consists of projects, programs, and strategies to increase the efficiency of existing roadways, to conserve energy consumed by transportation activities, to increase the efficiency and utilization of mass transit and other high-occupancy modes, and to improve

III. TRANSPORTATION IMPROVEMENT  
PROGRAM PROJECTS

TRANSPORTATION IMPROVEMENT PROGRAM (CONT.)

Annual Element  
FY 1979

<u>Project</u>	<u>Description</u>	<u>Type of Work</u>	<u>Revenue Source</u>	<u>Plan Designation</u>
CAT	Capital Improvements (carry over AE, FY 1978)	Bus System	UMTA Section 3 Pulaski County Little Rock North Little Rock	TSM \$288,000 72,000
North Little Rock CBD Signalization	Improved Signals and Channelization	PE	Federal-Aid Urban System North Little Rock	TSM 7,000 3,000
Rodney Parham	I-630 to Hinson Rd.	ROW, Utils. Con.	Federal-Aid Urban System Little Rock	Long Range 2,870,000 1,230,000
Markham St.	Ellis Dr. to Shackleford Rd.	ROW, Utils. Con.	Federal-Aid Urban System Little Rock	Long Range 310,000 129,000
Shackleford Rd.	Mara Lynn Rd. to Markham St.	ROW, Utils. Con.	Federal-Aid Urban System Little Rock	Long Range 304,500 130,500
Jacksonville Gato Rd.	Bayou Neto Bridge replacement	Con.	Federal - Aid Secondary AIFD Pulaski County	Long Range 175,000 52,500 22,500
Crystal Hill Rd.	White Oak Bayou Bridge Replacement	Con.	FIRMA - Off System AIFD Pulaski County	Long Range 60,000 42,000 18,000
Rock Creek Parkway	Extension of Parkway to connect with I-630, 1 mile	PE	Federal-Aid Urban System Little Rock	Long Range 35,000 15,000

TRANSPORTATION IMPROVEMENT PROGRAM (CONT.)

Annual Element  
FY 1979

<u>Project</u>	<u>Description</u>	<u>Type of Work</u>	<u>Revenue Source</u>	<u>Plan Designation</u>
West Little Rock Transit Terminal	Green Mt. Rd.	PE, ROW, Con.	UNTA	TSM
E&H Special Transit	10 vehicles for special transit	Vehicle Purchase	UNTA 16(2) B Local Agencies	TSM
Fright Avenue Overpass	Bridge Repair	Con.	Little Rock	Long Range
13th Street Viaduct	Bridge Repair	Con.	Little Rock	Long Range
Railroad Crossing Highway 107	Various Locations (Sherwood-Hwy. 176)	Con. ROW, Con.	Safety Funds Little Rock AHTD, Sherwood	Long Range Long Range
I-630	I-30-Cross	Grading and Structures	AHTD Interstate	Longe Range 18,000,000

TRANSPORTATION IMPROVEMENT PROGRAM cont.

FY's 1980 - 1983

<u>Project</u>	<u>Description</u>	<u>Type of Work</u>	<u>Revenue Source</u>	<u>Plan Designation</u>
Wilson Road	Pebble Beach Road to Taylor Loop Road	ROW, Con.	Pulaski County	Long Range
South Riverfront	Lock and Dam 7 to Study Area Boundary 3.5 miles	PE, ROW, Con.	Pulaski County AHTD Fed.-Aid Secondary	Long Range
CAT	Operating Assistance	Bus System	UMTA Section 5 Local Governments	TSM
CAT	Capital Improvements	Bus System	UMTA Section 3 & 5 Local Governments	TSM
CAT	CBD Bus Terminal	PE, ROW, Con.	UMTA Local Governments	TSM
North Little Rock Signalization	Improved Signals and channelization	CON.	Federal-Aid Urban System North Little Rock	TSM
I-630	Park and Ride Transit Sites	Con.	Interstate AHTD	TSM
CAT	Maintenance-Administration Facility	PE, ROW, Con.	UMTA Local Governments	TSM

the proposed purchase of 10 such vehicles in Pulaski County. These vehicles are being requested by various social service agencies. Optimally their operation should be coordinated with CAT to allow for transfer to the fixed route when applicable.

sections have already had signalizations installed or replaced and the program is scheduled to continue into 1979.

Central Arkansas Transit has also been active in TSM elements. Route coverage was increased by 14 per cent during the past year. This increase was accomplished by reducing headways, rerouting and adding a shuttle service.

Planning and programming for pedestrian and bicycle facilities also proceeded in the past year. The Metrocentre Mall was nearing completion in July, 1978. This CBD pedestrian mall project removed automobile traffic from a six block area in downtown Little Rock. These improvements were funded by a special improvement district of private businesses and property owners in the CBD area. This autorestrictive area should greatly enhance the pedestrian traffic in downtown Little Rock without interfering with vehicular flow. Also during this time frame the City of Little Rock has been developing a Bikeway Plan to promote bicycling as an alternative mode of transportation. The plan will likely emphasize joint highway-bikeway construction such as the proposed bikeway along I-630.

The Little Rock-North Little Rock area will remain active in planning, programming and implementing TSM elements in the years to come. The type of activities that will be developed are outlined in the following pages.

Other traffic engineering improvements: (1) Broadway - Washington one way coupling - To relieve the congestion on Broadway (U.S. 70) the city of North Little Rock has proposed to develop a one-way coupling with the parallel Washington Avenue. This project would relieve the east-west traffic flow problem in the area until the North Riverside Project is completed several years from now. The paring of these streets would be from the CBD to England Road. (2) Ninth Street and Bond Street improvements. Ninth Street and Bond Street were proposed to have a reversible lane signal system installed to improve capacity. However, after analyzing the preliminary engineering findings the City of Little Rock has concluded the widening of the street would be a more effective measure to reduce congestion.

#### Provisions for Parking

I-630 Park and Ride Lots - The Arkansas State Highway and Transportation Department, Metroplan, Central Arkansas Transit and the City of Little Rock have recommended potential park and ride sites. These sites along I-630 in West Little Rock and other key locations would be used by express buses to the CBD for both park and ride and kiss and ride type systems. The lots would also be used for carpool parking and pick-up points.

#### Pedestrian and Bicycle Facilities

Little Rock Bikeway Plan - To promote the bicycle as an alternative means of transportation the City of Little Rock is developing a Bikeway Plan. When completed and adopted the Plan will guide the development of bikeways. The plan will help especially those facilities that can be built in conjunction with highway and street improvements.

Table 1

Proposed  
 CENTRAL ARKANSAS TRANSIT BUS REPLACEMENT PROGRAM  
 1979 - 1983

<u>Additional Vehicles</u>	<u>Estimated Cost</u>
22 Small Capacity Buses (17-25 passengers)	\$ 952,000
18 Large Capacity Buses (31-45 passengers)	2,640,000
<u>40</u> Total New Vehicles	3,592,000
18 Refurbished Vehicles	583,000
Total Capital Outlays	<u>\$4,175,000</u>

Proposed CAT Fleet Inventory

40	New Buses 1979-1983
<u>8</u>	Vehicles presently under purchase process
48	Additional Vehicles by 1983
<u>36</u>	Less projected bus replacements necessary by 1983
12	Additional buses to CAT Fleet
67	Buses in Fleet 1978
79	Proposed Number of Buses by 1983

weather may have in ridership. It is proposed that the 43 shelters be purchased during the next five years at a cost of approximately \$127,000.

Maintenance and Administration Facility - As CAT's fleet is increased there will be more demand for regular maintenance services. To meet the growing demand and to replace the existing overcrowded and deteriorating maintenance and administration facility, a new facility will likely be required. CAT has already overgrown their small administrative offices and will soon be leasing offices in the Little Rock CBD. The construction of a new joint facility would allow for better support between administrative and maintenance sections of CAT as well as replace the old and deteriorated maintenance buildings and equipment. The new facilities and equipment should improve the image of CAT and its rolling stock by reducing the number and severity of bus breakdowns.

#### Relationship of Transportation System Management Elements to Air Quality Planning

The Clean Air Act of 1977 sets forth new air quality standards which included maximum levels of photochemical oxidants. Under these standards major urbanized areas are to analyze their air quality to ascertain how the 1982 health standards can be met. According to the Environmental Protection Agency (EPA) most of the nonattainment areas will be unable to meet the air quality health standards by 1982 by relying on stationary source controls and new car emission standards alone. Thus, these areas will be required to develop and implement transportation strategies which are designed to reduce automobile emissions. These strategies or programs will be included in the revised State

PROMULGATED this 23rd day of March, 1979,  
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY

By \_\_\_\_\_  
Chairman

ATTEST:

\_\_\_\_\_  
J. E. Southall, Director

APPROVED:

\_\_\_\_\_  
Bill Clinton, Governor  
State of Arkansas