REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

Cost-Effective Measures Which Will Enable Virginia To Comply With The 1990 Clean Air Act

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 21

COMMONWEALTH OF VIRGINIA
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SUMMARY

This study was requested by the 1992 Session of the General Assembly through the passage of Senate Joint Resolution No. 104. Recognizing the importance of clean air to the health of all Virginians and the significant impact of motor vehicles on the Commonwealth's air quality, this legislation sought the recommendations of a study subcommittee on the development of a cost-effective plan for Virginia's implementation of the federal Clean Air Amendments of 1990.

The work of the SJR 104 Subcommittee focused on three elements whose implementation would require action by the General Assembly:

- Motor vehicle emissions inspection and maintenance (I/M) programs;
- A low-emission vehicle (LEV) program; and
- A motor vehicle scrappage program.

Consideration of a closely related fourth issue, a clean fuel fleet program, was coordinated with the Joint Subcommittee Studying the Use of Vehicles Powered by Clean Transportation Fuels, as provided in House Joint Resolution No. 100 (HJR 100).

After four meetings, two of which were public hearings, the Joint Subcommittee recommended that:

1. A centrally administered (test-only) enhanced I/M program be established to cover vehicles registered in localities within the federally designated ozone nonattainment area in Northern Virginia, the County of Fauquier, and the City of Fredericksburg;

2. A decentralized (test-and-repair) basic I/M program be established to cover vehicle registered in localities within the federally designated ozone nonattainment area in Central Virginia, to become effective at such time as the General Assembly deems appropriate;

3. A LEV program not be supported at the present time;

4. A motor vehicle scrappage program be established to encourage the retirement of older, "dirtier" motor vehicles, including a mechanism by which industries making contributions toward the cost of the program could receive short-term air pollution credits; and

5. A clean fuel fleet program be established for the Northern Virginia ozone nonattainment area in accordance with recommendations of the HJR 100 Clean Fuels Subcommittee.

While agreeing on the elements which I/M, scrappage, and clean fuel fleet programs should include, the Subcommittee neither considered nor recommended specific draft legislation to implement these recommendations.

Report of the
Joint Subcommittee Studying
Cost-Effective Measures Which Will Enable Virginia
to Comply With the 1990 Clean Air Act
To
The Governor and General Assembly of Virginia
January 1993

To: The Honorable Lawrence Douglas Wilder, Governor of Virginia,
and
the General Assembly of Virginia

I. AUTHORITY

This study was commissioned by the 1992 Session of the General Assembly through passage of Senate Joint Resolution No. 104 (SJR 104), sponsored by Senator Elmo G. Cross, Jr., of Hanover. Its purpose was to consider Virginia's plan for implementing the federal Clean Air Amendments of 1990.

The purpose of the federal Act is to improve air quality. To achieve this goal, the Act and federal regulations promulgated pursuant to the Act require the states to develop state implementation plans. These state implementation plans must include certain elements and may--but need not necessarily--contain certain other elements. In passing SJR 104, the General Assembly sought to ensure that Virginia's implementation plan would safeguard Virginia's air quality in ways that are both effective and efficient.

Some of the parts of this study were understood to overlap other studies, specifically an ongoing study of alternative fuels by the Joint Subcommittee Studying the Use of Vehicles Powered by Clean Transportation Fuels (created in 1990 and continued most recently by House Joint Resolution No. 100 (HJR 100) in 1992) and a joint study by the Department of Air Pollution Control and the Department of Motor Vehicles of the idea of a "retirement program for dirty cars" (authorized in 1992 through House Joint Resolution No. 144). Overlapping memberships and staffs enabled these three studies to keep abreast of one another's work while minimizing duplication of effort.

II. BACKGROUND AND SUBCOMMITTEE ACTIVITIES

In 1990, the Congress passed and the President signed into law amendments to the federal Clean Air Act. These amendments require cleanup of polluted areas in accordance with a specific schedule, tighten emission standards, and grant federal agencies greater powers to enforce the Act's requirements. Those portions of the Act having the most direct bearing on the SJR 104 study are those relating to ozone pollution caused by motor vehicles. Under the Act, the federal Environmental Protection Agency (EPA) identifies those areas whose air quality fails to meet specific standards as air quality nonattainment areas. For ozone, there are five categories or nonattainment areas ranging from "marginal" (the least polluted) through "moderate," "serious," and "severe," to "extreme" (the most polluted). What a state has to do to meet the Act's requirements and how long it has to do it depends on the severity of pollution in its nonattainment areas.

Presently, there are three ozone nonattainment areas in Virginia: Hampton Roads (marginal), greater Richmond (moderate), and Northern Virginia (serious). Those localities comprising these nonattainment areas are as follows:

Hampton Roads: Counties of James City and York and Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg;

Greater Richmond: Counties of Charles City, Chesterfield, Hanover, and Henrico and Cities of Colonial Heights, Hopewell, and Richmond; and

Northern Virginia: Counties of Arlington, Fairfax, Loudoun, Prince William, and Stafford and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park.

Under the Act, serious ozone nonattainment areas must reduce ozone-forming pollutants by at least 15 percent by 1996 and by a further three percent per year in 1997, 1998, and 1999. Moderate ozone nonattainment areas need meet only the 1996 pollution-reduction target of 15 percent. So long as their air quality does not deteriorate further, no similar pollution reduction targets apply to marginal ozone nonattainment areas (the assumption being that programs already in place or required will produce adequate continued improvements in air quality).

This classification scheme has a direct bearing on motor vehicle emissions inspection and maintenance (I/M) programs. The federal Act (and EPA regulations issued pursuant to the Act) requires implementation of "enhanced," centrally administered (test-only) I/M programs for vehicles registered in serious ozone nonattainment areas. For moderate ozone nonattainment areas, the Act requires at least a "basic" I/M program.

While there are other distinctions as well, the most obvious difference between a basic I/M program and an enhanced I/M program is that, under a basic program, vehicles are subject only to a steady state, idle mode test, while, under an enhanced program, they are subject to a dynamic test simulating operation under a variety of driving speeds, conditions, and levels of acceleration. In a centrally administered test-only program, emissions inspections are carried out through a relatively small number of facilities operated by one or a small number of contractors who perform only tests and are not allowed to perform repairs of vehicles that fail these tests. In a decentralized test-and-repair program, emissions inspections are carried out by a relatively large number of facilities operated by independent operators (under a certification or licensure scheme) who not only test vehicles, but also repair vehicles that fail these tests. (The existing I/M program in Northern Virginia is a decentralized test-and-repair program.)

Although the federal Act and EPA regulations only require centrally administered enhanced I/M programs in serious (and worse) ozone nonattainment areas, states have the option of expanding these programs into other areas as well. States are also given the option of extending decentralized basic I/M programs into areas beyond moderate ozone nonattainment areas. In the course of the Subcommittee's deliberations, the Department of Air Pollution Control (DAPC) recommended that the enhanced I/M program for Northern Virginia be expanded to include vehicles registered in Fauquier County and the City of Fredericksburg. DAPC also provided information on the costs and benefits of going beyond the minimum requirement of the Act and require the same centrally administered enhanced I/M program for the Greater Richmond area and expand the boundaries of this area to include Charles City County and the City of Petersburg as well.

DAPC, certain environmental groups, and others who appeared before the Subcommittee and submitted written comments for its consideration recommended these actions on the grounds that, among other things: (i) a centrally administered program would provide greater air quality and health benefits, (ii) a centrally administered program would have a lower administrative cost and would be more efficient and cost-effective than a decentralized system, (iii) a single program would be easier and less expensive to administer than two different programs, (iv) expansion of I/M programs to additional areas would include large numbers of vehicles commuting between nonattainment areas and adjoining jurisdictions, and (v) doing more than the minimum required by the Act to reduce air pollution caused by motor vehicles would reduce the likelihood that additional costly and burdensome air pollution controls would have to be imposed on small businesses and industries.

These arguments were countered by motor vehicle dealers, service station operators, and others who argued that, among other things, (i) the superiority of a centrally administered test-only I/M program compared to a decentralized test-and-repair program had not been irrefutably demonstrated, (ii) imposition of I/M programs beyond those required in the federal Act would impose unnecessary economic burdens on businesses and individuals and result in additional inconvenience to the general public, and (iii) the need to go beyond federal mandates in order to comply with federal clean air standards had not been demonstrated to their satisfaction.

For some members of the Subcommittee, possibly the most telling argument against going much beyond the minimum I/M program requirements of the federal Act was the fact that recent years' air quality data from monitoring stations in the Richmond and Hampton Roads nonattainment areas have shown sufficient improvement in those regions' air pollution to permit DAPC to petition EPA for redesignation of those areas from, respectively, moderate and marginal ozone nonattainment status to attainment. While a majority of the Subcommittee was persuaded to make vehicles registered in Fauquier County and the City of Fredericksburg subject to the same centrally administered test-only enhanced I/M program as Northern Virginia, this consensus did not extend to broadening the scope of a Greater Richmond I/M program to include Charles City County or the City of Petersburg. Neither was there majority sentiment in favor of requiring anything beyond a decentralized test-and-repair basic I/M program for Central Virginia. The Subcommittee was persuaded, though, to apply to both Richmond's and Northern Virginia's I/M programs the same $450 repair-cost precondition for issuance of I/M waivers. A majority of the Subcommittee also agreed to leave to the discretion of the General Assembly the date on which an I/M program for Central Virginia would be implemented.

In addition to I/M programs, SJR 104 specifically requested that the Subcommittee consider the implementation of a low emission vehicle (LEV) program. However, unlike new I/M programs, concerning which no bills were offered during the 1992 Session of the legislature, a bill (Senate Bill No. 488 (SB 488)) providing for a Northern Virginia LEV program was already pending before the General Assembly when the present Subcommittee was created. This measure was offered by Senator Edward M. Holland of Arlington. While not specifically required in Virginia under the 1990 federal Act, a LEV program for Northern Virginia has been viewed by DAPC and Governor Wilder's administration as an important element in their strategy for meeting Virginia's air quality goals under the 1990 Clean Air Amendments. This bill was carried over until the 1993 Session by the Senate Transportation Committee.

Under SB 488, all 1996 and newer model year motor vehicles "intended for use" in the Northern Virginia ozone nonattainment area would have to be low-emission vehicles (LEVs). These are vehicles whose engines are designed and constructed to meet lower emissions standards than those applicable to new motor vehicles generally.

Because the country's first LEV program was conceived in California, LEVs are often called "California cars." There are two major differences, though, between California's LEV program and the LEV program proposed in SB 488. First, the California LEV program has state-wide application; SB 488 would apply only in the Northern Virginia ozone nonattainment area. Secondly, California LEVs will operate on a special fuel (California Phase II reformulated gasoline, sometimes called "green gas") intended to produce less pollution than the federal reformulated gasoline provided for in the 1990 Clean Air Act Amendments (sometimes called "fed gas"); SB 488 provides for use of federal reformulated gasoline in Virginia LEVs, not California Phase II reformulated gasoline. Thirdly, the California program carries a mandate for the sale of a specific percentage of LEV program vehicles, including electric vehicles; the proposed Virginia program has no such requirement for the sale of electric vehicles. Beginning in January 1995, use of federal reformulated gasoline will be mandatory in the country's nine most polluted areas. Other areas are permitted to "opt into" the use of this fuel. Governor Wilder has already requested that federal reformulated gasoline be made available in all three of Virginia's ozone nonattainment areas. Use of federal reformulated gasoline rather than California Phase II reformulated gasoline makes the program less expensive for LEV operators and refineries.

At the Subcommittee's public hearings, several speakers, most notably representatives of motor vehicle dealers, motor vehicle manufacturers, and petroleum companies, expressed their opposition to DAPC's recommendation of a LEV program for Northern Virginia. They pointed to disagreement as to whether the 1990 Act would permit (i) the imposition of such a program in only a portion of the state and (ii) a LEV program that did not involve the use of California Phase II reformulated gasoline. Opponents of a LEV program also cited the program's cost to consumers (estimates of cost differences between LEVs and comparable non-LEVs range from $100 to $1,000 per vehicle), its impact on motor vehicle dealers, and its relatively small contribution to air quality improvement in 1999 as reasons to reject the program.

Conversely, LEV supporters favored the program because of the high proportion of Northern Virginia's air pollution attributable to motor vehicles (at least 53 percent in Northern Virginia, compared to 43.5 percent in Greater Richmond, and 53.7 percent in Hampton Roads) and the need to supplement air quality improvements expected through I/M programs with other motor vehicle-related clean air strategies. LEV program supporters, generally, argued that failure to implement a LEV program for Northern Virginia would require the imposition of more costly and onerous air pollution controls on small businesses and industries instead.

After hearing and considering the views of both supporters and opponents of a LEV program for Northern Virginia, a majority of the Subcommittee voted not to recommend the enactment of legislation providing for such a program "at the present time." Some members felt that, since a LEV program would not become effective until the 1997 model year (a year's postponement from the schedule contained in SB 488, required because of delay caused by its carry-over from the 1992 Session of the General Assembly), such a program would not contribute to meet Northern Virginia's 1996 air pollution targets. Should a LEV program prove necessary to meeting post-1996 targets, some members argued, the issue could be revisited at that time. Bearing in mind that the Northern Virginia ozone nonattainment area is only part of a larger nonattainment area embracing the District of Columbia and its Maryland suburbs as well, the defeat of LEV legislation by the Maryland legislature in its most recent session may have persuaded some members of the Subcommittee to vote against endorsing SB 488.

Compared to I/M programs and LEV programs, the concept of a motor vehicle scrappage program sparked little controversy. The basic thrust of any scrappage program is to improve air quality by removing older "dirtier" motor vehicles from service.

This concept first came before the General Assembly in 1992 in the forms of House Bill No. 670 (offered by Delegate Eric I. Cantor of Henrico) and House Joint Resolution No. 144 (offered by Delegate Robert E. Harris of Fairfax). Delegate Cantor's bill would have provided a reduction in the motor vehicle sales tax for owners of older vehicles who scrap their older vehicles and replace them with newer ones. This measure was carried over for consideration at the 1993 Session by the House Finance Committee. Delegate Harris's resolution called for a joint study of the scrappage concept by the Department of Motor Vehicles (DMV) and DAPC. This resolution was approved. The resulting recommendations were both communicated to the SJR 104 Subcommittee and also published as a separate report to the Governor and General Assembly.

It was recommended that, as a first step, a pilot scrappage program be established for the Northern Virginia ozone nonattainment area under which owners who voluntarily scrapped their pre-1981 model motor vehicles would receive a bounty of $700 from the Commonwealth. No specific source of revenue to cover the cost of such a program was identified.

In the course of discussion, the voluntary nature and relatively low cost of such a program appeared attractive to the Subcommittee. Also appealing was the prospect that a mechanism could be developed through which businesses could obtain short-term air pollution credits by contributing to a special fund set aside to finance the costs of a scrappage program. Some members felt that a scrappage program might be more cost-effective, in the short term, in reducing air pollution than a LEV program, whose benefits are more long-term. A voluntary scrappage program is not one which the EPA considers "enforceable," so no credits could be given for the program until cars are actually removed from operation. A scrappage program also only provides short-term benefits and does not account for growth in population and the use of motor vehicles as the low emissions vehicle program does. The Subcommittee unanimously requested the Administration to present a proposal for implementing a scrappage program (including a credits-for-contributions mechanism) to the 1993 Session of the legislature.

The last and least controversial recommendation considered by the Subcommittee was a clean fuel fleet program. Such a program is required by the federal Clean Air Amendments of 1990 for ozone nonattainment areas (such as Northern Virginia) classified as serious or worse. On the basis of an agreement between Senator Elmo G. Cross, Jr., Chairman of the SJR 104 Subcommittee, and Delegate Arthur R. Giesen, Jr., Chairman of the HJR 100 Clean Fuels Study Subcommittee, primary responsibility for reviewing DAPC's recommendations relating to this subject was given to Delegate Giesen's Subcommittee.

Speaking on behalf of Delegate Giesen, Senator Barry (a member of both Subcommittees) reported that the HJR 100 Subcommittee would recommend to the 1993 Session of the General Assembly legislation providing for a clean fuel fleet program for Northern Virginia. Under this program, beginning with the 1998 model year, a certain minimum percentage (specified in the federal Act) of new vehicles purchased each year for use by centrally-fueled fleets of 10 or more vehicles operating in the Northern Virginia ozone nonattainment area would have to be "clean fuel vehicles." The size of this minimum percentage would vary, depending on the weight of the affected vehicles and the year.

Legislatively, this would be carried out by (i) specifying by statute or regulation (consistent with the federal Act) what fleets are covered, what percentage of new vehicles purchased for those fleets must be "clean fuel vehicles," and what vehicles are exempted and (ii) requiring DMV to deny registration to vehicles that do not comply with these requirements. Owing at least in part to the fact that federal legislation allows states very few (if any) options under this program, the Subcommittee unanimously endorsed the HJR 100 Subcommittee's proposal.

III. RECOMMENDATIONS

Pursuant to its charge under Senate Joint Resolution No. 104, the Subcommittee recommends to the Governor and 1993 Session of the General Assembly that:

1. Legislation be enacted providing for an enhanced motor vehicle emissions inspection and maintenance (I/M) program for vehicles registered in the Northern Virginia ozone nonattainment area and two adjacent localities and that for this program:

A. Inspections be performed at test-only stations operated, as determined through the procurement process, based on cost-effectiveness and customer convenience, either (i) by a single contractor at stations strategically placed to maximize the public's convenience or (ii) by several licensees, each with a discreet, predetermined territory;

B. Inspections be performed biennially;

C. Inspections be required of cars and trucks weighing up to 26,000 pounds;

D. Inspections be required of vehicles registered in (i) the Virginia portion of the Washington, DC, Metropolitan Statistical Area as defined by the 1990 census (the Counties of Arlington, Fairfax, Loudoun, Prince William, and Stafford and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park) and (ii) the County of Fauquier and the City of Fredericksburg;

E. New vehicles be exempt from inspections for their first registration based on the date of first titling, regardless of model year (registration could be for one or two years, at the discretion of the owner);

F. Subject to a one-year limitation on registrations, used vehicles for the current and two previous model years held in dealers' inventory for resale be exempt from inspections; and

G. A maximum fee of $24 be set by statute for inspections, with that portion of the fee used to cover costs of state administration and enforcement collected by the Department of Motor Vehicles (DMV) through the vehicle registration process;

2. Legislation be enacted providing for a basic motor vehicle I/M program, meeting minimum performance standards, for vehicles registered in the Central Virginia (Greater Richmond) ozone nonattainment area and that for this program:

A. Inspections be performed at test-and-repair stations (service stations, garages, and dealerships) without regard to placement or territory;

B. Inspections be performed biennially;

C. Inspections be required of cars and trucks weighing up to 8,500 pounds;

D. Inspections be required of vehicles registered in the urbanized areas within the Central Virginia (Greater Richmond) ozone nonattainment area (the Counties of Henrico, Hanover, and Chesterfield and the Cities of Richmond, Colonial Heights, and Hopewell);

E. Vehicles be allowed to qualify for waivers if they have met a repair expense threshold of $450 (consistent with the Northern Virginia requirements);

F. A maximum fee of $21 be set by statute for inspections, with that portion of the fee used to cover costs of state administration and enforcement collected by DMV through the vehicle registration process;

G. Its effective date be determined by the General Assembly;

3. Legislation providing for a low emission vehicle (LEV) program for the Northern Virginia ozone nonattainment area not be enacted at the present time;

4. The Administration present to the General Assembly legislation providing for an innovative program through which owners of older vehicles producing relatively high amounts of air pollutants would be provided monetary incentives to scrap these vehicles, including a mechanism providing short-term air pollution credits to businesses in return for financial contributions to the program; and

5. Legislation be enacted to provide a clean fuel fleet program for the Northern Virginia ozone nonattainment area, as recommended by the Joint Subcommittee Studying the Use of Vehicles Powered by Clean Transportation Fuels.

Respectfully submitted,

Elmo G. Cross, Jr. (Chairman)

Warren E. Barry
(See concurring report, page 11)

Joseph B. Benedetti

Robert B. Ball, Sr.

Glenn R. Croshaw

Robert E. Harris
(See concurring report, page 11)

Jerrauld C. Jones

Jerry M. Wood
(See concurring report, page 11)

John A. Ahladas

Stephen M. Ayres
(See concurring report, page 13)

U. T. Brown

Larry D. McVay

William W. Strickland
(See concurring report, page 11)

CONCURRING REPORTS

Concurring Report Submitted By
Warren E. Barry, Robert E. Harris, Jerry M. Wood, and
William W. Strickland

We, the undersigned members of the SJR 104 Subcommittee, concur in the recommendation of the Subcommittee that legislation which would provide for a low emission vehicle (LEV) program in Northern Virginia not be enacted at the present time. The Subcommittee's final report presents a brief and objective description of the views expressed by opponents and proponents of the LEV program, respectively. We submit this statement in order to document more clearly why we voted to recommend against enactment of the LEV program.

Proponents of the LEV program have argued that Northern Virginia is projected to fall short of required emission reduction levels in 1996 and 1999 and that the LEV program is necessary if the state is to resolve these shortfalls. They have also argued that the program is needed in order for the state to avoid having to impose expensive control measures on business and industry and to maintain clean air, once ozone air quality attainment is achieved.

We have not been persuaded by these arguments for the following reasons. First of all, the LEV program, which has been proposed to begin with the 1997 model year, can provide no benefit towards the 1996 shortfall and extremely minimal benefit toward the 1999 shortfall. Second, as indicated in the report, "Emission Reductions and Cost of Mobile Source Controls," prepared by Radian Corporation under contract to the Virginia Petroleum Council and provided to the Subcommittee, the LEV program carries excessively high cost per ton compared to other options available to Virginia. Third, the proponents were unable to demonstrate any urgency to the identification of long range maintenance measures. Since there is no apparent urgency to identify these measures, we believe that the U.S. EPA decision (scheduled for 1997) on whether to adopt a second tier of Federal Vehicle Emission Standards to take effect in 2004, could have an important bearing on the appropriateness of the LEV program in Northern Virginia. Finally, the Department of Air Pollution Control (DAPC) has major work to do to determine by the end of 1993 what measures are available to eliminate the 1996 and 1999 shortfalls. As reported by Radian, the potential for meeting these shortfalls with stationary source control measures has increased, because the latest Northern Virginia emissions inventory analysis, which was by the DAPC to EPA in November 1992, indicated that stationary sources comprise about half of the VOC emissions inventory, whereas it had earlier estimated only 35 percent. Radian also reports, based on California experience, that available stationary source technology may be employed to meet the shortfalls at much lower cost per ton than the LEV program. In our view, it would be inappropriate to enact LEV legislation prior to the identification of all the potential alternatives for meeting the 1996 and 1999 requirements.

Respectfully submitted,

Warren E. Barry

Robert E. Harris

Jerry M. Wood

William W. Strickland

Concurring Report Submitted By
Stephen M. Ayres

The final report on the SJR 104 Subcommittee must include the diverse opinions that were obviously present among the members of the panel. I am pleased the panel endorsed the necessity of dedicated test only facilities in Northern Virginia since that is the necessary method for attaining emission compliance either with or without the low emission vehicle strategy.

I had a good deal of difficulty dealing with the LEV issue because of the multiple issues involved. While the annual exceedances above the air quality standard for ozone are infrequent, there are certainly many times when the concentrations are just below the standard. I sat on the EPA ozone standard expert panel and know the epidemiologic and experimental evidence quite well. There is some reason to believe that the standard should be lower (less permissive) but that is not a reason for us to behave as if that standard will be lower. The panel believed that there was a margin of safety built into the existing standard. In other words, I cannot be certain that a health hazard exists at present levels of exposure.

Should automobile manufacturers and petroleum refiners relax their efforts to improve the performance of our automobiles, ozone concentrations could rise. The Radian study sponsored by industry suggested that the LEV strategy was not necessary at the present time: the American Lung Association criticized their analysis and felt it was flawed. Given some scientific uncertainty as to the most cost-effective way to proceed, the need for Virginia to continue its progress out of the current recession, and the likelihood that the new administration will develop more precise national approaches to controlling automotive pollution, I felt it appropriate not to recommend the LEV option at this time.

"At this time" means to me that the state will review its air quality measurements on a very regular basis. Those who argued against the LEV pointed out that at least one of the years under consideration had been an unusual one from a meteorological standpoint. This may or may not be the case but constant vigilance against rising pollution is vital. The LEV option should be revisited regularly and if the daily averages and the number of exceedances increase, that option may need to be invoked.

I would also suggest that the state work closely with local physicians and hospitals in an attempt to develop an asthma registry. There has been an increase in asthma deaths in Virginia and we must be certain that this increase in deaths is not due to increased in photochemical air pollution. Careful studies showing increased hospital and physician visits during periods of increased pollution could help us a good deal in deciding whether we need to move to the LEV strategy.

I am certain that the American Lung Association and the Medical College of Virginia would be happy to help you with the development of this approach to monitoring the relationship between air pollution and human health.

Respectfully submitted,

Stephen M. Ayres

DISSENTING REPORTS

Dissenting Report Submitted By
James F. Almand (Vice Chairman), Robert C. Bobb, Jean S. Brown, Stella M. Koch, Michael P. Walsh, Mary Margaret Whipple, and Patricia M. Woolsey

This report is hereby submitted by the undersigned in dissent with comments regarding the recommendation not to proceed with the adoption of the low emission vehicle (LEV) program at this time. On December 9, 1992, the Joint Subcommittee to Study Cost-Effective Measures Which Will Enable Virginia to Comply with the 1990 Clean Air Act Amendments (SJR 104) voted 7 to 12 on a motion to omit the LEV program from the Virginia State Implementation Plan (SIP).

While agreeing with the Subcommittee on most recommendations, we disagree with the conclusion not to include a LEV program in Virginia's SIP.

The Clean Air Act Amendments of 1990 require that moderate and worse nonattainment areas must achieve ozone-producing VOC emission reductions of a least 15 percent by 1996 and three percent per year thereafter until the standard is attained. These reductions are exclusive of reductions achieved from (i) motor vehicle measures promulgated by EPA before 1990, (ii) gasoline Reid vapor pressure limits, (iii) SIP corrections, or (iv) inspection and maintenance (I/M) program corrections.

Accordingly, by 1999, Northern Virginia must achieve 67.2 VOC and NOx credits and by 2010 must achieve 96.3 VOC and NOx credits. (Credits equal tons/day emission reductions -- see figures 1.1 1.2.) Further, when Virginia attains the National Ambient Air Quality Standards (NAAQS), it must have programs in place to ensure that levels are maintained. Pollution from vehicle population growth and use, industrial development and business expansion must be offset. The LEV program is the most cost-effective method of achieving emission reductions and allowing for economic growth and avoidance of federal sanctions.

The Department of Air Pollution Control projects that the implementation of test only I/M 240, State II vapor recovery, 1994 federal vehicle standards, federal Phase I reformulated gasoline, and required area and industry controls in Northern Virginia fail to attain the credits needed.

Therefore, the state will be required to apply excessively stringent controls on stationary sources such as printers and other small businesses, and to regulate area sources such as solvents and consumer products. It may also have to require businesses to implement vehicle trip reduction programs and institute other driving controls.

If Virginia does not achieve the required emission reductions, federal penalties, including a loss of federal highway funds, will be applied.

The Subcommittee has provided no long-term strategy to address pollution from motor vehicles, the source of two-thirds of ozone-producing emissions in Northern Virginia. LEV is such a program. Its adoption is necessary as a long term strategy to help Virginia come closer to meeting 1999 requirements, to meet the 2010 standard, and to provide room for economic growth during the late 1990s and post-2000 period when mandatory measures will provide Virginia little or no additional reductions. LEVs are expected to reduce VOC and NOx emissions by 39.8 tons per day by the 2010. Also, the inclusion of LEV in Virginia's SIP will indicate to EPA the state's good-faith effort to meet Clean Air Act requirements, and may forestall the imposition of federal sanctions.

Contrary to information provided to the Subcommittee, states adopting the LEV program, including Virginia, will not require the sale of California reformulated fuel for LEVs even if the vehicles are certified with the fuel.

A recent study by ICF shows the adoption of LEV would have a favorable impact on Virginia's economy. LEV would save an average of almost 2,000 jobs each year compared to the impact of implementing more stringent industry controls. It would save an average of 3,500 jobs per year compared to the impact of federal penalties. Exclusion of an LEV program will result in likely failure to achieve mandated emission reductions, and a continuing threat to public health posed by inability of the Commonwealth to meet the health-based National Ambient Air Quality Standards.

In conclusion, LEV is a long-term strategy which will enable Virginia to meet the Clean Air Act requirements; it is good for Virginia's economy, and is the only strategy which provides Virginia opportunity for future growth.

Respectfully submitted,

James F. Almand (Vice Chairman)

Robert C. Bobb

Jean S. Brown

Stella M. Koch

Michael P. Walsh

Mary Margaret Whipple

Patricia M. Woolsey

Comparison of Recommended and Minimal Programs for Northern Virginia

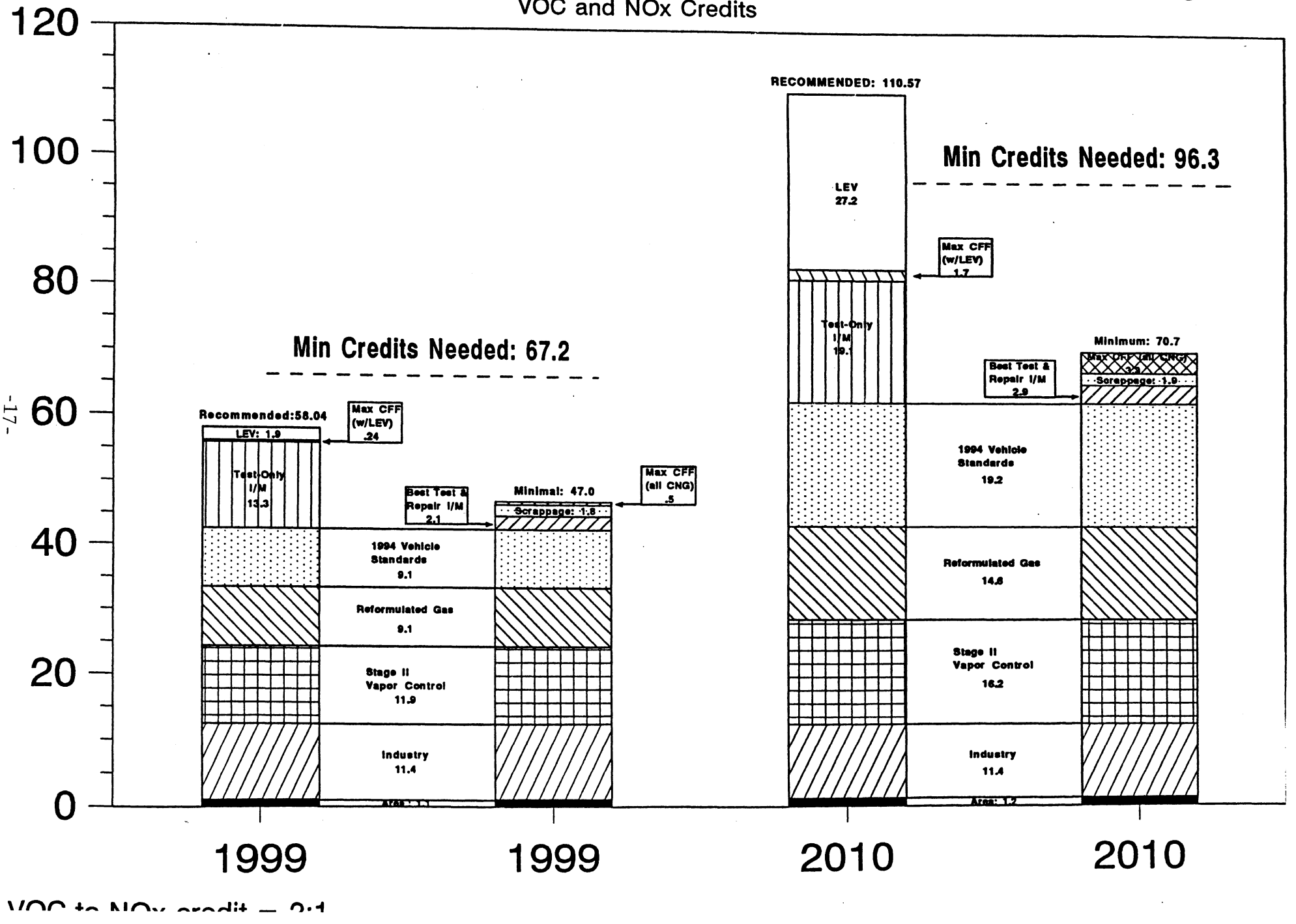

Figure 1.2

NORTHERN VIRGINIA POLLUTION CREDITS
(TONS PER DAY)

CONTROL	VOC 1996	NOx	VOC 1999	NOx	VOC 2010	NOx
Industry Sources	0.3		0.3	11.1	0.3	11.1
Area Sources	1.1		1.1		1.2	
Stg II Vapor Control	11.1		11.9		16.2	
Reformulated Gas	8.2		9.1		14.6	
Test Only Enh. I&M (1) Best Test-and-repair I&M (2)	7.1 1.5		9.1 2.1	4.2	12.4 2.9	6.7
1994 Vehicle Stds	1.0		5.6	3.5	18.7	0.5
Low Emission Vehicles (3)			1.0	0.9	14.6	12.6
Clean Fuel Fleets- basic -OR Max. CFF (all CNG) -OR Max. CFF (w/LEV) (4)			0.34 0.5 0.24		2.4 3.3 1.7	
Vehicle Retirement (5)	1.7		1.8		1.9	
TOTALS (VOC+NOx) (6)	30.5	N/A	59.84	N/A	112.5	N/A
CREDITS NEEDED (VOC+NOx)	43.6	N/A	67.2	N/A	96.3	N/A
SURPLUS/⟨DEFICIT⟩ (VOC+NOx)	<13.4>	N/A	<7.36>	N/A	16.2	N/A

ASSUMPTIONS

(Note: NOx credits assume that ½ ton NOx reduction is as effective as 1 ton VOC reduction in reducing ozone.)

(1) I&M credits are reductions above and beyond the existing I&M program.
(2) BAR-90 with loaded mode dynomometer w/pressure test, including heavy-duty vehicles.
(3) Additional benefit beyond 1994 federal vehicle standards.
(4) Max. Clean Fuel Fleet w/LEV is the credit of a maximum CFF program with all Compressed Natural Gas-fueled vehicles that is above and beyond the LEV program. For example, in 1999 with a LEV program, LEV plus Maximum CFF equals 1.24 tons per day VOC. Without a LEV program, maximum CFF equals .5 tons per day VOC reduction.
(5) Vehicle Retirement assumes scrappage of all vehicles eligible for I&M waivers in a biennial I&M program. (Approximately 5,000 to 6,000 vehicles per year - 23% fail initial test, 3% of that number allowed waivers per EPA rule.)
(6) Total includes recommended programs only, Enhanced I&M and LEV with MAX-CFF.

EMISSION REDUCTION NEEDS DEFICIT

Additional reductions must be obtained from area sources and transportation control measures. The availability and cost of these reductions have not been determined at this time. Based on past guidance from EPA, we assume the reduction potential to be small and the cost to be high.

VA Dept. of Air Pollution Control 12/8/92

Virginia Department of Air Pollution Control
Comments on Radian's Executive Summary
(12/17/92)

As a member of the Technical Advisory Group, the Department of Air Pollution Control has provided substantive input to the Radian study. Many of the Department's recommendations have been included in the report. However, several major differences were not resolved. These differences are summarized as follows:

- The Radian study underestimates the emission reduction benefit of the LEV program. Radian modeled the LEV benefits using the enhanced I/M program inputs that were designed for older vehicles. Contrary to Radian's statement, there is every reason to believe that LEVs will inherently be designed for stricter maintenance standards; LEVs will meet more stringent I/M program requirements because they are cleaner vehicles. On the other hand, the motor vehicle manufacturers lobbied hard for more lenient "cutpoints" for enhanced I/M for the Tier I federal vehicle. They have indicated they would not warranty the Tier I vehicle to a stricter I/M standard.

- The Radian study underestimates the emission reductions needed by 1999. Sophisticated air quality modeling must be completed in 1993 to determine the actual level of emissions expected necessary to reach ozone attainment. All preliminary modeling has indicated that considerably more than 24% emissions reduction will be necessary by 1999. This modeling will also specify the relative importance of NOx reductions.

- The Radian study understates the importance of NOx reductions. Latest scientific data indicate that NOx reductions are more important in reducing ozone. The NOx benefits of the LEV program greatly exceed the VOC benefits, yet Radian emphasizes the VOC reductions.

- The Radian study overestimates the cost of the LEV program. Radian's "low" cost estimate is actually a "high" cost. Recent data indicate that a realistic "low" cost should be $205 per vehicle; it is now estimated that 75% of the LEV program vehicles will not need electrically heated catalysts.

- The Radian study understates the LEV cost effectiveness. Radian has discounted NOx reductions by 50% in the cost effectiveness calculation. Cost effectiveness should be determined using NOx plus VOC. Even with Radian's underestimated benefits, the cost effectiveness of the LEV program would be $6,600 to $11,800 per ton of VOC and NOx.

- The Radian study greatly overestimates the emission reductions available from stationary source controls. Radian's projected emissions reductions from stationary source controls are unsubstantiated. They are based on potential control programs for California. In Virginia, most of these controls would require federal rules imposing restrictions on product specifications. These are unlikely to occur. EPA would not accept these reductions in the SIPs which are due 11/93 and 11/94.

Dissenting Report Submitted By
Elizabeth H. Haskell, Cathleen A. Magennis, and John G. Milliken

We believe that the programs recommended by the Subcommittee, along with the reductions provided by federally reformulated gasoline, State II vapor recovery systems and all available controls on industry and small businesses, will still fall short of the 1999 pollution reduction target in Northern Virginia. The low emission vehicle (LEV) program is vital to providing the necessary reductions in pollution for the protection of human health and the environment.

The LEV program for Northern Virginia, as proposed in carried-over SB 488, does not require the use of California gas. The bill does not mandate the sale of electric vehicles. Still, the benefit of the LEV program remains: a cost-effective method of pollution reduction which can accommodate future growth. It is that growth in population and increased use of motor vehicles which must by considered first in designing a plan for clean air. The LEV program is the only strategy which can provide this long-term air quality improvement in Northern Virginia.

The proposals endorsed by the Subcommittee, enhanced test-only inspections and maintenance (I/M) in Northern Virginia, basic I/M in Richmond and old vehicle scrappage, can provide needed emissions reductions. Test-only I/M in Northern Virginia is required by the EPA for the reason that it provides the greatest air quality benefits.

A scrappage program funded by industry could provide short term reductions in pollution, but the reductions in air pollution it provides can be counted only after the vehicles are scrapped. Therefore, a voluntary scrappage program cannot be written as part of Virginia's federally required plan. Although a scrappage program can complement LEV and I/M, it is not a substitute for either program.

In summary, we support the adoption of inspection and maintenance in Richmond and Northern Virginia areas. We urge the adoption of a low emission vehicle program in Northern Virginia as necessary for a comprehensive clean air strategy.

Respectfully submitted,

Elizabeth H. Haskell

Cathleen A. Magennis

John G. Milliken

APPENDIX

SENATE JOINT RESOLUTION NO. 104
AMENDMENT IN THE NATURE OF A SUBSTITUTE
(Proposed by the Senate Committee on Rules
on February 10, 1992)
(Patron Prior to Substitute—Senator Cross)

Establishing a joint subcommittee to study cost-effective measures which will enable Virginia to comply with the 1990 Clean Air Act.

WHEREAS, there is growing concern in Virginia regarding the impact of automobile emissions on air quality; and

WHEREAS, it is important to all Virginians that effective steps be taken to minimize the adverse public health effects of automobile emissions; and

WHEREAS, the 1990 federal Clean Air Act mandates that states implement a plan of action to address air quality problems; and

WHEREAS, the current recessionary climate makes it imperative that Virginia exercise due care in designing its costs and benefits to the environment and public health; and

WHEREAS, the General Assembly cannot be expected to make an informed judgment about Virginia's implementation plan without the benefit of legislative study, particularly in light of the fact that the United States Environmental Protection Agency has failed to issue regulations providing guidance to the states; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That a joint subcommittee be established to study and review comprehensive and cost-effective means of achieving Virginia's compliance with the Clean Air Act. The joint subcommittee shall consider costs and benefits for Virginia of various air pollution control strategies including, but not limited to, emission programs authorized by the Clean Air Act including low emission vehicles; reformulated motor fuels; enhanced inspection and maintenance programs including centralized and decentralized systems, involving various technologies; a retirement program for older vehicles; on-board canisters for automobiles; on-board diagnostics for automobile emission control; Stage II vapor recovery systems; the geographic areas within the Commonwealth which might be covered by requirements pertaining to any of the foregoing measures; and other appropriate means of reducing air pollution.

The membership of the joint subcommittee shall consist of 22 members as follows: three members of the Senate, to be appointed by the Senate Committee on Privileges and Elections; six members of the House of Delegates, to be appointed by the Speaker of the House; the Secretary of Natural Resources or her designee; the Secretary of Transportation or his designee; the Commissioner of Agriculture and Consumer Services or his designee; and 10 citizen members to be appointed by the Governor as follows: two representatives each from nonprofit environmental and public health organizations, four representatives from business and industry and two representatives of an affected local government.

The joint subcommittee shall complete its work in time to submit its recommendations to the Governor and the 1993 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be $13,255; the direct costs shall not exceed $15,840.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.