

Early Implementation of the Clean Air Act of 1970 in California

Chapter 1: INTRODUCTION

John Wise¹: We wanted to develop a historical story of how a young agency, the Environmental Protection Agency, implemented a very difficult and complex federal statute, the Clean Air Act, in a state that had reasonably mature air pollution control authorities in the worst air quality basin in the country, the Los Angeles Air Basin, and how the public influenced our actions and reactions. And how litigation drove the schedules and processes and deadlines. It's a complex interplay of many driving forces, many themes that intersect here and there. But the ultimate purpose is to use federal legislation, implemented through state authorities, to achieve National Ambient Air Quality Standards, which are protective of human health.

Dave Calkins²: The Clean Air Act of 1970 didn't just pop out of the sky. Air pollution has been a problem ever since the Industrial Revolution of the late 1800s. And by the 1890s, some cities actually had air pollution control smoke ordinances, like Pittsburgh and Cincinnati, and St. Louis. But the real air pollution problem that we're talking about in this program happened after World War II, and the growth and the use of the automobile and population in some of our major areas. The Federal Government did not get involved in air pollution until, really, legislatively until the 1963 Clean Air Act, which was all of eight pages long. You can read it on the way home on the bus or whatever. And that act gave our predecessor agency, which was the Public Health Service in the Department of Health, Education, and Welfare, it gave us the authority to take abatement action against industries if it could be shown that the pollution from that industry crossed a state line. Or if the governor of a state made a case to ask the Public Health Service to come in and take some abatement action. So, those were occurring in the obvious areas: the Ohio River Valley, New York and New Jersey, places like that.

The Public Health Service began taking studies to monitor air pollution and to take action where it was crossing state lines. However, by 1967, it was getting a little hot. We are actually finding, starting to take some abatement actions, and so certain senators and congressmen felt that maybe we needed to adjust this Clean Air Act. So, they passed the 1967 act, which went back to focusing on designating large air quality regions. In other words, looking at what are air basins, not just state line problems, but throughout the country. And once an air quality control region was designated by the Federal Government, then the states had to adopt air quality standards, but they could be different depending on the state. If it was a state that was looking for more industrial growth, they might very well have weaker standards for sulfur dioxide, where if a state was protecting clean air, they may have tighter standards. Then, once the standards were adopted, the 1967 Clean Air Act required the states to develop an air quality attainment plan for the area. So, the basic setup was there, but by 1969, it had not moved along. There was still bad air pollution, and not a lot of action except for a few states that had occurred under that act.

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ENACTMENT OF CLEAN AIR ACT OF 1970

Dave Calkins: By the late 1960s, the federal effort still was not felt to be enough to reduce air pollution to healthy levels, and the public wanted the Federal Government to take more action. As a result, there were large demonstrations, one of which being the first Earth Day, where there were about two million persons around the country that actually came out and asked for cleaner air.

William Ruckelshaus³: The American public was really riled up over the environment. There had been the Cuyahoga River caught on fire, the people in Los Angeles couldn't even see each other, there was the Santa Barbara oil spill. There were all kinds of things like that going on that had the public really riled up. And I felt we needed to show that the Federal Government took their concerns seriously, we were willing to enforce the standards that didn't exist or new ones that were being concocted under these statutes like the Clean Air Act. And it was important to show them that somebody was responding, the Federal Government was responding to their legitimate concerns. So, we had a very vigorous enforcement program when it started, fully backed by the public. There was never any dissent about it like there is today. You go up there and they beat up on you if you enforce the law. Then they'd beat up on you if you didn't enforce the law. And I felt justifiably so that we needed to show that we were going to respond to their concerns.

Dave Calkins: And Senator Edmund Muskie of Maine, a Democrat, and Senator Howard Baker of Tennessee, a Republican, and their cohort were chairing the Environment Committee in Congress, and they came together and created a very strong Clean Air Act.

AN AGENCY IS BORN: CREATION OF EPA

Dave Calkins: In addition to this Clean Air Act that passed in late 1970, there was also recognized a need to pull all of the environmental aspects of the Federal Government into one agency. And a commission was set up in 1969, I believe, to look at how that agency, what it should be comprised of, and what powers it might have. And this task force eventually recommended a creation of what is now known as the Environmental Protection Agency. That was not passed, though, by Congress. They recommended this, and the president, who happened to be Richard Nixon at the time, signed into law on December of 1970, this new agency, the US EPA. So, we became an agency almost to the same day the Clean Air Act, with all of its new standards and deadlines, went into effect. To run that agency, the president appointed William Ruckelshaus.

William Ruckelshaus: I was first considered as the first Administrator of EPA in 1970 when a friend of mine who lived in New York engineered the recommendation in a Newsweek column that I be chosen as the Administrator of EPA. I had no idea where this came from. I didn't even

³ William D. Ruckelshaus, First EPA Administrator

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know there was such a thing as EPA. And I went up to see John Mitchell, who was my immediate boss in the Justice Department and said, "Look, I didn't have this thing planted there. I'm not trying to get a new job, I'm perfectly happy what I'm doing." And he said, "Oh, don't worry about it." So, about three weeks later he called me up and said, "Say, you know that EPA job?" And I said, "Yeah?" He said, "Do you have any interest in that?" I said, "Well, I might. Yes, I've read something about it since seeing that thing in Newsweek, and it's a very interesting job. I was involved in environmental agencies in the state of Indiana and the Indiana Attorney General's office. And it's been an interest of mine for some time, but nothing like this." And he said, "Well, let me see if the president will appoint you," and he came back about 48 hours later and said, "Well, he wants you to do it. Go on over to the White House."

And so, that's it. I mean, it was really him that intervened with his close friend and law partner, the president, that resulted in my taking the job, or being offered the job. I had no idea the scope of this job, and how complicated it was going to be. I was 40 years old, or younger than that actually, being in my late 30s. I knew it was going to be exciting, and challenging, and that was enough for me. The fact that it might have been overwhelming and that I was underqualified would never have occurred to me at the time. So, I knew it was a big job, but I was eager to take it on. I mean, I can remember the first time Howard Messner brought in an organizational chart. He said, "You've got to figure out where all of these boxes go." I said, "I'd never seen an organizational chart before."

A great challenge, and what we needed to do was to figure out how best to organize it, and at the same time, not do it so fast that it would make a lot of mistakes instead of just a few. And at the same time, keep people paying attention and doing their work at the job they had. So, I figured we had about six weeks to organize these boxes in ways that made sense. And that's what we did, but it was-- I mean, I had been the Chief Counsel in the Indiana Attorney General's office when there were about 80 lawyers there, and there were 307 in the civil division of the Justice Department where I was when I took this job. There were 15-- Or, actually, not 15 thousand, more like seven thousand people, some of whom had jobs that were antagonistic to what others had. So, it was a much bigger management job, but it was exhilarating. I mean, I remember every morning when I got up I was eager to get to work and to start solving some more problems.

Chapter 2: STRUCTURE OF CLEAN AIR ACT OF 1970

William Ruckelshaus: Well, the Clean Air Act was passed and took effect the day I arrived at EPA. I had nothing to do with it, the deliberations on the Hill and its final formation. But I was handed the act with a lot of very stringent deadlines and big issues to cover on the day I walked in the door.

John Wise: But the principal driving force of the Clean Air Act were National Ambient Air Quality Standards, which are protective of public health.

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William Ruckelshaus: We had 30 days to announce the standards that were to be applied nationwide, and then another 90 days to listen to input and to come out with final standards. But when I first announced the preliminary findings of the standards, then I knew we were stepping on a lot of toes. There was a huge cry, "We're going to shut down the automobile industry. People weren't going to be able to produce steel. Terrible things were going to happen." None of which did happen, but that was all what people were saying. So, I recognized right away, we were right in the heart of the American economy, and we had to be careful what we were doing. And we were given a statute with very tight deadlines.

We were supposed to announce Ambient Air Quality Standards for six major air pollutants that were listed in the law. Now, I was told by the people from HEW, the Health, Education, and Welfare Department, from whence the responsibilities for administering the Clean Air Act came, "Oh, everybody agreed to these standards. We've gone through every scientific review, we've gone through them on the Hill. Everybody knows what they are. The industry knows what they are. They're not all that controversial." Well, when I announced them I found out that wasn't right, and there were a lot of objections to them. But they pretty much held the way we had announced them first. And, you know, it's a longer story than that, but I think, basically, they were very effective. The law was effective in cleaning up the air from stationary sources and the automobile. And the reason the air is a lot cleaner today than it used to be is because of that law.

John Wise: That determination of protection of human health was developed by Environmental Protection Agency, applied to the entire country. They were supported by scientific evidence, and they were therefore science-based, health-protective standards. And they included such chemicals as ozone, sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide. And all of these chemicals had ambient standards to which we had to attain by a date certain. The standards were initially promulgated, or set forth, by Environmental Protection Agency, and over a period of each five years, they were subject to scientific review and validation, or scientific review and upgrading. Now, given the fact that the National Ambient Air Quality Standards are the ultimate goal and the ultimate measurement device, we also had to set up monitoring systems, which were primarily local in their orientation, which could monitor, over time, the concentrations of these ambient standards in the atmosphere. So, as we implemented the law, we were, at the same time, monitoring the law and ensuring that all of the moving parts were resulting in the desired end point.

SOURCE TYPES: STATIONARY AND MOBILE SOURCES

John Wise: We had to look at two different sources of emissions, the first of which were called stationary sources. The second of which were called mobile sources, relating to the automobile. The stationary sources were implemented at the local level by a local air pollution control district using the best available control technology, or the new source performance standards, which were specified by EPA. And by and large, over time, they worked beautifully. Industry did respond, industry did invest the money for compliance, and as a result of that the air quality was measurably improved.

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AUTO EMISSION CONTROLS

John Wise: And the regulation of the private automobile was driven by national standards, once again, with the state obligated to implement those standards. Now, in California, which was far ahead of the rest of the nation in terms of controlling tailpipe emission standards, was granted authority under the Clean Air Act to impose more stringent requirements on the automobile fleet. That resulted in the California car, which, over time, became an instrument of delivering not only mobility, but clean air.

Dave Calkins: Senator Muskie called in the auto industry. As it was recognized, they were a major contributor and had not been regulated by the Federal Government in the past. And he asked, he told the auto industry, "You will reduce your air pollution emissions by 90 percent out of the tailpipe by 1977, at the latest." The auto industry said, "There's no way. We have no controls. You know, we don't have that technology to do it in that short of time." And Senator Muskie said, "I know. But you will do it." And that was built into the Clean Air Act. And, in fact, the auto industry, after a lot of concerns, they did meet that standard.

David Souten⁴: So, as a backdrop to all of this, there were continual improvements taking place at the federal level, particularly for the control of mobile sources from cars and trucks. And I think the impetus that was placed on the EPA to recognize the degree of struggle that's ahead in reducing emissions, the forcing of the automobile industry to push the technology as far as possible, resulted in the development of two and three-way catalysts, which had a dramatic effect, a dramatic effect, on the reduction of the precursor emissions to ozone. So, while at the local and regional level one is trying to control the pollution as best one can with the local and regional controls, that is, those things are within the authority of the agencies.

At the federal level, you saw those reductions beginning to take place, and the automobile manufacturers coming up, innovatively, with these new technologies after having said that they didn't think it was possible. In fact, the creativity of the engineers resulted in the technology being developed in, really, record time, and dramatic reductions occurring of the catalysts. I might also point out that the catalysts that were subsequently developed were poisoned by lead additives in gasoline. And lead is, as you all know from recent discussions about Flint, Michigan, and lead in water, is a neurotoxin that has dramatic effects, particularly on developing children, the brain development of children. And that reduction in the lead that was required for the use of the catalyst in reducing the emissions of precursors to ozone forced manufacturers of tetraethyl and tetraethyl lead to effectively not supply this stuff to the refiners anymore. The refiners said, "We can make this, but we're going to have to reformulate the gasoline so we can use alternatives to lead." The lead was phased out over time, and the result was really multiple fold. Number one, the catalysts could work at their appropriate efficiency to clean up the ozone problem. But a dramatic and important effect also was that you no longer had lead spewing into the atmosphere and being breathed by particularly those people who were living in locales close to major freeways, which tend to also be the lower-economic portions of the population. So, that whole process had multiple effects which I think to this day are important to be recognized.

⁴ David Souten, Chief, California Planning Section, Region 9, EPA (Retired)

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Chapter 3: STATE IMPLEMENTATION PLANS (SIPs)

Dave Calkins: The key part of the Clean Air Act is something known as the State Implementation Plan, or SIP. SIP is a set of not just regulations, but regulations and strategies that outline how a state, a local area, will conduct itself to control pollution and lead to showing that they can attain those standards by 1977, at the latest.

CALIFORNIA REGULATORY STRUCTURE

John Wise: California is a very large and diverse state with many geographies, many industries, many communities, which at the time of the enactment of the Clean Air Act, were growing robustly. The fastest growth we had ever seen. As prosperity spread to purchase of single-family homes, and as mobility increased with the automobile, we created through our societal actions of urbanization, an air pollution problem which was quite serious. Now, our story focuses on Los Angeles, simply because it was the most challenging, the most polluted air basin in the entire state, as well as the entire country. And so the lessons we learned from the Los Angeles experience could help us in all other experiences around the state of California, and nationally as other states came into the fold.

Now, why was the Los Angeles basin so important? Well, first of all, we need to consider the geography. The Los Angeles basin sits on a coastal plain, the Pacific Ocean on one side, on the west side, ringed by high mountains all around the basin which created meteorological conditions for air to be stagnant underneath an inversion layer. So, the pollution that came off the ground level would sit in the air and cook. Now, when I say cook, this is a common term for the photochemical reaction that takes place in the atmosphere, a reaction that was brought to light in the 1950s at Caltech University by Dr. Haagen-Smit, who led a research team to discover what was in this air pollution soup. People were used to black smoke from fireplaces and industries, but the smoke over Los Angeles was brown.

The research led to a determination that volatile organic compounds, when they were released into the air in the presence of sunlight and nitrogen oxides, converts into a chemical called ozone. And ozone is commonly called smog. With the realization that volatile organic compounds were the principal driver for the atmospheric formation of ozone, most of our technology was focused on the control of the release of volatile organic compounds. And those would come from industrial sources, as well as motor vehicle sources. Well, the institutional structure of air pollution control in California, and in the Los Angeles basin in particular, was very, very complex. You know, on one level we had a federal statute which required the states to perform certain activities. But in California, those activities were largely performed at the county level, under air pollution control districts. EPA was faced with the institutional puzzle of how all of these pieces fit together.

CALIFORNIA SIP

Dave Calkins: The states had nine months to develop a State Implementation Plan, a set of strategies and regulations, that would attain the standards by 1975 or '77 at the latest. In

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California's case, it was not just the state developing a plan, but the air pollution control district, of which there were maybe 42 counties and combination of counties, had a whole series of various stationary source factory-type regulations that they could enforce. And those had to be put together, and then overlaying that would be the state auto standards and the federal auto standards, to show how the combination of those auto standards and the stationary source regulations for each of the 11 or so air basins in California could attain the standards by 1977. The state, in fact, did turn in a plan within nine months, which is the time frame they were given. EPA, under the act, had four months to either approve that plan, or write its own plan to take its place.

David Souten: I was handed an assignment when I got there which said, "Here's a State Implementation Plan for the state of California. Could you take a look at that? They had to submit this thing, and you have to review it to tell us if it meets our federal requirements." And there were numerous deficiencies in it, not the least of which, of course, it didn't show that it was going to attain the National Ambient Air Quality Standards for ozone in the time requirements under the Clean Air Act. So, we said the plan was unacceptable and the state would have to revise it, and the state effectively said, "No, we're kind of done with this process. We've done the best we can on this."

William Ruckelshaus: The question was whether they could meet the standard in Los Angeles within the time frame set by the law. We knew that they weren't going to be able to do that because there were so many older cars on the road that weren't going to be touched by these new standards. They would only become affected after they were ceased to be used. So, we had a period of probably ten years to phase in the new cars that were going to meet the standards. So, it really wasn't possible to meet the deadlines that the Congress had set, but there was no flexibility given to the EPA, and there were several approaches considered, using land use controls, using all kinds of exotic ways of reducing emissions. But eventually you had to get to the automobile. And our statistics showed, the ones in the region of California as well as in Washington, you were going to have to get 80 percent of the cars off the road to meet the standards. Well, that was completely impractical. But in any rate, we were sued when it was clear they weren't going to meet the standards. We were sued and challenged for giving them an extra year extension at the regional level.

Dave Calkins: EPA, rather than carrying out its obligation to write its own plan within these four months, it decided to give the state an extra year to come up with a plan that could meet the standards. And this wasn't just true in Southern California. This was true in, oh, probably 25 or 30 other areas in the country that had similar problems in meeting the '77 deadline. We knew it was illegal, that it was not in the act, but we felt it was a rational way to go about, giving the state a little more time to come up with a better strategy. We were immediately sued on that. A small public interest group in Southern California, headed up by a young lawyer out of Harvard by the name of Mary Nichols, representing the city of Riverside, which is about 60 miles east of Los Angeles, and where the highest levels, at that time, of ozone were being recorded.

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Mary Nichols⁵: Air quality was a big problem. Smog was a big problem in Los Angeles, but nobody at that point really had any idea what you could do about it. And one of the first clients, or potential clients, who called us was the city of Riverside. "I want you to bring a lawsuit against the city of Los Angeles for sending us all of their pollution. And you could go to court and bring a case to stop them from exporting their smog downwind." I told the city of Riverside that we couldn't sue the city of Los Angeles. There really wasn't any legal grounds for doing that. But that we did have a basis in the federal Clean Air Act for bringing a lawsuit against the state, and against EPA, but really the state would be the real party in interest because the state had submitted a plan under the new federal Clean Air Act which, on its face, showed that the state was not planning to achieve the federal Ambient Air Quality Standards. Because, in order to do that, they would have had to take fairly drastic measures to reduce the amount of driving, since the major cause of pollutants that created ozone was consumption of gasoline, burning of gasoline in vehicles. And they weren't willing to do anything that might curtail that.

The case is called *Riverside vs. Ruckelshaus*, and it was a reported decision on a request for a mandatory injunction to order the EPA to produce a plan that would, in fact, demonstrate how California could achieve the federal air standards since the state had failed to do the job. We had a federal district judge named Irving Hill, who was known as a good, but not at all political, or certainly not a radical judge. But the case is interesting, and it is interesting to this day, because it was so simple. You just looked at the statute. It said, "EPA shall do this." They hadn't done it. End of story. You know, there wasn't a trial. There were no factual issues to be tried. EPA didn't disagree, they couldn't disagree because they had not, in fact, followed the statute.

They had excuses or explanations for why it would be politically impossible for them to do it. And the EPA flew out one of their senior attorneys to meet with me. You know, I'm this brand new, kid lawyer, having just filed this lawsuit, and I'm being met with by, you know, at very senior federal lawyer. And, you know, he tried to convince me that if I pursued this strategy, it would put EPA in a very untenable political situation because they would be forced to come out with a plan that would be unpopular and would get them in trouble. And I said, "Too bad. I don't care. The law is the law, and we want clean air." And so, that was the end of it.

William Ruckelshaus: The court ruled in favor of the plaintiffs who had said they don't authority to grant them an extra year. And I didn't disagree with the finding. That's true, there was no responsibility, but I thought maybe the court would give us enough flexibility to manage around those deadlines to see if we could make some progress, and at the same time, not shut the whole state down. Well, the court ruled pretty much the way the statute said, to pass a transportation or a land use plan to meet the standards. The transportation plan was to get 80 percent of the cars off the road. And I went out to Los Angeles and told the people there, "Look, I'm sorry, but this is what the Congress has said, including your two Senators who voted for this. And we're going to have to get 80 percent of the cars off the road." And I went to the Chamber of Commerce, and I went to the environmental groups, I went to see everybody I could see, telling them why we were doing this and what we were up to. And I, frankly, believed that Congress was going to have to intervene and give them some kind of flexibility, otherwise you would shut the place down and you would kill of the enthusiasm for cleaning up the air.

⁵ Mary Nichols, Chair, California Air Resources Board

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Mary Nichols: We got the mandatory injunction. EPA went back and eventually they did produce their version of what a Federal Implementation Plan would look like. They took the position that the only federally enforceable action that they could take that would have the effect of reducing the amount of pollution from motor vehicles on the roads in California would be to restrict the amount of gasoline that could be burned. And the only way they could do that was through this kind of brute force mechanism of just preventing the gasoline from being sold in California. So, that was their plan, and needless to say, it got a lot of press attention.

William Ruckelshaus: We held a press conference announcing that 80 percent of the cars were going to have to get off the road. There were about 30 cameras at this press conference. First question I got from some guy up close to the cameras said, "Is this a joke?" "It's not to me, because to me it's my freedom versus your mobility." I said, "That's an easy one." Well, that's the origin of the decision. It was a court order that was right as far as the law was concerned. Even the judge acknowledged it was impractical. It wasn't going to happen. But, he was following the law, just as he ordered me to.

David Souten: So, the ramifications, of course, of the suit were not only to affect our operations in California, in the Southern California Air District, but subsequently another suit was taken against EPA that required that EPA began to look at other portions of the country that were in similar circumstances. Not as aggrieved as Southern California, but still had pollution that exceeded the standards with no State Implementation Plan, and with an attempted extension on the part of EPA.

Mary Nichols: The Natural Resources Defense Council, through their Washington office and David Hawkins, who eventually became the Assistant Administrator for Air, had a similar idea about how to try to enforce the new Clean Air Act, only they were looking at doing it on multiple jurisdictions and having a larger national impact.

John Wise: As the litigation began to drive us into more stringent schedules and deadlines, stronger regulations on the various sources, it also drove us into the related arena of transportation and land use planning. And a variety of control measures ensued in which emissions from land use and transportation were to be achieved. Now, at the time, there was public acceptance of these measures, to the extent that they expected better air quality. But there was also rejection of these measures in the sense that they influenced behavior, particularly driving behavior. We learned, to our sorrow, that it is much easier to regulate the automobile industry to produce a clean car than it is to regulate individual driving patterns by normal citizens.

Chapter 4: FEDERAL IMPLEMENTATION PLAN (FIP)

David Souten: Of course, the onus became that we had to develop what's called a FIP, a Federal Implementation Plan, that would take the place of the inadequate ones submitted by the state of California. And we had a certain time period to do that. We, my staff and I, a very small

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staff contracted with some external scientists and engineers as well to help us determine the amount of reductions of precursor emissions that were necessary in order to attain the ozone standard. And we made that determination, then realized that even with the best of attempts at all normal control measures that might be available to us, including all of those that were available to the state that they had incorporated, we weren't going to have an adequate precursor emission reduction to provide for attainment of the National Ambient Air Quality Standard for ozone without some rather drastic measures.

We ended up needing a really substantial reduction in motor vehicle emissions, and after several unique things that we had incorporated that seemed reasonable at the time, which we call Complex Source Control, which is looking at the impacts of such things as parking lots and new roads, and new cities or new civic centers, whatever, and saying, "Well, if we put proper constraints on these, it'll reduce the demand for automobile use. And if the demand for automobile use is diminished then there's going to be a reduction in the emissions associated with that automobile use." And while it papered out nicely, the public responded negatively to these impositions on the fabric of life as they lived it. And even with those we were at a loss to find a rather drastic reduction still necessary, so as required by the court's mandate, we promulgated the plan. We included the only method that we had of showing the emissions reductions from mobile sources -- mostly cars -- by implementing a gasoline reduction plan, or rationing plan as it became known. And the plan was subsequently promulgated years after it was to be implemented. That is, the most onerous measures implemented closer to the prospective attainment date of 1975.

William Ruckelshaus: We looked at every conceivable option as to how to move these down. Driving only every other day. I mean, there were probably 50 different things we looked at. We went after all of the stationary sources. There weren't that many in Los Angeles. But there were a lot of people barbecuing outside, and we limited that for a while. And as the antagonism to these rules were building up in California, what I was concerned about was that we would lose their support for the kinds of pressures that were necessary to get these cars under compliance, and the automobile was the principal source of most of these pollutants that were on our concern.

And that's the way it finally worked out, but it worked out because the best way to call the region or the area's attention to the nature of the law we were trying to enforce was to enforce it. And say, "Okay, I'm not up against a wall. The judge has said, 'Do this or go to jail.'" And the only thing we could think to do that would really have the impact, not just have a partial impact, was to get those cars off the road." Well, here we are forty years later, there are probably twice as many cars in California as there were then, and the air is a lot cleaner. And it's because this law pushed very hard, finally, on the automobile companies. The questions that people were raising when we pushed the cars off the road, they said, "Well, you're penalizing the driver for what the automobile companies haven't done." And to a certain extent that was true, but we got law changes that allowed us to keep the pressure on the automobile companies, and to provide some relief for drivers who were being affected by it.

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LAND USE CONTROLS

Dave Calkins: The result of that lawsuit, in addition to a very strict time frame for us to come up with a plan, was the obvious recognition that it would take more than the traditional stationary source and mobile source control measures to attain. As a result, we started looking at land use and transportation controls, which were authorized under the Clean Air Act, but it had never been used in the past for air quality plans. So, EPA, first they did hire a consulting firm, TRW, to develop, do the technical analysis. In fairness, we had a very relatively small staff of maybe 15 air pollution persons to cover all of the air pollution activities there in the regional office. So, we had the help of both our research center in North Carolina, as well as TRW, to develop the technical plan. And everyone came up with the same conclusion that we had to do more than just control stationary sources and the mobile sources.

John Wise: At roughly the same time that EPA realized that we had to incorporate some measure of land use and transportation planning in order to show attainment with the National Ambient Air Quality Standards, there was great enthusiasm across the Federal Government for regional planning. Separate agencies came together under the theme that regional councils of government, which also serves as metropolitan transportation organizations, could organize their population data so that it was all consistent, and that everybody was working off of the same basis for planning. And that highways would be built to connect these land use plans in accordance with the population growth. And through this method of regional planning, we could get ahead of the curve and begin to influence the way our communities take shape, the way our freeways are designed, and that would be a major solution to our dilemma of how to incorporate transportation and land use plans.

Well, it was a bold idea. It was actually a very good idea. The problem is that none of the federal agencies that were participating in this land use planning and transportation planning had any authority over land use. That authority rested at the local government level. Literally hundreds, if not thousands, of local governments had the authority to regulate land use, and they were not about to give up their powers of land use. Because at the time, they were preoccupied with increasing their tax base, as California went through a major tax revolt. So, you find a convergence of opportunity. You find a convergence of conflict, and sometimes it's not resolved in the short term. But in the long term it dramatically helps as we plan future environmental investments in the states.

As we engaged the transportation community -- the highway funders, the planners, the designers -- we quickly realized that we were not equipped, nor did we have authority, to mandate great changes in how the highway system, the freeway system, took shape. But we did find that we had a willing client who could dramatically improve the efficiency of that transportation system to the benefit of air quality, and that's what brought carpool lanes, sometimes called diamond lanes, to our freeways. That's what brought carpooling to our freeways, the special dedicated lanes. That's what brought metering lights to entrance on-ramps, which metered the traffic so that it would flow more smoothly.

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INDIRECT SOURCE CONTROLS

Dave Calkins: The indirect sources, which are basically sources that attract traffic, such as shopping centers, sports stadiums, large industrial parks, things of this sort that draw traffic to them, they don't by themselves emit anything. That program came out of the follow-up lawsuit to the South Coast FIP lawsuit by Mary Nichols. This was a lawsuit by the Natural Resources Defense Council, NRDC. David Hawkins, who was also one of our Assistant Administrators at EPA over the years, Dave Hawkins sued us and said, "Look, there's 18 more areas outside of California that ought to also have plans that may include transportation measures." But the lawsuit itself did not use the words, "indirect source." The Clean Air Act never mentions "indirect source," and "indirect source," basically it came out of negotiations after the lawsuit was settled between the NRDC and the EPA General Counsel's office in Washington. And it came out of a clause in the lawsuit with NRDC that talked about maintaining the standards. It's one thing to attain them, but the Clean Air Act also has a clause on "you must maintain standards."

Many of us in California felt we'd be lucky to ever attain the standard, let alone maintain them. But other areas that were more on the borderline needed to maintain the standards right off. So the indirect source was one measure suggested in the discussion, after the lawsuit, of a way that EPA could address these other kinds of sources, such as shopping centers and industrial parks, et cetera. So, as part of the settlement of that lawsuit, and looking at the attainment issue of indirect sources, EPA went ahead and proposed guidelines on what should be covered by an indirect source review program. I mentioned earlier, I believe, about new source review, which is the major program for new sources of stationary source pollution. This is a program for the indirect sources. EPA wrote the guidelines, and when we wrote them we had probably much broader views -- and probably NRDC was an influence on this -- much broader views as to what should be covered in an indirect source review. We included things such as industrial parks, business parks, stadiums, shopping centers, but also things such as sewage treatment plants, where you locate gas line, power lines to support growth.

Anything that might affect growth, we covered in there. Naturally, there was a huge reaction to that, probably even larger than the transportation control plans in terms of the parking management, the parking restrictions that we were proposing within that plan. And probably one of the biggest lobbies that I recall EPA facing was the Parking Owners' Association, and they took us on with all of their, you might-- Today you'd say super PAC money, but money that they had to support from all of their different facilities around the country. And they took us to task on that one. Others took us to task in terms of just the idea of EPA regulating land use. They felt that was not in the Clean Air Act. Maybe some measures, but not land use itself. So, we had quite a backlash from that. As a result, EPA said, "Well, let's the states define what an indirect source is," and we did not tell them what it had to be, but we basically knew that they would be dropping the requirements to maybe just shopping centers and sports complexes. Both San Diego and the Bay area actually attempted to build in indirect source rules in their own regulations. The Bay area succeeded, and in fact that stayed on the books for 20 or 30 years afterwards.

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PUBLIC PARTICIPATION

John Wise: Throughout this process of implementing the Clean Air Act, public participation became overridingly important.

Dave Calkins: Gas rationing made headlines with the public when we announced it. It was actually announced in Los Angeles in January of 1973. We announced this federal plan, the proposed plan. We held a series of maybe 20 hearings around the South Coast Basin, and then promulgated the final plan by November of 1973. Remember, this is only three years from when EPA was formed and the Clean Air Act was passed. We were getting ready to carry out an 82 percent gas rationing program in Southern California. But it was quite a hearing, and the public, and the newspapers, and the media were kind of stunned with this dramatic plan to achieve air quality.

Probably the most contentious hearing that we had, and the best attended hearing that we had in the entire transportation control plan indirect source review process at EPA was that in Fresno, California in the fall of 1973, I believe it was. Fresno was one of these newer areas that the NRDC suit identified as needing a quote unquote transportation control plan to attain the standards. Fresno was a part of the San Joaquin Valley. There's eight counties in the valley, all of which now are part of one agency, but at that time each county had its own agency.

The plan we proposed for the entire San Joaquin Valley was our, you know, the traditional transportation control plan. But one of the measures in it was that two-stroke motorcycles could not be ridden during the daylight hours of the smog season, because two-strokes put out 25, 30 times the pollution of, say, a car. They were uncontrolled. And also, that we would limit the sales of any motorcycles at the current level in the valley until they attained the standard. The hearing was to start 9 o'clock, and there would be an afternoon hearing. And, if needed, which we didn't think we would, have an evening session.

We had a room at the Fresno Convention Center that would hold about 50 persons, which frankly, we thought was overkill. But we had it arranged by head of the local Lung Association, who Susan Durbin of our staff had been working with earlier, and had built a rapport with him. When we got there, there were at least 200 people standing in this hallway, in this little foyer outside of the 50-person hearing room. After the Congressman spoke, and the Mayor spoke, suddenly someone in the back of the room started stomping on the ground and just saying, you know, "We want to speak. We want to speak." And we kept saying, "Your turn will come." And Chuck Eckerman, our hearing officer, was trying to keep to the rules. And this large woman in the back started stomping on the floor and saying, "Kill EPA! Kill EPA!" And everybody in the audience started going, "Kill EPA!" So, suddenly we were faced with restoring order, and once again saying, "Well, everyone will get their chance to talk." Chuck Eckerman was checking where the nearest exit was from the place. And I called Susan over and said, "Get to the Lung Association," who was in the room, "Get him and see if there's any place else we can move this hearing to, because this is not going to work out." Fortunately, she quickly came back and they arranged to let us start, just after lunch. We had access for the lunch, afternoon, and that evening we had the full basketball stadium. The inside held two or three thousand people, and was available. So, I made the announcement that, "Okay, let's all calm down. We'll meet again at 1 o'clock, and we're going to take turns calling each one of you in, rotating. We won't follow

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the traditional elected officials or government officials first. We're going to, rotate between business and citizens, and go through it."

Interestingly, for effect, the motorcycle dealers had contacted several branches of the Hell's Angels, but they put them on buses and brought them to Fresno from the valley, not riding their motorcycles in. In buses, but in their full costume, and walked up and down the aisles and made angry looks at the hearing panel. But did not testify, and did not disrupt anything. The hearing had to go on into the next day, and we came back for a morning session before we finished up. We immediately contacted the Office of Mobile Sources in Washington and told them what happened here because they were having a similar hearing on all of these, but motorcycles too, in the South Coast Basin on this particular plan, the following week. And we arranged a meeting between the motorcycle manufacturers, particularly the Japanese manufacturers, and Harley, with EPA's technical people, and they actually hammered out a schedule to put controls on the motorcycles, and were able to announce it at the next hearing and kind of deflate some of the opposition there.

The outcome of all of this, as we look back on it, number one: It said something about our lack of advance-- Well, number one, it was probably public participation at its best. The public got out there, it turned out the motorcycle dealers and the motorcycle riding clubs in the valley had full page ads out in the local papers, "Come tell EPA what you think about the hearing, what they should do." They got the public out, obviously. Secondly, the size of the crowd that came, it was proportional to how it was affecting people individually, personally. There was a very large motorcycle population there in the valley.

Chapter 5: LESSONS LEARNED

Dave Calkins: Looking back and reflecting on what happened during those crazy years of the early 1970s on the transportation control plan development, we learned a lot. First, we learned that land use controls and transportation controls had not been used in air pollution before. And our staffs of primarily engineers and scientists did not have a real good sense about how all of that came together, except on paper it looked like it would reduce air pollution quite a bit. We also recognized that state and local air pollution agencies, likewise, did not have expertise in that area. The persons who best understood transportation and land use controls were at the local and regional levels, such as the Southern California Association of Governments, and some of the various county planning agencies. But they had no experience in the air pollution side of it, so you had a very complex institutional arrangement, trying to figure out how to meet these standards.

John Wise: Attainment of clean air in the United States was driven by the Clean Air Act, which had a multitude of expectations and demands on our economy, or the way we lived, and the way we drove. These were driven, in part, by a public expectation for clean air. Clean, breathable air. But they were also influenced strongly by a pushback from industry, who resisted the new technology forcing regulations. A pushback from the entire automobile manufacturing community, that did not want to make cleaner cars. And a pushback from the public, who belatedly recognized that transportation and land use controls would influence how they lived.

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We had to incorporate these lessons into our ongoing implementation, as we not only had to be affirmative in requiring state and local action, we also had to be defensive, in terms of responding to the invariable cries of complaint from automobile makers and technology vendors.

William Ruckelshaus: One of the things in implementing the Clean Air Act, and this is true of environmental laws in general in the '70s -- not true today, but it was true in the '70s -- they wanted cleanup yesterday. And so they would set-- If they could, if it made any sense to do so, they would set standards in the statute itself, without any sort of scientific review, or "how bad is the problem" or "where should we put it in terms of priorities?" And then put a very strong deadline on it. "Do it in six months." You know, and some other senators would say, "Oh, do it in five months if you can do it in six." Now, I spent a lot of time testifying, saying, "Look, you can tell me to do this in six months or five months. It's not possible." I said, "If we dropped everything we were doing in the Federal Government and did nothing but pay attention to these requirements you're giving me out of the Clean Air Act, we still couldn't do it in five months. It's not possible to do that, so what you're doing is giving this agency a responsibility which it's not going to be able to discharge, and you're dooming it to failure. Why are you doing that? Why don't you put a realistic deadline, or give me some authority to do it, or I'll come up here and report to you about why we have or haven't done it, so that I've got enough flexibility to make this thing work." That usually caused them to lower the deadline even further. Instead of five months, it's four months.

Now, in Los Angeles was the extreme of the effect of that, because we looked silly to go in there and tell 80 percent of the cars to get off the road. They knew that couldn't be serious, and it sort of discredited the effectiveness, or the seriousness, of the act itself. And the act was very serious. They had spent several years in putting it together. And I don't know if that problem is fully solved, although now it's the other way around. You know, "Quit pushing them around. You're destroying the economy. Leave it up to the states, or leave it up to the local governments to decide what to do." That's an error on the other side, in my judgment. If the law had reasonable deadlines in it, or some flexibility in setting the deadlines, so that you weren't cheating, you weren't helping people not comply, but you were giving them a reasonable time to do so, it would have solved a lot of problems.

David Souten: So, the other observation I make that seems to be a constant in environmental program development is the natural tension that exists, not just between the status quo of government agencies and the intrusion of any new programs and what it means to them, and the necessity to naturally somehow adjust to that for the common good and moving forward. But the same tension exists between private enterprise, industry in particular, and those that are wishing that industry to somehow address a particular problem, or help address that problem. And, case in point is the automobile industry that initially said, "We can't reduce the emissions as quickly as the EPA and the Clean Air Act wishes."

But the fact is that they did rise to the occasion, were able to effect technology that accomplished just what was needed, and that had ramifications in a lot of areas, including energy efficiency, improved automobile performances, and so on. We see that, still, however, whether it be in industries, middle industries, coal mining in particular, which are loathe to change their operations, again because there's a generational issue. There's a way of carrying

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out life, there's a way of, in fact, living, that is appropriate to that, but inappropriate, perhaps, with a broader issue of environmental improvement.

The same thing is true for other industries. The refining industry had to make some major changes in order to produce reformulated gasoline that would meet the requirements of the automobile manufacturers, as well. Again, there was a hesitation. As it turned out, reformulated gasoline could be developed without the use of lead that would meet the requirements of the automobile industry. And again, improve performance of automobiles and also reduce the precursor of pollution. The same thing is true with the other industries, where improved efficiency ended up being a beneficial outcome of the efforts that were being carried out.

Dave Calkins: Also looking back on it, we recognized that we were trying to set controls and measures that affected, directly, individual's right to drive, to carry out their lifestyle, and you could not overnight have them start riding buses and not driving 82 percent of the time. Measures that we thought would be upon the auto industry and the businesses in industry to implement actually, in this case, fell right onto the public. Land use controls such as where you locate shopping centers, or do you locate a new shopping center, all of those were new areas that we were getting into. The other problem I think we recognized in the region was we had a more unique situation in Region 9. Paul DeFalco, when he had hired staff for the region, made it a point of hiring planners, geographers, more generalists that had broader liberal arts backgrounds than strictly engineers and scientists. This was not the case necessarily, in Washington, and certainly in the other regional offices. And we had a better sense as to what might work, and what wouldn't work, such as plans, parking management plans, for example, instead of surcharges. But, we were unable to convince Washington that, in fact, all of those-- That you could work with the locals in a more, broader time frame, perhaps make progress towards the standard.

John Wise: We learned that many of the measures that we were formulating for transportation and land use control had minimal effect at the time. But, in the long run, they integrated the requirements of the Clean Air Act with its technology drivers, and it integrated the way we lived, through land use and transportation mechanisms, and it set the stage for cleaner cars, which we now drive today. It also set the stage for one of the most important instruments of environmental quality in the United States. And that was, as transportation and land use measures were developed, they had to be analyzed as to their environmental impact. And the environmental impact covered the entire range of how we lived and how we drove the cars we drove, the factories we built. And the environmental review of all major facilities in today's world benefited by the pioneering work that we did to try to control land use and transportation-related emissions.

David Souten: So, one of the difficulties I think that was witnessed from the very beginning was that there was a sense on the part of local agencies, whether they be county or basinwide agencies like the Southern Quality Air Management District, and certainly their resources board, that there was a sense that, "The feds are coming in and controlling our programs." And most of these agencies had qualified people doing good work, technical work. And they were responding to the political environment that they were in at the time, which was basically that individuals were enjoying their freedom. Large use of automobiles. Industries were heavily

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influencing the political process. And these agencies were doing relatively the best that they could within those constraints.

So, the Federal Government comes in at the demand of the population in general saying, "Well, that's not good enough. We want more to be done, more quickly." There's a natural reticence on the part of those that are in control to give up control, and so their attitude, I think, was, "Well, sure, we'll do what we have to do under the Clean Air Act, to submit the appropriate plans and go through the paperwork. But we don't have the, really, the wherewithal. We don't have the ambition to take on this huge job that's being placed on the Federal Government. This is your job, not ours. And, frankly, we don't welcome you doing this in our area. We think we're doing it the way it should be done."

So, there was a lot of meeting, prior to, during the development of the SIP and the FIP, and refinement of that, and working with these various agencies and trying to get them to accept a greater degree of authority and responsibility, and to go forward with it. But I think that they were acting within their constraints. EPA was acting within their mandate. And we had a natural hesitation on the part of a lot of people to work together and go forward to a common end. So, I think there was a negotiation that was trying to take place, I think there were some activities trying to take place, but ultimately, I think Ruckelshaus, and I think others felt that this sledgehammer that was handed to the EPA by the Congress was a will of the people of the country, and certainly the will of the people in Los Angeles, to change things dramatically. When, in fact, they had been changing gradually.

And, in fact, if you look at the air quality monitoring data from the 1950s in Los Angeles through the 1970s and thereafter, the Clean Air Act and all of this activity took place in the early '70s. And you see a dramatic change where the pollution, and particularly smog-related and hydrocarbon precursor and ozone, are just increasing dramatically until 1970, and then all of a sudden there's a definite turn downward. So, things are happening, and I have to believe that the draconian measures that were taken by EPA, while many of them didn't get implemented, many of them didn't have an immediate effect, there was a gradual effect taking place. Certainly, the curve of those emissions, the curve of the air quality deviated from the trend prior to that time. So, I think the long-term benefits probably were derived much more influentially than were the short-term benefits of immediate and dramatic changes.

Dave Calkins: One of the interesting things as we look back is how legislation was made in those days, that it was not whoever the administration was, or had the most votes in the Congress. It was a bipartisan effort. The Republican Party was known as quite conservationist. Many of the earlier laws were passed under the past administrations. Under the Nixon administration we passed the National Environmental Policy Act, the Clean Air Act, the Clean Water Act of '72. Other legislation came about, and most of it was written by a bipartisan effort.

Mary Nichols: I, to this day, believe that the Clean Air Act is the most effective piece of legislation that Congress has ever passed. Not just environmentally, but in terms of taking a very difficult problem that has aspects that are political, that are technical, and that involve many sectors of society, and actually moving the agenda in a direction of solution of the problem. We never have achieved like the same results that we were able to achieve as a result of the Clean Air Act, and pushing to have it implemented properly. Now, this couldn't have happened if there

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hadn't been strong public support for the basic concept of clean air, the desire for clean air. And it probably wouldn't have worked if you didn't have a landscape of various, different sources of pollution, such that no one of them was going to be completely put out of business by implementing the law. So, in other words, in order to come up with a viable State Implementation Plan that actually would come close to meeting the standards even, you were going to really have to do quite a number of things that affected the vehicles, the fuels, the way that the vehicles were used, the way they were maintained, the future of land use planning, parking lots.

All of these different measures kind of working together were going to be needed in order to solve the problem. That made it more difficult and complicated, but it also saved it because it meant that no one group, no one particular vested interest could say, you know, "You're going to destroy the economy. You're going to destroy life as we know it." And, basically, that is how it's worked year in and year out, is that the public has listened to one industry after another talking about how meeting the Clean Air standards was going to be too costly, it was going to, you know, destroy life as we know it. You wouldn't be free to drive whenever and wherever you wanted to go. They just said, "We don't believe you. We think there's way to solve this problem." And, sure enough, the regulators and industry together have come up with ways to solve the problem.

William Ruckelshaus: Do as well as we knew how to, and could do, to make a federal system that they had established to make these laws work, function. Responsibilities were given to the Federal Government, the state government, and the local government to jointly come together and make these statutes work. Now, if we had spend all of our time fighting each other, like we did in the very early days in Los Angeles, we wouldn't have gotten anywhere. And we had to establish enough good will among the people trying to make these things work so that we could give one another some leeway, some flexibility, in administering the laws and to recognize they were doing the best they could under the circumstances. That, I think, has held in EPA. And most places today have changed quite dramatically, I'm sure, as well, but in most cases they showed respect for the state people who had these responsibilities in the past, but nowhere near the authority to do anything about it, being that we had pollution havens. People would move out of one state to another state where the rules weren't as strict. And that was one of the reasons they federalized the system of protecting the environment and public health.

David Souten: One of the aspects of this that I like to look back on is what have we learned from that process that's beneficial to, perhaps, environmental challenges that we're facing today. And, I look back at some of the early responses to the scientific community's recognition - clear recognition, unanimous recognition -- of the importance of the ozone precursors to the formation of ozone, and the health community's unanimous position that the health effects of ozone and the other criteria pollutants were really quite dramatic. We're not talking simply about people wheezing, and we're not simply talking about people having eyes running. We're talking about people actually dying of aggravated asthma. And as that became more and more recognized, I think that the impetus towards control became more influential. But there's initial, early on portions of that where people were saying, "I don't believe that there are health effects. I don't believe that smog is caused by cars."

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So, I think there's a parallel here in some areas where a denial takes place, eventually acceptance takes place, and then eventually some sort of action takes place to rectify the particular problem. And we might see parallels between today's political climate in certain technical issues in the environment that are facing similar challenges. Probably, the largest and most significant is global climate. Now, clearly it falls in this category of scientific information being very clear about the direction that we need to take, and certainly the problem that needs to be addressed, but because of the economic implications, equity implications, legal authority implications, and necessarily likely changes, at least in the short term, in lifestyles, there's natural resistance to it, and people, therefore, deny in fact, the reality of what's taking place.

Mary Nichols: I think that moving in the direction of setting very strong environmental standards, and then allowing for technology to be developed that will meet those standards is often called technology forcing, because the technology to meet the standards may not exist in a commercial sense at the time you set the standards. But if you set the standards based on what the environment needs, what public health demands, and then set a deadline and make it clear that you intend to enforce it, it brings out the creativity in industry. And, in fact, inventions come to the fore, or inventions that were already there get funded. Companies get formed. People find a way to make money, or save money, doing whatever needs to be done. And you've got the environmental progress that is needed as a result of these stepwise progressions forwards.

That same lesson is applicable on a global scale to the problem of global climate change, but not quite as simple. Because, of course, you have some countries that are major emitters, and have been a source of the problem for years, and others that are at the opposite end of the spectrum, and are really just beginning to develop, and need to develop to improve the lives of their people. And so, you have to mobilize capital on a global scale to be able to take more efficient technologies, better ways of doing building, better ways of moving people around, and export them to places where they're very much needed, so that those countries have an opportunity to develop without having to go through all of the stages of pollution and cleanup that we've had to do in our country. So, it's not exactly the same, but the experience of having made so much progress on air pollution over the years under the Clean Air Act is absolutely the fundamental basis for the work that we're doing today, in California and at the national level, to achieve very ambitious climate goals, as well.