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**TESTIMONY OF
JEFFREY HOLMSTEAD
ASSISTANT ADMINISTRATOR
OFFICE OF AIR AND RADIATION
U.S. ENVIRONMENTAL PROTECTION AGENCY
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CLIMATE CHANGE AND NUCLEAR SAFETY,
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UNITED STATES SENATE**

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Thank you, Mr. Chairman and Members of the Subcommittee, for the opportunity to appear here today to discuss the Congestion Mitigation and Air Quality Improvement (CMAQ) program and the transportation conformity program in the context of the new health-based air quality standards for ozone and fine particulate matter.

There has been considerable progress in achieving better air quality for Americans since the passage of the Clean Air Act Amendments in 1990. As we move forward with the implementation of the new air quality standards, the continued integration of transportation and air quality planning will be important for meeting these new standards.

Achieving and maintaining healthy air quality remains an important national priority. EPA sees the reauthorization of TEA-21 as an opportunity to employ all tools available to improve air quality, including transportation, in ways that could help cities across the country make progress toward attainment under both the pre-1997 and the new ozone and particulate matter standards.

According to EPA's latest air quality trends report, air quality monitoring data show that from 1992-2001, concentrations of all six criteria pollutants have declined, including the four criteria

pollutants that are most affected by the transportation sector: carbon monoxide, nitrogen dioxide, ozone (smog), and particulate matter (soot).

These air quality data are good news, and are attributable to the transportation and air quality programs currently in place. However, there are approximately 51 million Americans living in 77 counties that are measuring violations of the current one-hour ozone ambient air quality standard, and 11.1 million people living in 17 counties that are measuring violations of the current standard for particulate matter. Furthermore, when we begin to implement the new, health-based standards for ozone and particulate matter and designate the areas that are not attaining the standards, the number of people living in areas with air quality considered unhealthy will increase.

The criteria pollutant emissions have a significant impact on the health of Americans. Particulate matter is linked to aggravation of pre-existing respiratory ailments, reductions in lung capacity, and a significant number of premature deaths. Ozone can impair lung function, cause chest pain and coughing, and worsen respiratory diseases and asthma. Carbon monoxide can aggravate angina (heart pain).

Even though overall emissions have been reduced, on-road mobile sources continue to be a significant contributor to pollution problems. EPA estimates that in 2001, motor vehicles accounted for 62 percent of the total U.S. carbon monoxide emissions, 27 percent of the ozone precursor of volatile organic compounds (VOCs), 37 percent of the ozone precursor nitrogen oxides (NO_x), and 6 percent of the traditionally inventoried direct emissions of particulate matter nationwide. On a regional scale, motor vehicles can be an even larger portion of an area's inventory. For example, in 1999, motor vehicles accounted for 48 percent of NO_x in Atlanta, Georgia. According to state air quality plans, on-road vehicles account for 63 percent of total NO_x in the Springfield, Massachusetts area; 56 percent of

the total NO_x in the Los Angeles region in California; and 80 percent of the total carbon monoxide and 53 percent of the total coarse particulate matter in the Las Vegas, Nevada area. Although emissions reductions from stationary sources are important in many areas throughout the country, the continued high incidence of health problems related to these pollutants demonstrates the continuing need to reduce air pollution from motor vehicles. As a nation, our techniques for reducing motor vehicle emissions have to encompass both technology improvements to vehicles and fuels, as well as programs that encourage other, less polluting, transportation choices and practices.

Technology has provided significant air quality benefits in the past and will continue to do so into the future. Emissions from today's new cars have been reduced by more than 95 percent per vehicle relative to new cars 35 years ago. EPA's new Tier 2 vehicle standards are designed to reduce the emissions of new passenger cars and light trucks even further. The rule combines these requirements with requirements for much lower levels of sulfur in gasoline. We estimate by 2020, NO_x produced by vehicles will be approximately 70 percent lower as compared to what the levels of NO_x would have been without the Tier 2 program in place.

EPA's new clean diesel program for large trucks and buses is another technology-based program. It will achieve emissions reductions based on the use of high-efficiency exhaust emissions control devices coupled with changes in diesel fuel sulfur levels. Testing indicates that this program will result in particulate matter and NO_x emissions levels that are as much as 90 and 95 percent below the current standards for heavy duty engine emissions in effect today.

A third example of emissions-reducing technologies is EPA's Voluntary Diesel Retrofit Program, which is designed to help owners of trucks, buses, and off-road equipment install innovative and cost-

effective emission control technology on existing diesel engines. These technologies can result in reductions of particulate matter and volatile organic compounds.

But technology may not be able to achieve all the necessary emission reductions from transportation sources alone. Although emissions per vehicle have declined dramatically, the number of miles Americans are driving continues to increase. In 1970, Americans traveled just over one trillion vehicle miles per year; in 2000 it was almost 2.8 trillion. Growth in vehicle miles traveled (or VMT) has far outpaced population growth. From 1970 to 2001, population grew 39 percent, but VMT grew 149 percent. These trends are continuing. A conservative national estimate of VMT growth is approximately two percent per year. However, in many cities, particularly in the southern and western states, VMT is growing much faster than this average. For example, in the early 1990s, Charlotte's VMT grew about 4.9 percent per year, Denver's VMT grew 4.5 percent per year, and Salt Lake City's VMT grew by 4.3 percent per year. Las Vegas projects that its VMT will increase more than 4 percent per year through the year 2020. The continued integration of transportation planning and air quality planning is a means to preserve and continue the progress we have made in ensuring that Americans breathe healthy air.

In addition to technology-based programs, programs that are based on providing travel choices are also important in achieving better air quality. For example, the Commuter Choice Leadership Initiative is a new and successful non-regulatory approach to achieving emission reductions. Built around the tax-free commuter benefits in TEA-21 and modeled after the Energy Star partnership programs, the Commuter Choice Leadership Initiative is an EPA-DOT voluntary partnership program with business to reduce traffic and traffic-related emissions. In the first year and a half of the program, over 1,300

companies from 28 states and Washington, DC, have signed voluntary agreements to offer 640,000 employees commuter benefits meeting a national standard of excellence. EPA projects that if half of U.S. employees worked for employers that offered commuter benefits at the national standard of excellence promoted by the Commuter Choice Leadership Initiative, air pollution and traffic would be cut by the equivalent of taking 15 million cars off the road every year.

In January of this year, EPA launched another innovative, non-regulatory clean air program, SmartWay Transport – a voluntary partnership program that aims to reduce ground freight sector energy use by promoting the use of energy-efficient technologies and improved management practices. Over a dozen top companies representing a diverse group of ground and freight shippers and carriers have already joined EPA as Charter Partners and are helping the Agency to develop performance measures for the program. Although the SmartWay Transport program was created primarily to reduce carbon emissions, the program will also result in voluntary reductions of NO_x (a precursor to ozone) and particulate matter that could assist areas in achieving the new air quality standards.

The Congestion Mitigation and Air Quality Improvement Program

The CMAQ program, initially begun under ISTEA and reauthorized in TEA-21, provides funding for transportation projects to improve air quality and reduce congestion. EPA views the program as a valuable transportation funding tool for air quality improvement because the pool of potential projects is largely restricted to areas with poor air quality, (non-attainment areas), or those that had poor air quality in the past (maintenance areas). The CMAQ funds are not restricted to just traditional highway or transit projects. The funds can be used for Travel Demand Management (TDM)

programs such as park and ride lots, car and van pool programs and public education, or for other unique Transportation Control Measures (TCMs). There is increasing interest in using CMAQ funds for other measures, such as diesel engine retrofit programs and anti-idling equipment.

An EPA analysis of the benefits of TCMs, such as those funded by the CMAQ program, documents the emission reductions from 22 different shared ride, bicycle and pedestrian, traffic flow, transit and demand management programs. The CMAQ program has funded projects that:

- contribute to attainment and maintenance of the NAAQS;
- produce long-term emission reductions and support sustainable growth;
- fund innovative transportation options (enabling projects such as public education, technology, and support services); and,
- provide alternatives to single occupant vehicle travel and reduce congestion through, for example, regional rideshare programs.

While some of the projects may produce small emission reductions, cumulatively these projects can add up to significant reductions over the life of the attainment plan. In many cases our stakeholders indicate that CMAQ projects are important for helping a state to meet Clean Air Act air quality planning and conformity requirements. The benefits of the CMAQ program, and particularly projects that reduce VMT or manage system capacity, extend beyond emissions reductions. Other benefits include roadway congestion relief, energy conservation, greenhouse gas emission reductions, as well as economic development and community livability. By requiring the project to be implemented in nonattainment areas, more local government and public involvement in transportation investment decisions is encouraged.

EPA and DOT have documented CMAQ's numerous benefits in reports, brochures and fact

sheets available to transportation and air quality planners. From EPA's perspective, there is little doubt that the program is beneficial for air quality and is an important program for nonattainment areas and maintenance areas that want to address transportation emissions. Air quality agencies have told us how important it is to have a transportation funding program that is dedicated for air quality purposes. We have been told that many projects that have been highlighted as examples of innovative and effective emission reduction programs would not have been implemented without the availability of CMAQ funds. A National Academy of Science study mandated by Congress and undertaken by the Transportation Research Board draws similar conclusions. The findings of "Special Report 264. The Congestion Mitigation and Air Quality Improvement Program: Assessing 10 Years of Experience" are favorable and include recommendations to reauthorize and expand the program.

While EPA generally agrees with the NAS recommendations, there are some important issues to consider. These issues fall into two main categories – apportionment and eligibility. At a time when implementation of the 8-hour ozone NAAQS may change the nonattainment landscape based upon our most advanced understanding of how air pollution affects public health, EPA, as well as other stakeholders, are concerned that the eligibility criteria and apportionment formula in TEA-21 are based upon the old standards and nonattainment classifications.

Under the current program, a change in the classification of nonattainment areas, or the number of areas, will likely change both the amount of CMAQ funds apportioned to each State and the amount available to nonattainment areas. Given the current statutory language in TEA-21, nonattainment areas designated under the 8-hour ozone standard would be eligible for CMAQ funding, but the funds apportioned to the States would not account for the new areas unless they were classified under the

system for the one-hour standard. EPA is working with the Department of Transportation to evaluate this issue and possible solutions.

Like 8-hour ozone nonattainment areas, areas that are designated nonattainment for particulate matter are eligible to receive CMAQ funding under the current program, but the apportionment formula does not explicitly account for them. Just as our knowledge of the health risks of particulate matter has grown, programs to reduce the very small but hazardous particulates known as PM-2.5 will likely increase in importance. Generally, both diesel and gasoline powered vehicles emit fine particulate matter as well as NO_x and VOCs that lead to its formation. Since the emphasis of most TCMs over the past two decades has been to reduce VOCs and to a lesser degree NO_x, the degree to which TCMs can reduce PM-2.5 is not as well understood. However, there is optimism that new programs for heavy-duty diesel retrofits, anti-idling devices, cleaner fuels and travel demand strategies can produce significant reductions in concentrations of PM-2.5. The CMAQ program offers the opportunity for regions to explore innovative strategies to address this pollutant. Consideration should be given to amending the apportionment formula to account for the importance of this emerging air quality issue.

TEA-21's flexible guidelines allow DOT to issue project eligibility guidance that cuts across traditional modal boundaries and makes the funds available for highway, transit and some non-traditional program areas that are more difficult to categorize. EPA and DOT continue to work collaboratively within those guidelines, to make the CMAQ program a more effective air quality resource for State and local government agencies. State and local transportation and air quality agencies need to work together to get the most out of the program as well. Some stakeholders have indicated that consultation between transportation and air quality agencies is not taking place on an ongoing and consistent basis. We

believe that more consultation between state and local transportation and air quality agencies would make the program more effective.

Transportation Conformity and the New Ozone and Fine Particulate Matter Standards

Transportation conformity was established by Congress in the Clean Air Act Amendments of 1990 and was designed to help ensure that an area's transportation activities are consistent with its air quality goals. EPA is responsible for writing the conformity regulations and the Department of Transportation (DOT) must concur with all conformity rules, as DOT is our federal partner in the implementation of the program. EPA first published the conformity rule in November of 1993. We subsequently streamlined and clarified the rule in August 1997, based on extensive discussions with state and local air pollution officials, transportation planners, and other stakeholders, as well as the experience of both DOT and EPA in the field.

In March of 1999, however, a decision from the D.C. Circuit Court of Appeals changed several aspects of the 1997 conformity rule. Shortly after that decision, EPA and DOT published guidance that addressed issues affected by the court. Nonattainment and maintenance areas have been operating under this existing guidance since it was published in 1999. On August 6, 2002, we finalized a rule to provide flexibility in implementing conformity, consistent with the court decision. We also plan to incorporate EPA and DOT's existing guidance implementing the court decision into the conformity regulations.

The transportation conformity program requires state and local agencies to evaluate the impact of new transportation activities on air quality on a regular basis. Areas that have air quality worse than

the national standards (nonattainment areas) or that have violated the standards in the past (maintenance areas) are required to examine the air quality impacts of their transportation system to ensure that such systems are compatible with clean air goals. In the simplest terms, conformity serves as an “accounting check” to assure that a nonattainment or maintenance area’s future transportation network conforms to the area’s air pollution reduction plan.

A benefit of conformity accounting is that it requires state and local governments, and the public, to consider the air quality impacts of the planned transportation system as a whole, before transportation plans are adopted and projects are built. Billions of dollars every year are spent on developing and maintaining our transportation system. Conformity helps ensure that these dollars are not spent in a manner that would worsen air quality, as that outcome would only necessitate spending additional money to reverse the air quality impact.

Prior to the 1990 Clean Air Act, transportation planners and air quality planners often did not consult with one another or even use consistent information regarding future estimates of growth. To address these problems, the 1990 Clean Air Act Amendments explicitly linked the air quality planning and transportation planning processes in a manner that had not previously existed. Above all, transportation conformity has compelled the two types of planning agencies to work together through the interagency consultation process to find creative and workable solutions to air quality issues. Most everyone agrees that consultation is an important benefit of the conformity program. A 1999 Harvard study on the program, which was jointly funded by DOT and EPA, confirmed that the program has improved consultation between transportation and air quality planners, and made that consultation more effective.

Consultation is meaningful because air quality and transportation planners have a common goal: transportation activities that are consistent with the state's air quality goals. A state's air quality plan (a state implementation plan, or SIP) establishes emissions ceilings, or budgets, for the various types of sources that contribute to air pollution problems. Transportation conformity makes state and local agencies accountable for keeping the total motor vehicle emissions from an area's current and future transportation activities within these air quality plan budgets. We believe that the interagency consultation that occurs as areas work to ensure that their planned transportation activities conform to their air quality plan budgets will continue to play a critical role in states' efforts to meet the new ozone and particulate matter standards in the future.

EPA is currently working on an implementation strategy for both the new ozone and fine particulate matter standards and intends to finalize the strategies prior to designating areas for these standards. Under the Clean Air Act, newly designated nonattainment areas must start to comply with the conformity requirements beginning one year after the effective date of EPA's designation. Because most areas already know whether they are likely to be designated nonattainment under the new standards, we strongly encourage them to prepare themselves for implementing the conformity program by establishing interagency consultation roles, assessing modeling capabilities and updating planning assumptions as soon as possible. Engaging in these activities now will greatly ease their transition to conformity under the new standards.

Before making designations under the new ozone standard, EPA will provide clarification to states and local government about several broad issues that relate to the conformity program. For example, some areas that will be designated as nonattainment for the 8-hour standard already designated

nonattainment for the 1-hour standard and we are working to ensure a smooth transition from the 1-hour standard to the 8-hour standard. This issue is relevant for conformity because the Agency believes that States should not be required to demonstrate conformity for both ozone standards at the same time. We will address this important issue in our 8-hour implementation which will be finalized before areas are designated under the 8-hour standard.

Along with our 8-hour implementation rule, EPA also plans to issue guidance and conformity regulations so that areas are fully aware of the specific criteria and procedures for meeting conformity under the new standards. Through this process, EPA will address questions such as: what options does an area have for demonstrating conformity before a state implementation plan for the new air quality standards is submitted? The current conformity rule provides for alternative conformity tests when an area has not yet submitted a state air quality plan. EPA plans to make these alternative conformity tests available to newly designated areas. We will be answering specific questions about how to apply these tests in our upcoming conformity guidance and rulemaking. We understand that providing areas with adequate and timely guidance is imperative and are working with the Department of Transportation to ensure a smooth transition to implementing conformity under the new air quality standards.

Under the conformity program, there are consequences for an area that does not meet a conformity deadline. However, there may be some misconceptions about these conformity consequences and how they affect a state's highway and transit funding. Under the new air quality standards, for example, if a metropolitan area does not have a conforming transportation plan in place by the expiration of its one-year grace period, the area would not lose its federal funding for highway and transit projects. Rather, the area's conformity status would "lapse." During a conformity lapse,

additional project funding and approvals are restricted to certain types of projects. These types of projects that can proceed during a lapse include: exempt projects such as safety projects, projects in an approved state air quality plan, traffic signal synchronization projects and federal highway and transit projects that received funding and approval prior to the lapse. Once a metropolitan area resolves its conformity issue and establishes a conforming transportation plan, the lapse ends and all federal funding and approvals can resume.

EPA has no knowledge of any state that has lost its highway funding due to an area's inability to demonstrate conformity, but recognizes that even short term conformity lapses can cause disruptions to the transportation planning and project development processes. However, in some cases, lapses have no effect on an area's transportation projects because the area has no new non-exempt projects pending. Most conformity lapses that have occurred over the past five years have been relatively short. There have been few instances during this time period where lapses have occurred for more than six months.

When communities face difficulties demonstrating conformity, they can choose from several options. When a transportation plan's emissions are greater than the allowable budgets in the air quality plan, areas can decide whether to revise the transportation plan or revise the air quality plan. For example, some areas have added transit programs to reduce the emissions of their transportation plan, while others have gone back to the state air quality plan to see if other sources of pollution could be further controlled to allow the transportation sector's emissions budget to grow. An area can choose to build transportation projects that increase emissions, as long as the net effect of the total transportation system is consistent with the state air quality plan. Due to continued improvements in vehicle emission

performance, most areas have been able to continue adding to their transportation network and still stay within their clean air budgets. Consultation between transportation and air quality agencies has played a critical role in developing such solutions that have allowed areas to meet both transportation and air quality goals.

EPA estimates the number of areas that will possibly be designated as nonattainment for the new ozone and particulate matter standards will be less than 150. Of these, around 50 areas will not have had prior experience with demonstrating conformity. EPA and DOT, as well as stakeholders across the U.S., have gained a wealth of experience in implementing conformity over the past decade. Newly designated areas with no prior experience with conformity will benefit from our collective experience and implementation guidance.

We also expect that several recent EPA actions will make it easier for states and local governments to meet their emissions targets and demonstrate conformity. For example, the emissions reductions from EPA's Tier 2 and clean diesel standards will greatly benefit all areas that are designated under the new standards in their efforts to achieve those standards and ensure conformity. In addition, the President's Clear Skies legislation will reduce emissions of SO₂ by 73 percent, and NO_x by 67 percent. These substantial reductions from the power sector will provide great flexibility for many counties by reducing the need for reductions from other sectors. We have learned a great deal about the conformity program and how we can make it less cumbersome while still preserving its benefits. We are pursuing several actions to simplify the conformity process, which should help the areas designated under the new standards.

As part of this effort, EPA is exploring options that would specifically address two aspects of the

conformity process that have been of concern to many stakeholders. The first issue pertains to how often conformity is required. Some air quality planners believe that any change in the minimum frequency of conformity would delay the use of new information in the transportation and conformity process. On the other hand, many transportation planners believe that conformity is required too often, leaving them with little time to focus on planning. These stakeholders claim that increasing the minimum 3-year conformity and transportation plan updates would give transportation planners the ability to develop better plans that focus on other environmental and planning issues, such as environmental justice, in addition to air quality.

In coordination with the Department of Transportation, we are evaluating options that might be able to improve the current conformity frequency requirements.

The second aspect of conformity that is of concern to some stakeholders is the timeframe over which conformity must be demonstrated. The transportation community believes that the current 20-year time frame for which transportation plans must demonstrate conformity is unfair. Since state air quality plans typically cover a shorter time frame (typically 10 years or less), they claim that the burden of growth in the years past the time frame of the state air quality plan rests on the transportation sector. However, environmental stakeholders see a need for long-term planning to ensure that both transportation and air quality goals are achieved.

In response to these stakeholders, EPA is working with DOT to examine the current conformity time frame requirement to determine whether there is a compromise that would address the issues raised by the transportation community and the long-term air quality concerns held by environmental agencies.

In conclusion, EPA is committed to partnering with DOT to continue our progress in meeting

both transportation and air quality goals. EPA has been actively working with the Department of Transportation in developing the President's proposal for the reauthorization of TEA-21, and that proposal will be submitted to Congress soon. Based on our collective experience in implementing the CMAQ and transportation conformity programs, we believe the Administration's proposal will build on the success of TEA-21 and will further assist areas in their efforts to achieve clean air now and in the future, as we move forward with implementing the new ozone and fine particulate matter standards. Thank you again for this opportunity to testify today and discuss our programs with you. I would be happy to respond to any questions that you may have.