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Air Quality Analysis for the 1984 High Altitude Report to Congress

Summary of Results

Mark Wolcott

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Test and Evaluation Branch
Emission Control Technology Division
Office of Mobile Source Air Pollution Control
Environmental Protection Agnecy

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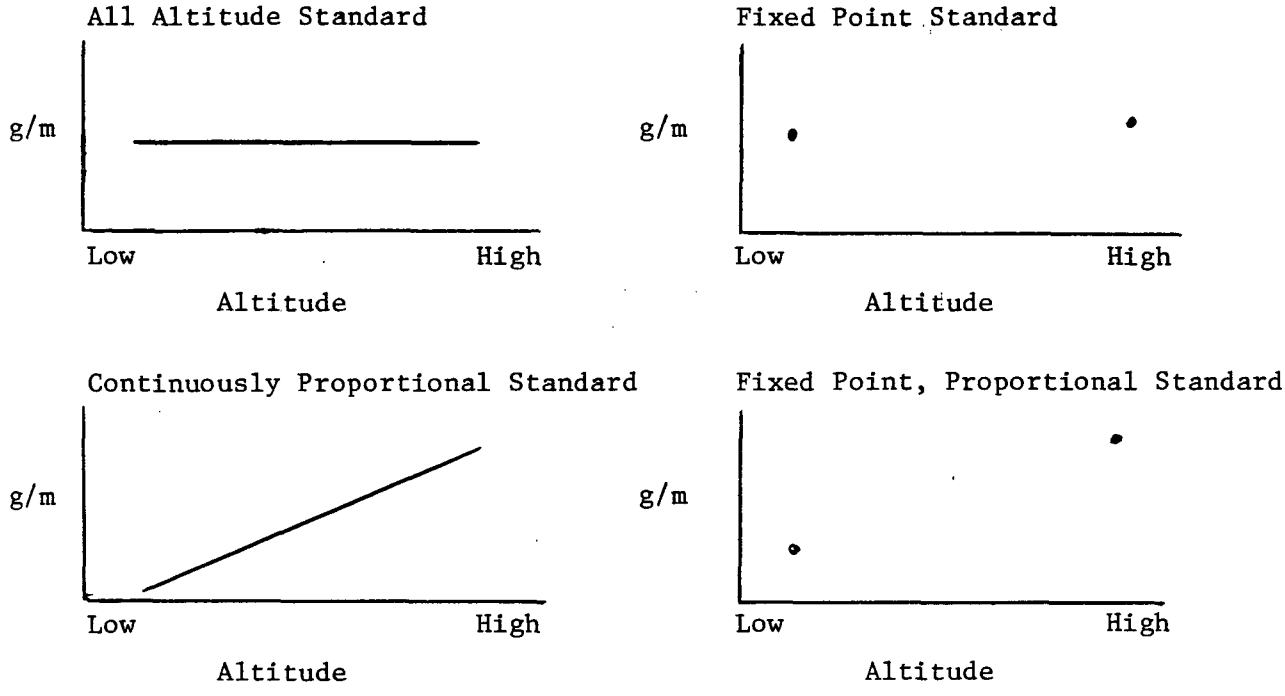
This report describes the data, assumptions, and methodology used in the air quality analysis for the 1984 High Altitude Report to Congress. Detailed descriptions of the strategies examined and the mobile source emission factors associated with each strategy are included in this report only by reference.[1], [2][1]

Analytical Overview

Basically, four types of control strategies were considered; these are illustrated by the diagrams below:



These four basic strategies are examined without an inspection and maintenance (I/M) program, first for only light duty vehicles (LDV) and second, for light duty vehicles and light duty trucks (LDT) combined.[2] Next, these strategies are assumed to include an inspection and maintenance program. Changes in each of the three major mobile source pollutants: carbon monoxide (CO), non-methane hydrocarbons (NMHC), and oxides of nitrogen (NOx), are examined for their ambient air quality effects in four urban areas: Denver, Colorado Springs, Albuquerque, and Salt Lake City.

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[1]The list of references cited follows the conclusion of this text.
[2]The all altitude strategy is applied only to light duty vehicles.

Air Quality Models

The modified linear rollback model (ROLLBACK) was used to estimate future CO and NOx ambient concentrations. In ROLLBACK, a proportional relationship is assumed to exist between the ambient concentration of a pollutant at a monitoring site and the total inventory of pollutants emitted in the vicinity of that site. Thus, if emissions decline over time, ambient concentrations are assumed to decline in the same proportion. A detailed description of ROLLBACK is contained in reference [3].

Ozone predictions are made using the Empirical Kinetic Modeling Approach (EKMA). EKMA is a slightly more sophisticated model than ROLLBACK for ozone. EKMA reflects the fact that the relationship between oxidant air quality and emissions is a complex one involving chemical reactions between NMHC and NOx emissions in the presence of sunlight. The isopleth curves shown in Figure 1 describe the relationship used in EKMA between the maximum hourly afternoon ozone level and the concentration levels of the precursors NMHC and NOx. These curves have been calibrated primarily with smog chamber data.[4]

Inventories

The National Emission Data System (NEDS) provided the basic inventory estimates for the four urban areas listed in Table 1.[5] The base inventory used in this analysis is for 1978. NEDS provides estimates for both mobile and stationary emission sources. However, since the highway mobile source portion of the current (1978) NEDS inventory utilizes March, 1978 emission factors (MOBILE1), this portion of the inventory was adjusted for the new emission factors contained in MOBILE2.[3][6], [7] Appendix A contains both sets of emission rates, the resulting adjustment factor and both the original NEDS inventory based on MOBILE1 and the inventory used in this analysis based on MOBILE2. Stationary area source emissions were obtained directly from NEDS.

For CO and NOx, the total pollutant tonnage emitted within the county containing these urban areas was used as the base year inventory. For ozone, the total tonnage emitted within the Air Quality Control Region (AQCR) was used. A larger geographic area was used to model ozone, since peak ozone concentrations result from chemical reactions that generally culminate some distance from the original precursor emissions.

Source Contribution Factors

A source contribution factor is designed to account for stack height and distance between an emissions source and the ambient monitor. Since dispersion models have indicated that CO and NOx stationary point source emissions do not influence the ambient concentration measurements made at urban monitors, those sources are assigned a stationary source contribution factor of zero.[4][8] On the other hand, since CO is generally considered a short term, local problem, CO stationary area

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[3] MOBILE2 was modified slightly for this analysis. See reference [2].

[4] Stationary point source NOx emissions, however, do contribute to the acid rain problem.

sources as well as off-highway mobile sources are assigned source contribution factors of 0.20; that is, emissions from those sources are discounted to 20 percent of their actual value. Emissions from highway mobile sources are not discounted.

The NO_2 NAAQS is expressed as an annual average, in contrast with CO, which is expressed as an 8-hour average. The long averaging time for NOx cancels the effect that the spatial distribution of NOx emission sources might otherwise have. For this reason, NOx emissions from both stationary area sources and all mobile sources are fully counted.

Ozone is a secondary pollutant that results from the interaction of NMHC and NOx in the presence of sunlight. It is generally considered a regional rather than a local problem. Therefore, all ozone precursor sources, including stationary point source emissions, are fully counted.

Design Values

Design values are measured ambient air quality concentrations from which future concentrations are predicted. The data are generally collected by the states and entered into the Storage and Retrieval of Aerometric Data (SAROAD) system maintained by EPA. Design values are calculated from those data in a manner that conforms to the NAAQS for the pollutant and urban area under study. The design values for CO, for example, are based upon the second maximum non-overlapping 8-hour concentrations in the worst year of record. The design values used for NOx are based on the maximum annual average in the worst year of record, since the NO2 standard is expressed as an annual average. The ozone standard, on the other hand, is expressed as a daily maximum one hour concentration in the worst year of record. For this analysis the worst year of record in the 1977-1979 three year period was used.[5]

Background Levels

Natural background ambient pollutant concentrations are the result of emissions from natural sources, such as decaying vegetation, forest fires, and lightning. All man-made sources are specifically excluded from this classification, even if the pollution originates from sources outside of the study area and is transported into the area by repetitive weather patterns. Normally, natural background sources of all three pollutants contribute a negligible amount to the ambient concentrations measured at urban monitoring sites. In this analysis, natural background levels were assumed to be zero. This is in keeping with recent EPA guidance.[9], [10]

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[5]ROLLBACK only requires that ambient pollutant concentrations be known for the same year that the emissions inventory is estimated. However, design values are generally estimated from the worst year of record in the three year period bracketing the base year inventory. This approach prevents ROLLBACK from underestimating future concentration levels in the presence of one year of favorable meteorological conditions.

Stationary Source Control

Basically, no control was assumed on stationary sources of either CO or NOx emissions, since emissions from these sources are generally attributed to space heating devices and the likelihood of controls being applied to them is low.

NMHC emissions from stationary source, however, do contribute to ozone formation through a reaction with NOx. New source performance standards (NSPS) and reasonably available control technologies (RACT) exist for many NMHC sources.[8] A summary of the control efficiencies assumed for this analysis is contained in Table 2. Control ranges from zero percent for miscellaneous area sources and fuel combustion to as high as 90% for sources in the petroleum industry. The "no control" case is numerically expressed as a zero efficiency level.

Growth and Retirement Rates

Table 2 also indicates the stationary source growth and retirement rates assumed. Since area CO and NOx sources are, for the most part, space heating devices, their usage rate has been assumed to increase at the population growth rate.

The retirement rate is essentially a scrapage rate, that is, the rate at which old equipment is retired and replaced by new equipment. For the purposes of this analysis, a zero retirement is assumed for both CO and NOx stationary area sources. The growth and retirement rates for NMHC are also indicated in Table 2.[8]

The mobile source growth rates assumed to apply in this analysis are listed in Table 3, under the heading "Medium Growth". The heavy duty gasoline and diesel truck rates and the motorcycle growth rates are derived directly from the Methodology to Conduct Air Quality Assesements[8]. The growth rate of non-highway mobile sources is an approximate average of the rates listed for separate categories in that publication. The light duty truck and passenger vehicle fleet growth rates were derived from the data presented in the "Automotive Fuel Demand" [11] using the methodology presented in the Assessments reference. The two sets of calculations differ only in that the Assessments reference imputes an annual growth rate based on the differences between 1990 versus 1977 vehicles miles traveled (VMT) estimates, whereas the rates listed in Table 3 are based on 1995 versus 1977 VMT levels. The effect of this change is to lower the annual compound growth rate.

To provide a range of air quality estimates, two additional sets of mobile source growth rates were included in the analysis. The "Low Growth" case is simply one percentage point less than the "Medium Growth" case for all highway mobile sources. The "High Growth" case is one percentage point more. Based upon the best available information at this time, it is likely that future trends in VMT will fall within the specified ranges. Neither off-highway mobile nor stationary source growth rates were changed for the alternative cases.

Emission Ratios

ROLLBACK uses what are called emission factor ratios to project future inventories. These ratios are derived by dividing the emission factors projected for future calendar years by the base year emission factor, in this case for 1978. This calculation is carried out for each vehicle category in each projection year. In general, the smaller the numbers, the greater will be the expected improvement in air quality.

The ratios are presented in Tables 4-8. There are two tables each for CO and ozone. One table of each pair assumes that inspection and maintenance programs are in place by 1982; the other table does not make that assumption. There is one table for NOx. Tables such as these are useful because they highlight the mobile source differences among scenarios. If the fixed point, proportional standard for LDVs is considered as the basis of comparison in Table 4, for example, the first four scenarios differ only in the emission factors assumed for light duty gas vehicles and for diesel vehicles (DV). Indeed, as reference [2] shows, only the light duty diesel component of DVs differs among the first four scenarios. Heavy duty diesel emission rates do not change.[6]

Summary of Results

The region by region air quality projections for each scenario are presented in Appendices B-F. These appendices display the expected ambient concentration levels for each city in each projection year. The expected number of NAAQS violations is also shown. However, when comparing emission control strategies, it is generally better to focus on the relative aggregate differences in air quality levels rather than on the absolute numbers of predicted violations for each urban area.

Table 9 describes the average percent change, from 1978 levels, of the expected 8-hour average ambient CO concentrations, assuming inspection and maintenance programs are in place by January 1, 1982. As the table indicates, if the fixed point statutory standard is promulgated on schedule and if inspection and maintenance programs are implemented by 1982, then in 1995 the 8-hour average ambient CO concentration levels will be 71 percent lower than they were in 1978 (medium growth case). Adopting other than the fixed point, statutory standard will result in a smaller air quality improvement.

A smaller improvement would also be expected if growth in vehicle miles traveled is greater than forecast. Under the high growth set of scenarios, for example, only a 67 percent reduction is expected with the

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[6]Only a few light duty diesels were manufacturered in 1978. By 1995, approximately 15 percent of total VMT is expected to be accumulated by light duty diesels. Since ROLLBACK grows base year emissions to estimate emissions in future years, it was necessary to combine all diesel vehicle types into one category. The DV emission ratios were adjusted to reflect this combination of vehicle types. Heavy duty emission rates were not substituted for light duty rates.

light duty vehicle fixed point, statutory standard. This contrasts with the 76 percent reduction achieved if VMT growth is on the low side of the projected range.

Inspection and maintenance programs also play an important role in these projections. Without inspection and maintenance (Table 10), the rate of reduction in ambient CO concentration levels can fall as low as 49 percent. That can make the difference between NAAQS compliance and non-compliance.

Table 11 describes the average percent change in expected NO2 concentrations. Only one table is included for NO2, since inspection and maintenance programs are not currently designed to impact NOx emissions.

Tables 12 and 13 show the expected average percent change in ambient ozone concentrations, both with and without inspection and maintenance programs. As in the case of CO, the fixed point, statutory standard tends to show the greatest air quality improvement.

Tables 14-18 have been provided to show the number of areas expected to exceed the NAAQS in each projection year. These tables should be used cautiously. A comparison of differences among scenarios is least apt to be affected by changes in the underlying analytical assumptions. Statements about the number of violations or the number of urban areas in non-attainment status as of any particular year can therefore be misleading.

References

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3. N. DeNevers and J.R. Morris, "Rollback Modeling: Basic and Modified", Journal of the Air Pollution Control Association, 25, 943, September, 1975.

4. M.C. Dodge, "Combined Use of Modeling Techniques and Smog Chamber Data to Derive Ozone-Precusor Relationships", International Conference on Photochemical Oxidant Pollution and its Control, Proceedings: Volume II, EPA-600/3-77-001b, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, January, 1977.

5. AEROS, Volume II, EPA/450-2-76-029, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 1976.

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7. Compilation of Air Pollution Emission Factors: Highway Mobile Sources, EPA 460/3-81-005, U.S. Environmental Protection Agency, Ann Arbor, Michigan, March, 1981.

8. Methodology to Conduct Air Quality Assessments of National Mobile Source Emission Control Strategies, Final Report, EPA-450/4-80-026, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, October, 1980.

9. Air Quality Criteria for Ozone and Other Photochemical Oxidants, Volume I, EPA 600/8-78-004, U.S. Environmental Protection Agency, Washington, D.C.

10. Air Quality Criteria for Carbon Monoxide, EPA 600/8-79-022, U.S. Environmental Protection Agency, Washington, D.C.

11. McNutt, B., Dulla, R., and Lax, D., "Factors Influencing Automotive Fuel Demand," SAE Technical Paper Series No. 790226, Congress and Exposition, Detroit, Michigan, March, 1979.

FIGURE 1

ISOPLETH CURVES FROM SMOG CHAMBER EXPERIMENT

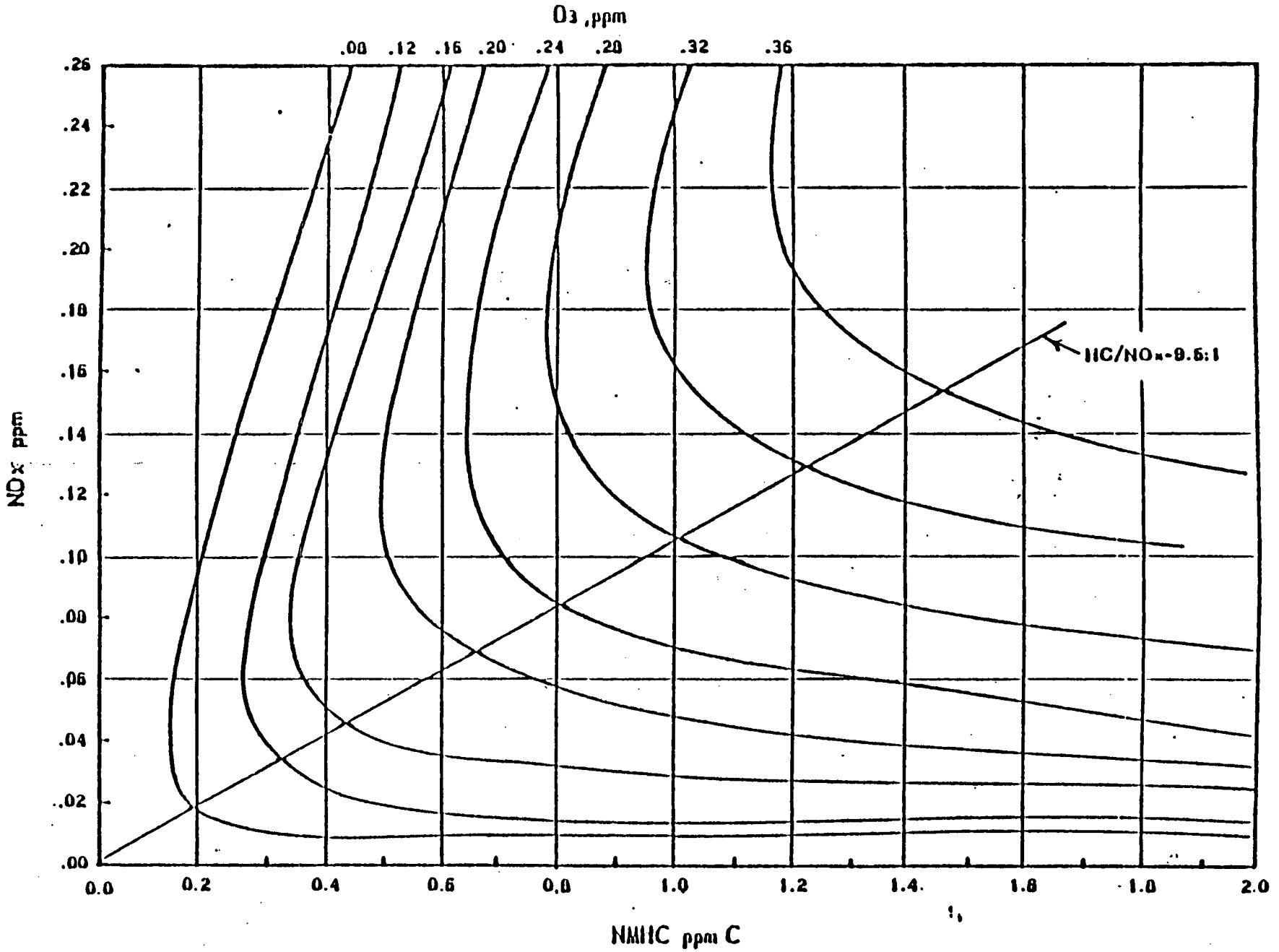

Table 1

Major High Altitude Urban Areas

Urban Area	County	State	AQCR	1970 Census
Denver	Denver	Colorado	036	1,047,311
Colorado Springs	El Paso	Colorado	038	204,766
Albuquerque	Bernalillo	New Mexico	152	297,451
Salt Lake City	Salt Lake	Utah	220	479,342

Table 2

Stationary Source Growth and Retirement Rates
and Control Efficiencies

Pollutant	Description	Growth Rate (percent)	Retirement Rate (percent)	NSPS Efficiency (percent)	RACT Efficiency (percent)
CO	Area	0.8	0.0	No Control	No Control
NMHC	Fuel Combustion	3.5	4.3	No Control	No Control
	Miscellaneous	0.0	0.0	No Control	No Control
	Petroleum Industry	1.9	4.5	90	90*
	Petroleum Storage and Transport Industry	1.9	4.5	80	80*
	Area Solvent	A	B	65	65*
	Industrial Solvent	0.8	0.0	30	30*
		3.3	4.4	60	60*
NOx	Area	0.8	0.0	No Control	No Control

where		A	B	Principal Source
	Denver	3.3	4.4	Industrial Processes
	Colorado Springs	2.4	5.0	Primary Metal Products
	Albuquerque	3.3	4.4	Industrial Processes
	Salt Lake City	1.3	4.9	Mineral Products

*Since Colorado Springs and Albuquerque are both expected to meet the ozone NAAQS withoug RACT, no RACT control has been assumed for these areas.

Table 3

Fleet Specific Mobile Source Growth Rates

	Low Growth	Median Growth	High Growth
Light Duty Vehicle Fleet	+0.4	+1.4	+2.4
Light Duty Truck I Fleet	+2.7	+3.7	+4.7
Light Duty Truck II Fleet	+4.8	+5.8	+6.8
Heavy Duty Gasoline Vehicle Fleet	-3.0	-2.0	-1.0
Heavy Duty Diesel Vehicle Fleet	+4.0	+5.0	+6.0
Motorcycle Fleet	+1.5	+2.5	+3.5
Off-Highway Vehicles	+2.5	+2.5	+2.5

TABLE 4

CARBON MONOXIDE EMISSION FACTOR RATIOS (x100)
WITH INSPECTION AND MAINTENANCE

VEHICLE CLASS	STRATEGY	YEAR	LDGV	LDGT	HDGV	DV
LDV	ALL ALTITUDE, STATUTORY	1984	*	*	*	*
		1985	*	*	*	52
		1990	27	*	*	32
		1995	27	*	*	25
	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	33	*	*	52
		1990	26	*	*	32
		1995	26	*	*	25
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	29	*	*	*
		1995	30	*	*	*
	FIXED POINT, PROPORTIONAL	1984	39	33	86	58
		1985	34	27	72	53
		1990	28	16	31	34
		1995	29	14	18	29
LDV, LDT	FIXED POINT, STATUTORY	1984	*	32	*	*
		1985	33	26	*	52
		1990	26	14	*	31
		1995	26	11	*	25
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	26	*	*
		1990	29	15	*	*
		1995	30	13	*	28
	FIXED POINT, PROPORTIONAL	1984	*	*	*	*
		1985	*	26	*	*
		1990	*	15	*	*
		1995	*	13	*	28

* INDICATES NO CHANGE FROM THE FIXED POINT, PROPORTIONAL BASE CASE

TABLE 5

OXIDES OF NITROGEN EMISSION FACTOR RATIOS (x100)
WITH INSPECTION AND MAINTENANCE

VEHICLE CLASS	STRATEGY	YEAR	LDGV	LDGT	HDGV	DV
LDV	ALL ALTITUDE, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	77	*	*	*
		1995	79	*	*	*
	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	*	*	*	*
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	77	*	*	*
		1995	79	*	*	*
	FIXED POINT, PROPORTIONAL	1984	77	80	103	55
		1985	76	74	121	49
		1990	76	50	79	16
		1995	77	41	63	9
LDV, LDT	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	*	*	*	*
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	77	*	*	*
		1995	79	*	*	*
	FIXED POINT, PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	*	*	*	*

* INDICATES NO CHANGE FROM THE FIXED POINT, PROPORTIONAL BASE CASE

TABLE 6

NON-METHANE HYDROCARBON EMISSION FACTOR RATIOS (x100)
WITH INSPECTION AND MAINTENANCE

VEHICLE CLASS	STRATEGY	YEAR	LDGV	LDGT	HDGV	DV
LDV	ALL ALTITUDE, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	27
		1995	16	*	*	21
	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	27
		1995	16	*	*	21
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	*	*	*	*
	FIXED POINT, PROPORTIONAL	1984	37	32	66	58
		1985	32	27	55	52
		1990	19	14	25	28
		1995	17	10	16	22
LDV, LDT	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	26	*	51
		1990	*	13	*	26
		1995	16	9	*	20
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	26	*	*
		1990	*	*	*	*
		1995	*	*	*	*
	FIXED POINT, PROPORTIONAL	1984	*	*	*	*
		1985	*	26	*	*
		1990	*	*	*	*
		1995	*	*	*	*

* INDICATES NO CHANGE FROM THE FIXED POINT, PROPORTIONAL BASE CASE

TABLE 7

CARBON MONOXIDE EMISSION FACTOR RATIOS (x100)
WITHOUT INSPECTION AND MAINTENANCE

VEHICLE CLASS	STRATEGY	YEAR	LDGV	LDGT	HDGV	DV
LDV	ALL ALTITUDE, STATUTORY	1984	*	*	*	*
		1985	*	*	*	52
		1990	*	*	*	32
		1995	41	*	*	25
	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	*	*	52
		1990	41	*	*	32
		1995	37	*	*	25
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	56	*	*	*
		1990	45	*	*	*
		1995	44	*	*	*
	FIXED POINT, PROPORTIONAL	1984	61	49	86	58
		1985	55	44	72	53
		1990	43	27	31	34
		1995	40	22	18	29
LDV, LDT	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	*	42	*	52
		1990	41	25	*	31
		1995	37	19	*	25
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	56	43	*	*
		1990	45	26	*	*
		1995	44	20	*	28
	FIXED POINT, PROPORTIONAL	1984	*	*	*	*
		1985	*	43	*	*
		1990	*	26	*	*
		1995	*	20	*	28

* INDICATES NO CHANGE FROM THE FIXED POINT, PROPORTIONAL BASE CASE

TABLE 8

NON-METHANE HYDROCARBON EMISSION FACTOR RATIOS (x100)
WITHOUT INSPECTION AND MAINTENANCE

VEHICLE CLASS	STRATEGY	YEAR	LDGV	LDGT	HDGV	DV
LDV	ALL ALTITUDE, STATUTORY	1984	*	*	*	*
		1985	*	*	*	*
		1990	28	*	*	27
		1995	*	*	*	21
	FIXED POINT, STATUTORY	1984	*	*	*	*
		1985	45	*	*	*
		1990	28	*	*	27
		1995	*	*	*	21
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	24	*	*	*
	FIXED POINT, PROPORTIONAL	1984	51	43	66	58
		1985	46	38	55	52
		1990	29	21	25	28
		1995	23	15	16	22
LDV, LDT	FIXED POINT, STATUTORY	1984	*	42	*	*
		1985	45	37	*	51
		1990	28	20	*	26
		1995	*	14	*	20
	ALL ALTITUDE, CONTINUOUSLY PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	24	*	*	*
	FIXED POINT, PROPORTIONAL	1984	*	*	*	*
		1985	*	*	*	*
		1990	*	*	*	*
		1995	*	*	*	*

* INDICATES NO CHANGE FROM THE FIXED POINT, PROPORTIONAL BASE CASE

Table 9

Average Percent Change in Expected 8 Hour Average Ambient CO Concentrations from 1978 Base Year With Inspection and Maintenance

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	-54	-61	-73	-75
		Fixed point, statutory	-54	-62	-74	-76
		All altitude, continuously proportional	-54	-61	-72	-73
		Fixed point, proportional	-54	-61	-73	-73
	LDV, LDT	Fixed point, statutory	-54	-62	-74	-76
		All altitude, continuously proportional	-54	-61	-72	-73
		Fixed point, proportional	-54	-61	-73	-74
Medium	LDV	All altitude, statutory	-52	-58	-70	-71
		Fixed point, statutory	-52	-59	-71	-71
		All altitude, continuously proportional	-52	-58	-69	-68
		Fixed point, proportional	-52	-58	-69	-69
	LDV, LDT	Fixed point, statutory	-52	-59	-71	-72
		All altitude, continuously proportional	-52	-58	-69	-68
		Fixed point, proportional	-52	-58	-69	-69
High	LDV	All altitude, statutory	-49	-55	-67	-65
		Fixed point, statutory	-49	-56	-67	-67
		All altitude, continuously proportional	-49	-55	-65	-63
		Fixed point, proportional	-49	-55	-65	-64
	LDV, LDT	Fixed point, statutory	-49	-56	-68	-67
		All altitude, continuously proportional	-49	-55	-65	-63
		Fixed point, proportional	-49	-55	-66	-64

Table 10

Average Percent Change in Expected 8 Hour Average Ambient CO Concentrations from 1978 Base Year Without Inspection and Maintenance

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	-38	-45	-61	-65
		Fixed point-statutory	-38	-45	-62	-67
		All altitude, continuously proportional	-38	-44	-60	-63
		Fixed point, proportional	-38	-45	-61	-65
	LDV, LDT	Fixed point, statutory	-38	-45	-63	-68
		All altitude, continuously proportional	-38	-44	-60	-63
		Fixed point, proportional	-38	-45	-62	-66
Medium	LDV	All altitude, statutory	-34	-41	-57	-59
		Fixed point, statutory	-34	-41	-58	-62
		All altitude, continuously proportional	-34	-40	-55	-56
		Fixed point, proportional	-34	-41	-57	-59
	LDV, LDT	Fixed point, statutory	-34	-41	-59	-62
		All altitude, continuously proportional	-34	-40	-55	-57
		Fixed point, proportional	-34	-41	-57	-60
High	LDV	All altitude, statutory	-30	-37	-51	-52
		Fixed point, statutory	-30	-37	-53	-55
		All altitude, continuously proportional	-30	-36	-50	-49
		Fixed point, proportional	-30	-37	-51	-52
	LDV, LDT	Fixed point-statutory	-30	-37	-53	-56
		All altitude, continuously proportional	-30	-36	-50	-49
		Fixed point, proportional	-30	-37	-52	-53

Table 11

Average Percent Change in Expected NO2 Concentrations from 1978 Base Year

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	-1	0	-9	-7
		Fixed point, statutory	-1	0	-9	-7
		All altitude, continuously proportional	-1	0	-9	-7
		Fixed point, proportional	-1	0	-9	-7
	LDV, LDT	Fixed point, statutory	-1	0	-9	-7
		All altitude, continuously proportional	-1	0	-9	-7
		Fixed point, proportional	-1	0	-9	-7
Medium	LDV	All altitude, statutory	0	+4	-5	0
		Fixed point, statutory	0	+4	-5	-2
		All altitude, continuously proportional	0	+4	-5	0
		Fixed point, proportional	0	+4	-5	-2
	LDV, LDT	Fixed point, statutory	0	+4	-5	-2
		All altitude, continuously proportional	0	+4	-5	-2
		Fixed point, proportional	0	+4	-5	-2
High	LDV	All altitude, statutory	+4	+5	+1	+6
		Fixed point, statutory	+4	+5	-1	+6
		All altitude, continuously proportional	+4	+5	+1	+6
		Fixed point, proportional	+4	+5	-1	+6
	LDV, LDT	Fixed point, statutory	+4	+5	-1	+6
		All altitude, continuously proportional	+4	+5	+1	+6
		Fixed point, proportional	+4	+5	-1	+6

Table 12

Average Percent Change in Expected Ambient Oxone Concentrations from 1978 Base Year With Inspection and Maintenance

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	-19	-21	-26	-25
		Fixed point, statutory	-19	-21	-26	-25
		All altitude, continuously proportional	-19	-21	-26	-25
		Fixed point, proportional	-19	-21	-26	-25
	LDV, LDT	Fixed point, statutory	-19	-21	-26	-26
		All altitude, continuously proportional	-19	-21	-26	-25
		Fixed point, proportional	-19	-21	-26	-25
Medium	LDV	All altitude, statutory	-18	-20	-25	-23
		Fixed point, statutory	-18	-20	-25	-23
		All altitude, continuously proportional	-18	-20	-25	-23
		Fixed point, proportional	-18	-20	-25	-23
	LDV, LDT	Fixed point, statutory	-18	-20	-25	-24
		All altitude, continuously proportional	-18	-20	-25	-23
		Fixed point, proportional	-18	-20	-25	-23
High	LDV	All altitude, statutory	-17	-19	-23	-22
		Fixed point, statutory	-17	-19	-23	-22
		All altitude, continuously proportional	-17	-19	-23	-21
		Fixed point, proportional	-17	-19	-23	-21
	LDV, LDT	Fixed point, statutory	-17	-19	-24	-22
		All altitude, continuously proportional	-17	-19	-23	-21
		Fixed point, proportional	-17	-19	-23	-21

Table 13

Average Percent Change in Expected Ambient Oxone Concentrations from 1978 Base Year Without Inspection and Maintenance

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	-15	-16	-23	-22
		Fixed point, statutory	-15	-16	-23	-22
		All altitude, continuously proportional	-15	-16	-22	-22
		Fixed point, proportional	-15	-16	-22	-22
	LDV, LDT	Fixed point, statutory	-15	-17	-23	-23
		All altitude, continuously proportional	-15	-16	-22	-22
		Fixed point, proportional	-15	-16	-22	-22
Medium	LDV	All altitude, statutory	-14	-15	-21	-21
		Fixed point, statutory	-14	-15	-21	-21
		All altitude, continuously proportional	-14	-15	-20	-20
		Fixed point, proportional	-14	-15	-20	-20
	LDV, LDT	Fixed point, statutory	-14	-15	-21	-21
		All altitude, continuously proportional	-14	-15	-20	-20
		Fixed point, proportional	-14	-15	-20	-20
High	LDV	All altitude, statutory	-13	-14	-19	-18
		Fixed point, statutory	-13	-14	-19	-18
		All altitude, continuously proportional	-13	-14	-19	-18
		Fixed point, proportional	-13	-14	-19	-18
	LDV, LDT	Fixed point, statutory	-13	-14	-19	-19
		All altitude, continuously proportional	-13	-14	-19	-18
		Fixed point, proportional	-13	-14	-19	-18

Table 14

Number of Counties with Inspection and Maintenance Expected to Exceed the CO 8 Hour Average National Ambient Air Quality Standard

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	2	1	0	0
		Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	1	0	0
		Fixed point, proportional	2	1	0	0
	LDV, LDT	Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	1	0	0
		Fixed point, proportional	2	1	0	0
Medium	LDV	All altitude, statutory	2	1	0	0
		Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	1	0	0
		Fixed point, proportional	2	1	0	0
	LDV, LDT	Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	1	0	0
		Fixed point, proportional	2	1	0	0
High	LDV	All altitude, statutory	2	2	0	0
		Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	2	0	0
		Fixed point, proportional	2	2	0	0
	LDV, LDT	Fixed point, statutory	2	1	0	0
		All altitude, continuously proportional	2	2	0	0
		Fixed point, proportional	2	2	0	0

Table 15

Number of Counties without Inspection and Maintenance Expected to Exceed the CO 8 Hour Average National Ambient Air Quality Standard

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	3	2	0	0
		Fixed point, statutory	3	2	0	0
		All altitude, continuously proportional	3	2	0	0
		Fixed point, proportional	3	2	0	0
	LDV, LDT	Fixed point, statutory	3	2	0	0
		All altitude, continuously proportional	3	2	0	0
		Fixed point, proportional	3	2	0	0
Medium	LDV	All altitude, statutory	3	2	2	1
		Fixed point, statutory	3	2	2	0
		All altitude, continuously proportional	3	2	2	2
		Fixed point, proportional	3	2	2	1
	LDV, LDT	Fixed point, statutory	3	2	2	0
		All altitude, continuously proportional	3	2	2	2
		Fixed point, proportional	3	2	2	0
High	LDV	All altitude, statutory	3	3	2	2
		Fixed point, statutory	3	3	2	2
		All altitude, continuously proportional	3	3	2	2
		Fixed point, proportional	3	3	2	2
	LDV, LDT	Fixed point, statutory	3	3	2	2
		All altitude, continuously proportional	3	3	2	2
		Fixed point, proportional	3	3	2	2

Table 16

Number of Counties Expected to Exceed the NO_2 National Ambient Air Quality Standard

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	0	0	0	0
		Fixed point, statutory	0	0	0	0
		All altitude, continuously proportional	0	0	0	0
		Fixed point, proportional	0	0	0	0
	LDV, LDT	Fixed point, statutory	0	0	0	0
		All altitude, continuously proportional	0	0	0	0
		Fixed point, proportional	0	0	0	0
Medium	LDV	All altitude, statutory	1	1	0	0
		Fixed point, statutory	1	1	0	0
		All altitude, continuously proportional	1	1	0	0
		Fixed point, proportional	1	1	0	0
	LDV, LDT	Fixed point, statutory	1	1	0	0
		All altitude, continuously proportional	1	1	0	0
		Fixed point, proportional	1	1	0	0
High	LDV	All altitude, statutory	1	1	0	1
		Fixed point, statutory	1	1	0	1
		All altitude, continuously proportional	1	1	0	1
		Fixed point, proportional	1	1	0	1
	LDV, LDT	Fixed point, statutory	1	1	0	1
		All altitude, continuously proportional	1	1	0	1
		Fixed point, proportional	1	1	0	1

Table 17

Number of Air Quality Control Regions with Inspection and Maintenance Expected to Exceed the Ozone National Ambient Air Quality Standard

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	1	1	1	1
		Fixed point, statutory	1	1	1	1
		All altitude, continuously proportional	1	1	1	1
		Fixed point, proportional	1	1	1	1
	LDV, LDT	Fixed point, statutory	1	1	1	1
		All altitude, continuously proportional	1	1	1	1
		Fixed point, proportional	1	1	1	1
Medium	LDV	All altitude, statutory	2	1	1	1
		Fixed point, statutory	2	1	1	1
		All altitude, continuously proportional	2	1	1	1
		Fixed point, proportional	2	1	1	1
	LDV, LDT	Fixed point, statutory	2	1	1	1
		All altitude, continuously proportional	2	1	1	1
		Fixed point, proportional	2	1	1	1
High	LDV	All Altitude, statutory	2	1	1	1
		Fixed point, statutory	2	1	1	1
		All altitude, continuously proportional	2	1	1	1
		Fixed point, proportional	2	1	1	1
	LDV, LDT	Fixed point, statutory	2	1	1	1
		All altitude, continuously proportional	2	1	1	1
		Fixed point, proportional	2	1	1	1

Table 18

Number of Air Quality Control Regions without Inspection and Maintenance Expected to Exceed the Ozone National Ambient Air Quality Standard

Growth Rate	Vehicle Class	Strategy	Projection Year 1984	1985	1990	1995
Low	LDV	All altitude, statutory	2	2	1	1
		Fixed point, statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	1
		Fixed point, proportional	2	2	1	1
	LDV, LDT	Fixed point, statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	1
		Fixed point, proportional	2	2	1	1
Medium	LDV	All altitude, statutory	2	2	1	1
		Fixed point, statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	1
		Fixed point, proportional	2	2	1	1
	LDV, LDT	Fixed point, statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	1
		Fixed point, proportional	2	2	1	1
High	LDV	All altitude, statutory	2	2	1	1
		Fixed point; statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	2
		Fixed point, proportional	2	2	1	1
	LDV, LDT	Fixed point, statutory	2	2	1	1
		All altitude, continuously proportional	2	2	1	2
		Fixed point, proportional	2	2	1	1

List of Appendicies

A Base Year Mobile Source Emission Factor Estimates and Emission Inventory

B CO County Air Quality Projections With Inspection and Maintenance Programs

C CO County Air Quality Projections Without Inspection and Maintenance Programs

D NO2 County Air Quality Projections

E Ozone Regional Air Quality Projections With Inspection and Maintenance Programs

F Ozone Regional Air Quality Projections Without Inspection and Maintenance Programs

Appendix A

Base Year Mobile Source Emission Factor Estimates and Emission Inventories

Table A-1

Inventory Adjustments for 1978 Base Year

		LDG	MC	LDV	LDT1	LDG2	LDT	HDG	HDD
MOBILE II	NMHC	7.17	13.56	7.241	7.47	11.42	8.89	22.58	8.57
	CO	84.28	53.08	83.937	83.46	115.77	95.07	401.65	21.34
	NOx	2.19	0.15	2.168	2.35	3.30	2.70	6.63	25.59
	Vehicle Mix	.785	.009		.083	.047			
	Weight	.989	.011		.638	.362			
MOBILE I	NMHC	7.89			8.88	13.35	10.50	41.52	5.95
	CO	80.72			87.45	121.90	99.92	406.77	48.62
	NOx	2.11			2.03	3.32	2.50	6.86	12.80
Adjustment Factor*	NMHC			.918			.847	.544	1.436
	CO			1.040			.951	.987	.439
	NOx			1.027			1.080	.966	1.999

*MOBILE II / MOBILE I

Table A-2

Emissions Inventory
(1000 tons)

			LDG	LDT	HDG	HD
CO	Denver	MOBILE I	387.5	83.3	153.6	18.5
		MOBILE II	403.0	79.3	151.6	8.1
	Colorado Springs	MOBILE I	136.1	29.5	25.1	1.2
		MOBILE II	141.5	28.1	24.8	0.5
	Alburquerque	MOBILE I	127.5	28.0	23.6	7.4
		MOBILE II	132.6	26.7	23.3	3.2
	Salt Lake City	MOBILE I	176.0	37.6	58.8	10.7
		MOBILE II	183.0	35.8	58.0	4.7
NMHC	Denver	MOBILE I	67.4	14.7	21.3	2.9
		MOBILE II	61.9	12.5	11.6	4.2
	Colorado Springs	MOBILE I	23.2	5.1	4.2	0.3
		MOBILE II	21.3	4.3	2.3	0.4
	Alburquerque	MOBILE I	14.5	3.2	2.2	1.0
		MOBILE II	13.3	2.7	1.2	1.4
	Salt Lake City	MOBILE I	34.1	7.4	9.0	1.8
		MOBILE II	31.3	6.3	4.9	2.6
NOx	Denver	MOBILE I	10.1	2.3	2.8	5.2
		MOBILE II	10.4	2.5	2.7	10.4
	Colorado Springs	MOBILE I	3.8	0.8	0.5	0.3
		MOBILE II	3.9	0.9	0.5	0.6
	Alburquerque	MOBILE I	3.6	0.8	0.5	2.2
		MOBILE II	3.7	0.9	0.5	4.4
	Salt Lake City	MOBILE I	4.9	1.1	1.1	3.1
		MOBILE II	5.0	1.2	1.1	6.2

Appendix B

CO County Air Quality Projections With Inspection and Maintenance Programs

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	6.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	3.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-61.		-73.		-75.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	7.	0
031 DENVER	1978	25.	0.	12.	7	11.	2	7.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-58.		-70.		-71.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	10.	1	8.	0	8.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	6.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-49.		-55.		-67.		-65.
NO. OF REGIONS ABOVE STD					2		2		0		0
TOTAL NO. OF EXCEEDANCES					13		5		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	6.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	3.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-62.		-74.		-76.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	7.	0
031 DENVER	1978	25.	0.	12.	7	10.	2	7.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-59.		-71.		-71.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	9.	0	8.	0	8.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-49.		-56.		-67.		-67.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					13		4		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	7.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-61.		-72.		-73.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	8.	0
031 DENVER	1978	25.	0.	12.	7	11.	2	8.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-58.		-69.		-68.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	10.	1	8.	0	9.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	9.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	6.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	6.	0	4.	0	5.	0
AVERAGE PERCENT CHANGE					-49.		-55.		-65.		-63.
NO. OF REGIONS ABOVE STD					2		2		0		0
TOTAL NO. OF EXCEEDANCES					13		5		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	6.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	3.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-61.		-73.		-73.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	7.	0
031 DENVER	1978	25.	0.	12.	7	11.	2	7.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-58.		-69.		-69.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	10.	1	8.	0	9.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	6.	0	4.	0	5.	0
AVERAGE PERCENT CHANGE					-49.		-55.		-65.		-64.
NO. OF REGIONS ABOVE STD					2		2		0		0
TOTAL NO. OF EXCEEDANCES					13		5		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	6.	0	5.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	3.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-62.		-74.		-76.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	7.	0
031 DENVER	1978	25.	0.	12.	7	10.	2	7.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	3.	0
AVERAGE PERCENT CHANGE					-52.		-59.		-71.		-72.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	9.	0	7.	0	8.	0
031 DENVER	1978	25.	0.	13.	9	11.	3	8.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-49.		-56.		-68.		-67.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					12		3		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	7.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-61.		-72.		-73.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	8.	0
031 DENVER	1978	25.	0.	12.	7	10.	2	7.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-58.		-69.		-68.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	10.	1	8.	0	9.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	9.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	6.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	6.	0	4.	0	5.	0
AVERAGE PERCENT CHANGE					-49.		-55.		-65.		-63.
NO. OF REGIONS ABOVE STD					2		2		0		0
TOTAL NO. OF EXCEEDANCES					13		5		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	1	8.	0	6.	0	6.	0
031 DENVER	1978	25.	0.	12.	5	10.	1	6.	0	6.	0
035 SALT LAKE CITY	1978	16.	0.	7.	0	6.	0	4.	0	4.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	3.	0	3.	0
AVERAGE PERCENT CHANGE					-54.		-61.		-73.		-74.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					6		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	10.	2	9.	0	7.	0	7.	0
031 DENVER	1978	25.	0.	12.	7	10.	2	7.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	5.	0	4.	0	4.	0
AVERAGE PERCENT CHANGE					-52.		-58.		-69.		-69.
NO. OF REGIONS ABOVE STD					2		1		0		0
TOTAL NO. OF EXCEEDANCES					9		2		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	11.	3	10.	1	8.	0	8.	0
031 DENVER	1978	25.	0.	13.	10	11.	4	8.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	8.	0	7.	0	5.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	6.	0	6.	0	4.	0	5.	0
AVERAGE PERCENT CHANGE					-49.		-55.		-66.		-64.
NO. OF REGIONS ABOVE STD					2		2		0		0
TOTAL NO. OF EXCEEDANCES					13		5		0		0

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

Appendix C

CO County Air Quality Projections Without Inspection and Maintenance Programs

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	8.	0
031 DENVER	1978	25.	0.	15.	21	14.	12	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	5.	0
AVERAGE PERCENT CHANGE					-38.		-45.		-61.		-65.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		19		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	9	10.	1	10.	1
031 DENVER	1978	25.	0.	16.	26	14.	16	10.	2	9.	0
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	6.	0	5.	0
AVERAGE PERCENT CHANGE					-34.		-41.		-57.		-59.
NO. OF REGIONS ABOVE STD					3		2		2		1
TOTAL NO. OF EXCEEDANCES					44		25		3		1

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	13	11.	3	11.	4
031 DENVER	1978	25.	0.	17.	33	16.	22	11.	4	11.	4
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	8.	0	8.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-30.		-37.		-51.		-52.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		36		7		8

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	8.	0
031 DENVER	1978	25.	0.	15.	21	14.	12	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	4.	0
AVERAGE PERCENT CHANGE					-38.		-45.		-62.		-67.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		19		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	9	10.	1	9.	0
031 DENVER	1978	25.	0.	16.	26	14.	16	10.	1	9.	0
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	5.	0	5.	0
AVERAGE PERCENT CHANGE					-34.		-41.		-58.		-62.
NO. OF REGIONS ABOVE STD					3		2		2		0
TOTAL NO. OF EXCEEDANCES					44		25		2		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	13	11.	3	10.	2
031 DENVER	1978	25.	0.	17.	33	16.	22	11.	3	10.	2
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	7.	0	7.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-30.		-37.		-53.		-55.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		36		6		4

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	9.	0
031 DENVER	1978	25.	0.	15.	21	14.	12	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	5.	0
AVERAGE PERCENT CHANGE					-38.		-44.		-60.		-63.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		19		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	10	10.	2	10.	2
031 DENVER	1978	25.	0.	16.	26	15.	17	10.	2	10.	1
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	7.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-34.		-40.		-55.		-56.
NO. OF REGIONS ABOVE STD					3		2		2		2
TOTAL NO. OF EXCEEDANCES					44		27		4		3

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	14	11.	4	12.	6
031 DENVER	1978	25.	0.	17.	33	16.	23	12.	5	12.	6
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	8.	0	8.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	7.	0	7.	0
AVERAGE PERCENT CHANGE					-30.		-36.		-50.		-49.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		38		9		12

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	8.	0
031 DENVER	1978	25.	0.	15.	21	14.	12	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	4.	0
AVERAGE PERCENT CHANGE					-38.		-45.		-61.		-65.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		19		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	10	10.	1	10.	1
031 DENVER	1978	25.	0.	16.	26	14.	16	10.	2	9.	0
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	6.	0	5.	0
AVERAGE PERCENT CHANGE					-34.		-41.		-57.		-59.
NO. OF REGIONS ABOVE STD					3		2		2		1
TOTAL NO. OF EXCEEDANCES					44		26		3		1

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	13	11.	3	11.	4
031 DENVER	1978	25.	0.	17.	33	16.	22	11.	4	11.	3
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	8.	0	8.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-30.		-37.		-51.		-52.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		36		7		7

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	6	8.	0	8.	0
031 DENVER	1978	25.	0.	15.	21	13.	11	9.	0	7.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	4.	0
AVERAGE PERCENT CHANGE					-38.		-45.		-63.		-68.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		17		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	9	9.	0	9.	0
031 DENVER	1978	25.	0.	16.	26	14.	16	10.	1	9.	0
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	6.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	5.	0	5.	0
AVERAGE PERCENT CHANGE					-34.		-41.		-59.		-62.
NO. OF REGIONS ABOVE STD					3		2		1		0
TOTAL NO. OF EXCEEDANCES					44		25		1		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	13	11.	2	10.	2
031 DENVER	1978	25.	0.	17.	33	15.	21	11.	3	10.	2
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	7.	0	7.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-30.		-37.		-53.		-56.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		35		5		4

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	9.	0
031 DENVER	1978	25.	0.	15.	21	14.	12	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	5.	0
AVERAGE PERCENT CHANGE				-38.		-44.		-60.		-63.	
NO. OF REGIONS ABOVE STD				3		2		0		0	
TOTAL NO. OF EXCEEDANCES				34		19		0		0	

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	10	10.	2	10.	1
031 DENVER	1978	25.	0.	16.	26	15.	17	10.	2	10.	1
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	7.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE				-34.		-40.		-55.		-57.	
NO. OF REGIONS ABOVE STD				3		2		2		2	
TOTAL NO. OF EXCEEDANCES				44		27		4		2	

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	14	11.	4	12.	5
031 DENVER	1978	25.	0.	17.	33	16.	23	12.	5	12.	5
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	8.	0	8.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	7.	0
AVERAGE PERCENT CHANGE				-30.		-36.		-50.		-49.	
NO. OF REGIONS ABOVE STD				3		3		2		2	
TOTAL NO. OF EXCEEDANCES				56		38		9		10	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: LO
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	12	12.	7	9.	0	8.	0
031 DENVER	1978	25.	0.	15.	21	13.	11	9.	0	8.	0
035 SALT LAKE CITY	1978	16.	0.	10.	1	9.	0	6.	0	5.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	7.	0	5.	0	4.	0
AVERAGE PERCENT CHANGE					-38.		-45.		-62.		-66.
NO. OF REGIONS ABOVE STD					3		2		0		0
TOTAL NO. OF EXCEEDANCES					34		18		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: MD
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	14.	16	13.	9	10.	1	9.	0
031 DENVER	1978	25.	0.	16.	26	14.	16	10.	2	9.	0
035 SALT LAKE CITY	1978	16.	0.	10.	2	9.	0	7.	0	6.	0
041 COLO SPRINGS	1978	13.	0.	8.	0	8.	0	6.	0	5.	0
AVERAGE PERCENT CHANGE					-34.		-41.		-57.		-60.
NO. OF REGIONS ABOVE STD					3		2		2		0
TOTAL NO. OF EXCEEDANCES					44		25		3		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: HI
CO8 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS 9.00 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	22.	0.	15.	20	14.	13	11.	3	11.	3
031 DENVER	1978	25.	0.	17.	33	15.	21	11.	4	11.	3
035 SALT LAKE CITY	1978	16.	0.	11.	3	10.	1	8.	0	7.	0
041 COLO SPRINGS	1978	13.	0.	9.	0	8.	0	6.	0	6.	0
AVERAGE PERCENT CHANGE					-30.		-37.		-52.		-53.
NO. OF REGIONS ABOVE STD					3		3		2		2
TOTAL NO. OF EXCEEDANCES					56		35		7		6

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

Appendix D

NO2 County Air Quality Projections

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO.SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-0.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-2.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		-1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-0.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-2.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		-1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-2.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		-1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-2.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: LO
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.05	0	.05	0	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.02	0	.02	0	.02	0
AVERAGE PERCENT CHANGE					-1.		-0.		-9.		-7.
NO. OF REGIONS ABOVE STD					0		0		0		0
TOTAL NO. OF EXCEEDANCES					0		0		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: MD
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.05	0
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.02	0	.03	0	.02	0	.03	0
AVERAGE PERCENT CHANGE					0.		4.		-5.		-2.
NO. OF REGIONS ABOVE STD					1		1		0		0
TOTAL NO. OF EXCEEDANCES					1		1		0		0

L I N E A R R O L L B A C K
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: HI
NO2 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .05 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	BKGD	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
001 ALBUQUERQUE	1978	.02	.000	.02	0	.02	0	.02	0	.02	0
031 DENVER	1978	.05	.000	.06	1	.06	1	.05	0	.06	1
035 SALT LAKE CITY	1978	.04	.000	.04	0	.04	0	.04	0	.04	0
041 COLO SPRINGS	1978	.03	.000	.03	0	.03	0	.03	0	.03	0
AVERAGE PERCENT CHANGE					4.		5.		-1.		6.
NO. OF REGIONS ABOVE STD					1		1		0		1
TOTAL NO. OF EXCEEDANCES					1		1		0		1

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

Appendix E

Ozone Regional Air Quality Projections With Inspection and Maintenance Programs

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE				-19.		-21.		-26.		-25.	
NO. OF REGIONS ABOVE STD				1		1		1		1	
TOTAL NO. OF EXCEEDANCES				2		2		1		1	

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.11	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-18.		-20.		-25.		-23.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				3		2		1		2	

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-17.		-19.		-23.		-22.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				4		2		1		2	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE				-19.		-21.		-26.		-25.	
NO. OF REGIONS ABOVE STD				1		1		1		1	
TOTAL NO. OF EXCEEDANCES				2		2		1		1	

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.11	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-18.		-20.		-25.		-23.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				3		2		1		2	

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-17.		-19.		-23.		-22.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				4		2		1		2	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE					-19.		-21.		-26.		-25.
NO. OF REGIONS ABOVE STD					1		1		1		1
TOTAL NO. OF EXCEEDANCES					2		2		1		1

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE					-18.		-20.		-25.		-23.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					3		2		1		2

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.14	2	.14	2
AVERAGE PERCENT CHANGE					-17.		-19.		-23.		-21.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					4		2		2		2

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE				-19.		-21.		-26.		-25.	
NO. OF REGIONS ABOVE STD				1		1		1		1	
TOTAL NO. OF EXCEEDANCES				2		2		1		1	

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-18.		-20.		-25.		-23.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				3		2		1		2	

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.14	2	.14	2
AVERAGE PERCENT CHANGE				-17.		-19.		-23.		-21.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				4		2		2		2	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.10	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE					-19.		-21.		-26.		-26.
NO. OF REGIONS ABOVE STD					1		1		1		1
TOTAL NO. OF EXCEEDANCES					2		2		1		1

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.11	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE					-18.		-20.		-25.		-24.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					3		2		1		2

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE					-17.		-19.		-24.		-22.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					4		2		1		2

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE				-19.		-21.		-26.		-25.	
NO. OF REGIONS ABOVE STD				1		1		1		1	
TOTAL NO. OF EXCEEDANCES				2		2		1		1	

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE				-18.		-20.		-25.		-23.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				3		2		1		2	

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.14	2	.14	2
AVERAGE PERCENT CHANGE				-17.		-19.		-23.		-21.	
NO. OF REGIONS ABOVE STD				2		1		1		1	
TOTAL NO. OF EXCEEDANCES				4		2		2		2	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.12	0	.12	0	.11	0	.11	0
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.13	1
AVERAGE PERCENT CHANGE					-19.		-21.		-26.		-25.
NO. OF REGIONS ABOVE STD					1		1		1		1
TOTAL NO. OF EXCEEDANCES					2		2		1		1

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.07	0	.07	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.12	0	.11	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	2	.14	2	.13	1	.14	2
AVERAGE PERCENT CHANGE					-18.		-20.		-25.		-23.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					3		2		1		2

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.12	0	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.07	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.11	0	.11	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.14	3	.14	2	.14	2	.14	2
AVERAGE PERCENT CHANGE					-17.		-19.		-23.		-21.
NO. OF REGIONS ABOVE STD					2		1		1		1
TOTAL NO. OF EXCEEDANCES					4		2		2		2

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

Appendix F

Ozone Regional Air Quality Projections Without Inspection and Maintetnance Programs

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-23.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-21.		-21.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #1 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	2	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		5		2		3	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-23.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-21.		-21.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #2 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	2	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		5		2		3	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-22.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-20.		-20.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #3 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.13	1
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	3	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		2	
TOTAL NO. OF EXCEEDANCES				5		5		3		4	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-22.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-20.		-20.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #4 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	3	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		5		3		3	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-17.		-23.		-23.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-21.		-21.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #5 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	2	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-19.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		5		2		3	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-22.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-20.		-20.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #6 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.13	1
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	3	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		2	
TOTAL NO. OF EXCEEDANCES				5		5		3		4	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: LO
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	3	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-15.		-16.		-22.		-22.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				4		4		2		2	

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: MD
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	3	.14	2	.14	2
AVERAGE PERCENT CHANGE				-14.		-15.		-20.		-20.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		4		2		2	

E K M A
STRATEGY: SCEN #7 GROWTH RATE SCENARIO: HI
O3 AIR QUALITY CONCENTRATION (PPM) AND VIOLATIONS
(STANDARD IS .12 PPM)
P R O J E C T E D

	B A S E			1984		1985		1990		1995	
R E G I O N	YEAR	CONC	RATIO	CONC	NUMB	CONC	NUMB	CONC	NUMB	CONC	NUMB
036 DENVER	1978	.16	9.50	.13	1	.13	1	.12	0	.12	0
038 COLO SPRINGS	1978	.09	9.50	.08	0	.08	0	.07	0	.07	0
152 ALBUQUERQUE	1978	.13	9.50	.12	0	.12	0	.11	0	.11	0
220 SALT LAKE CITY	1978	.18	9.50	.15	4	.15	4	.14	3	.15	3
AVERAGE PERCENT CHANGE				-13.		-14.		-19.		-18.	
NO. OF REGIONS ABOVE STD				2		2		1		1	
TOTAL NO. OF EXCEEDANCES				5		5		3		3	

*** NOTE: AIR QUALITY CONCENTRATIONS ARE ROUNDED FOR DISPLAY FOLLOWING EPA GUIDELINES.
THUS, COMPARISONS WITH STANDARDS AND PERCENT CHANGES ARE BASED ON ONE ADDITIONAL SIGNIFICANT FIGURE.