



Town of Truckee

Particulate Matter Air Quality Annual Report

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Preface

Within two years of the adoption of this plan and every year thereafter, the Planning Division will submit to the Town Council a report that analyzes air quality monitoring data for particulate matter including emission levels and concentrations and compliance with National and State ambient air quality standards. The Town Council will review the report to determine the success of the plan's control strategies in achieving the attainment goal of the plan, and if necessary take the appropriate steps to ensure consistency with the plan's goal and objectives.

For a plan to be effective, its strategies must be implemented and achieve their purposes as planned. It is critical to gauge the effectiveness of the control strategies to ensure the goal and objectives of the plan are being met. The Town must continue to monitor particulate matter air quality and associate any changes to particulate matter emission levels and concentrations to the control strategies and to factors that are beyond the Town's control. If emissions and concentrations increase, remain as they are, or do not decrease to the levels anticipated, this may signal that the control strategies are not succeeding and a change in the Town's efforts may be needed. This objective provides the mechanism for the Town Council to review the effectiveness of the control strategies on an annual basis and determine if they are succeeding. It is presumed that if the control strategies are not succeeding that the Town Council will take appropriate action based on the findings of the report.

Objective 9, Truckee Particulate Matter Air Quality Management Plan

Particulate Matter Air Quality Report 2001

INTRODUCTION

In July 1999 the Truckee Town Council adopted an air quality management plan for particulate matter pollution. An air quality management plan by itself is not extraordinary, but the Town's deeds in adopting such a plan are unique. The Truckee community, whose desires are expressed in the General Plan, believe that the health of its citizens and visitors and its quality of life are vital to the well-being of the community. Further, the community believes that poor air quality is a danger to the community's well-being, health, and life quality. Although the community complied with Federal air quality standards for particulate matter and there were no legal consequences for exceeding State air quality standards, the community on its own put together a plan of action to address particulate matter pollution. This plan of action is to a level of detail usually not found in other community plans unless the city or county is under the Federal "gun" for non-attainment with the National ambient air quality standards.

There was also a practical aspect to the community's decision to adopt a particulate matter air quality management plan: to reduce particulate matter emissions and avoid exceedances of the Federal particulate matter standards. It is important to the community to prevent Federal and State intervention, which will occur if we exceed the Federal standards. To keep an eye on the quality of air in Truckee and compliance with Federal and State standards, the Town Council in the air quality management plan established an annual monitoring and reporting program. This program places Town staff, in cooperation with the Northern Sierra Air Quality Management District, in the role of a watchdog over our air quality.

This report is the first annual report and summarizes the quality of air for particulate matter pollution for 1999 and 2000. The report attempts to explain the factors for our air quality and any changes that may have occurred in these last two years. The Community Development Department is taking this opportunity offered by the annual report to discuss the status of the implementation of the plan's control strategies. Further, as part of this report the Community Development Director and Town Planner are requesting Council direction on the priority of implementing control strategies and allocating Department resources for the next year.

AIR QUALITY

Particulate matter air quality has been monitored in Truckee since 1988. The Air Quality Management Plan analyzed this monitoring data for PM_{10} to determine the severity of the pollution problem and compliance with State and National air quality standards. The Air Quality Management Plan concluded the following:

- PM_{10} concentrations decreased approximately 22% from 1993 to 1998. Expected exceedances of the State and National 24-hour concentration standards also decreased during this time period. However, there was no concrete monitoring data or other

information to correlate this reduction to human activities, traffic patterns, and/or weather events, or to identify a trend in decreasing emission levels.

- Truckee air quality complied with the National PM₁₀ annual and 24-hour concentration standards.
- Truckee air quality complied with the State PM₁₀ annual concentration standards although exceeded this standard in past years.
- Truckee air quality routinely exceeded the State PM₁₀ 24-hour concentration standards.
- It could not be determined if Truckee air quality would comply with the new National PM_{2.5} annual and 24-hour concentration standards.

Since 1998 the Northern Sierra Air Quality Management District has made several changes to air quality monitoring operations in Truckee. The Hi-Vol PM₁₀ monitors at the Glenshire and Downtown fire stations were removed in early 2000, and PM₁₀ monitoring data is now provided solely by the TEOM (24-hour, daily sampling) monitor at the Downtown fire station. With the adoption of the new National PM_{2.5} standards, the Northern Sierra Air Quality Management District installed a Hi-Vol PM_{2.5} monitor at the Downtown fire station in 1999. This monitor samples PM_{2.5} air quality for a 24-hour period once every three days.

The numbers of the monitoring data tell that PM₁₀ air quality in Truckee was approximately the same in 1999 as for previous years, but substantially improved in 2000. The annual concentration in 2000 was 17.30 ug/m³, almost half the PM₁₀ concentration of any previous year in which PM₁₀ has been monitored. However, it appears that the PM₁₀ TEOM monitor was not accurately recording PM₁₀ air quality possibly because of mechanical problems, and the 2000 monitoring data is suspect in providing a truthful picture of air quality in Truckee last year. The Northern Sierra Air Quality Management District is investigating the accuracy of the monitoring data and will take appropriate steps to correct the problem

Lacking reliable PM₁₀ data from the TEOM monitor, it is problematic in ascertaining PM₁₀ concentrations and the quality of air in 2000. Extrapolating from the PM_{2.5} data collected by the Hi-Vol monitor, the Northern Sierra Air Quality Management District believes that PM₁₀ concentrations were lower in 2000 than preceding years but they cannot tell to what extent. One reason ... emissions from Truckee's largest source of PM₁₀, re-entrained road dust, cannot be extrapolated from PM_{2.5} data, and most re-entrained road dust is larger than 2.5 microns and is not collected by the PM_{2.5} monitor.

What can be determined with certainty is that emissions from our second largest source of PM₁₀, residential wood combustion, were lower in 2000 from previous years. This conclusion is supported from PM_{2.5} monitoring data in 1999 and 2000 and shows that PM_{2.5} concentrations decreased approximately 20% in 2000 from the previous year.

Truckee PM_{2.5} Concentrations

	1999	2000	NAAQS
Annual Concentration (Mean)	11.40 ug/m ³	8.70 ug/m ³	15.00 ug/m ³
Highest 24-Hour Concentration	50.00 ug/m ³	22.60 ug/m ³	65.00 ug/m ³

Source: Northern Sierra Air Quality Management District

The cause or causes for this substantial decrease is difficult to define because weather is such an integral factor in Truckee's air quality. The weather patterns in 2000 were quite favorable to good air quality in Truckee: lower than average amount of precipitation and number of precipitation days, higher than average winter temperatures, and lower than average number of strong high pressure days after storm systems that trap particulate matter pollutants in the winter and early spring.

Another factor that may explain lower $PM_{2.5}$ concentrations in 2000 is reduced residential wood combustion emissions. The Community Development Department believes residential wood combustion emissions from existing development have decreased noticeably with the extension of a natural gas pipeline to Truckee and the availability of natural gas service. In conjunction with the woodstove replacement rebate programs offered by the Town of Truckee and the Placer County Air Pollution Control District, the availability of natural gas in the Truckee area has resulted in the removal of several hundred woodstoves and reduced use of woodstoves that remain in those homes converted to natural gas service. There are increases in $PM_{2.5}$ emissions from newly constructed homes that use woodstoves as a secondary heat source or as an amenity; however, such increases are clearly offset by the emission reductions in existing development. In fact, the Community Development Department believes the emission reductions from existing development are substantially greater than the small increases from new development thereby resulting in an overall reduction in $PM_{2.5}$ emissions from residential wood combustion. These emission reductions will continue to escalate as natural gas service is extended to the remaining parts of the Town although emission reductions may be tempered by the recent increases in natural gas costs.

Most likely emissions from re-entrained road dust also decreased in 2000 from previous years. Yet these reductions are tied solely to the favorable weather patterns, an unmanageable factor, and not to any human-influenced actions by the Town or CalTrans. Re-entrained road dust emissions are expected to return to their previous levels and will increase as traffic volumes and the miles of roads sanded (with the new 267 Bypass) expand unless the Town and CalTrans take actions to reduce re-entrained road dust emissions.

In summary, because of untrustworthy monitoring data and favorable weather patterns, it cannot be determined with certainty if particulate matter emissions in Truckee have decreased because of human-influenced actions (e.g. natural gas conversion, stove rebates). It will take several years of data to identify a trend in improved air quality in Truckee and to correlate any improvement to control strategies initiated by the Town. Consequently, there is no data or other evidence that would support a position to postpone, put aside, or modify the implementation of control strategies identified in the Air Quality Management Plan.

NATIONAL AND STATE AIR QUALITY STANDARDS

The United States Environmental Protection Agency (EPA) adopted new standards for particulate matter pollution that became effective in September 1997. The method in determining compliance with PM_{10} ambient air quality standards was modified and ambient air quality standards for $PM_{2.5}$ were added to address fine particulate matter pollution. These new standards were challenged in Federal court by business groups, the United States Chamber of Commerce, and several states, and this legal challenge has been going through the Federal court appeals process for the past several years.

The United States Supreme Court in February 2001 made a decision on the legal challenge and unanimously upheld the constitutionality of the Clean Air Act as the Environmental Protection Agency had interpreted it in setting the 1997 health-protective ambient air quality standards for particulate matter. The Supreme Court stated that the Clean Air Act requires the EPA to set air quality standards based solely on public health considerations without consideration to costs. (The EPA and states may consider costs in determining how those standards will be implemented.) Consequently, the new particulate matter standards are in effect, and the Environmental Protection Agency and California Air Resources Board will begin implementing the new standards. It will take approximately two to three years to determine initial compliance with the new standards, however Truckee has a head start since PM_{2.5} monitoring data has been collected since January 1999.

In the last two years there have been no changes to the Truckee air basin's compliance with the National and State ambient air quality standards for PM₁₀. Truckee complies with the annual and 24-hour National ambient air quality standards, complies with the annual State standard, and still routinely exceeds the 24-hour State standard. It is the opinion of the Community Development Department and the Northern Sierra Air Quality Management District that PM₁₀ air quality in Truckee and compliance with National and State standards has not worsened in the last two years and may have actually improved although to what extent it cannot be determined.

Truckee Air Basin Compliance with Ambient Air Quality Standards	
NAAQS Annual PM ₁₀	Yes
NAAQS 24-Hour PM ₁₀	Yes
NAAQS Annual PM _{2.5}	Yes
NAAQS 24-Hour PM _{2.5}	Yes
SAAQS Annual PM ₁₀	Yes
SAAQS 24-Hour PM ₁₀	No

When the Air Quality Management Plan was adopted in July 1999 it was not known whether Truckee would comply with the new PM_{2.5} standards. With two years of monitoring data under our belt, it appears that Truckee comfortably complies with the PM_{2.5} annual and 24-hour standards. Both the annual and 24-hour concentrations are approximately 25% below the National standards. Caution should be taken though since we have only two years of monitoring data and weather patterns have been favorable to good air quality. A severe winter like the one in 1997 and we may see PM_{2.5} concentrations hovering near or exceeding the levels established by the National standards. Once again, there is no data or other evidence relating to compliance with National and State standards that would support a position to postpone, put aside, or modify the implementation of control strategies identified in the Air Quality Management Plan.

CONTROL STRATEGIES

Upon adoption of the Air Quality Management Plan, the Community Development Department identified four control strategies for implementation within a short timeframe (1 to 3 years). These control strategies are:

- An interim rebate program for the removal of non-certified woodstoves;
- A long-term financial assistance program for the removal of non-certified woodstoves;
- Ordinances requiring the removal of non-certified woodstoves at time of home sale and also within specified timeframes (5 to 10 years);

- Street sanding guidelines for Town and CalTrans operations.

The following information summarizes the work that has been done on each control strategy and their current status. Other control strategies identified in the Air Quality Management Plan will not be implemented until substantial progress has been made on the above strategies or they are implemented on an individual project basis. These other control strategies are not discussed in this report.

Interim Rebate Program

The interim rebate program was implemented in October 1999 shortly after the Air Quality Management Plan's adoption. The program offers cash rebates for non-certified woodstoves that are removed and replaced by an EPA certified woodstove or a gas-service stove. The rebate is \$166 for replacement with an EPA certified woodstove and \$266 for replacement with a gas-service stove. Southwest Gas is also participating in the Town's rebate program and offers an additional \$200 rebate if the non-certified woodstove is replaced with a gas-service stove and the property owner is a customer of Southwest Gas.

The program is administered by the Town Planner and requires approximately two hours per week of the Town Planner's time. Administration of the program will be transferred to technical staff once the Community Development Department is fully staffed. From October 1999 to February 2001 the Town has processed 167 rebates that involved the removal of 177 non-certified woodstoves, which were replaced by 165 gas-service stoves and only 12 EPA certified woodstoves. It is estimated that the removal of these non-certified woodstoves has reduced emissions in the Truckee air basin by approximately 14 tons.

The Town costs for this program to date have been \$44,135 in air quality mitigation funds and approximately 140 hours of Community Development staff time. The program has been funded by interest paid to the air quality mitigation fund, and there is still over \$325,000 in the air quality mitigation fund which will allow continued funding for this program and the long-term financial assistance program. The interim financial assistance program will continue until the long-term program is in place. Southwest Gas has committed for another year to continue participating in the program and offering a \$200 rebate.

Long-Term Financial Assistance Program

The Air Quality Management Plan recognized that public assistance was as important as regulatory measures in addressing the problem of particulate matter pollution. A key control strategy of the plan is to provide financial assistance for the conversion and removal of non-certified woodstoves. This assistance program will be a comprehensive one and will include several assistance methods to encourage the removal of woodstoves in the community. The Town and Placer County have the funds to operate the program, and so all that needs to be done is to put the program together and allocate the necessary resources to administer the program.

Discussions have already taken place between the Town and the Placer County Air Pollution Control District to develop and operate a joint financial assistance program in Truckee and the Martis Valley. The program will be developed in two phases: the first phase focusing on financial

rebates, low income households, and technical assistance; and the second phase addressing other financial assistance methods such as low-interest loans.

The first phase of the financial assistance program will meet the following objectives:

- Application and stove inspection requirements will be the same for the Town and Placer County/Martis Valley home owners;
- The Town and Placer County will share staff resources in implementing the program to best serve the community;
- The Town rebates will be increased to match the rebates offered by Placer County;
- The replacement of a stove will no longer be required to qualify for the rebate. A home owner will be able to qualify by just removing a woodstove and agreeing to restrictions on the future installation of woodstoves;
- A reduced rebate will be offered for the removal of EPA certified woodstoves.

The Community Development Department will bring this program to the Council for review and approval prior to its implementation. Upon implementation it is estimated that it will take approximately three to five staff hours per week to administer the program.

Woodstove Removal Ordinances

The most contentious part of the Air Quality Management Plan was the control strategy requiring the removal of non-certified woodstoves upon the sale of a home. This control strategy was determined to be necessary to accelerate the removal of non-certified woodstoves and the reduction of residential wood combustion emissions. An ad-hoc committee of members from the real estate community and woodstove retailers was formed to assist the Community Development Department in the drafting of the ordinance. A draft ordinance has been prepared that is acceptable to the ad-hoc committee with only one outstanding issue: who would conduct the required home inspections. The ad-hoc committee and the Community Development Department believe it is important for the program to include sufficient resources to conduct the inspections to ensure there are no delays to escrow transactions and to keep costs down to reasonable levels. It was determined that the building inspection services offered by the Community Development Department are stretched especially during the construction season and could not easily and quickly be expanded to meet short-term increases in demand. The Northern Sierra Air Quality Management District has limited inspection services that may be available only a couple of days each week. The ad-hoc committee requested that the Community Development Department look into using home inspectors to conduct the required inspections since home inspectors already conduct inspections of many homes in escrow and there appears to be an adequate number to do the required inspections.

The Community Development Department has not yet completed its research in using home inspectors as part of the program. Once this research is completed and it is determined that using home inspectors is feasible, the draft ordinance will be forwarded to the ad-hoc committee for their final review. The ordinance will then be brought to the Town Council for consideration and approval at a public meeting. Prior to the meeting, the Community Development Department will inform and notify the community of the proposed ordinance and meeting so the Council can consider public input before taking action. Once the ordinance takes effect, it is estimated that it will take approximately ten staff hours per week to administer the program.

No work has yet been done on the ordinance requiring the removal of non-certified woodstoves within a specified time period. This work will not commence until the ordinance requiring removal at time of sale is adopted. The earliest date in which non-certified woodstoves would need to be removed is 2006.

Street Sanding Guidelines

The Town has qualified for a \$15,000 grant from the Northern Sierra Air Quality Management District for consultant services to assist in the preparation of street sanding guidelines. Unfortunately, the Community Development Department has not been able to commit staff resources to initiate and oversee this project which requires a specialized consultant experienced in re-entrained road dust emissions. The grant must be used by October 2001 or it must be returned to the Northern Sierra Air Quality Management District. The project cannot be completed by October. However, if the project is given the highest priority, work may be initiated and a consultant selected by early summer. Under these conditions, the Northern Sierra Air Quality Management District may look favorably on approving an extension to the grant time frames.

The primary purpose of the street sanding guidelines is to provide support in the Town's request to CalTrans to modify their sanding operations and reduce re-entrained road dust emissions. The Town Public Works Department has made substantial strides in equipment and operations in the past few years to improve our sanding and sweeping operations, and the Community Development Department believes it is not urgent at this time to adopt street sanding guidelines in order to address Town operations.

RECOMMENDED PRIORITIES

Although implementation of the Air Quality Management Plan's control strategies has been a high priority since adoption of the plan, the resources allocated to air quality by the Community Development Department have been limited by other competing demands of the Department. The Community Development Department has relied on the extension of natural gas to the Town and conversion of homes to natural gas service to compensate for the delayed implementation of the control strategies, and Department resources have been directed to other Town projects and the review of the ever increasing load of development projects. To complete in a timely manner the work tasks for the above listed control strategies, Community Development resources will need to be reallocated from other projects and responsibilities including development project review and customer service programs, and a decrease in the level of service provided to customers may occur. For example, if staff resources currently devoted to development project review are reallocated to air quality programs, it will take longer to process land use/zoning applications, conduct required inspections, etc. if current levels of activity continue through this year.

Because of the anticipated level of development activity this year and the Town's commitment to excellent customer service, the Community Development Director and Town Planner believe it is not prudent to allocate significant resources to air quality at this time. With significant Department resources already assigned to the newly initiated historic preservation program and affordable housing strategies, development project review and customer service would substantially suffer if additional resources are shifted to air quality programs. However, we believe it is very important to apply staff effort and resources on a constant and continual basis to the air quality programs. This

step-by-step approach will in due course result in the implementation of the control strategies without adversely affecting other Town priorities and projects.

To address the problem inherent in the competing demands between development project review, customer service, and advanced/special planning projects, the Community Development Director and Town Planner recommend that the Town Council provide the following direction for the Community Development Department:

1. The Community Development Director will allocate approximately five to ten staff hours per week to the implementation of air quality control strategies. It will be at the discretion of the Community Development Director and Town Planner on how these staff hours are allocated consistent with the Council's direction.
2. The staff hours allocated to the air quality programs will take precedence over all other staff duties and responsibilities except for the historic preservation program, which is given a higher priority. It is recognized that staff resources will have to be reallocated from other staff duties and responsibilities.
3. The Community Development Director will allocate Department resources for air quality programs in the following order of priority:
 - a. Continue to offer and administer the interim rebate program;
 - b. Complete the draft ordinance and other documents for the removal of non-certified woodstoves at time of home sale and bring the program to the Council for consideration;
 - c. Develop a joint financial assistance program with Placer County;
 - d. Draft a woodstove removal ordinance (with set time periods) and bring the draft ordinance to Council for initiation of the public review process;
 - e. Initiate work program for street sanding guidelines.
4. The Community Development Director will allocate additional staff resources as necessary to properly administer the woodstove removal programs and financial assistance program upon their approval by the Town Council.