



Sustainability Task Force

A Committee of the Chico City Council
Vice Mayor Schwab, Chair

Meeting of August 18, 2008 – 3:00 p.m. to 5:00 p.m.

Council Chamber Building, 421 Main Street, Conference Room No. 1

AGENDA

1. **Presentation from the Butte County Air Quality Management District (BCAQMD) and Dr. Gary Incaudo, M.D. Regarding Air Quality in Butte County.**

At its 6/17/08 meeting, the City Council forwarded a request from the BCAQMD and Dr. Incaudo that the City consider addressing air quality issues in Butte County. Jim Wagoner and Dr. Incaudo will be presenting information to the Task Force for its review and consideration. A copy of the letter request, the slide presentation, and additional information regarding this item has been provided to the Task Force with this agenda.

2. **Report from the Ad-Hoc Committee Regarding the 9-02-08 Staff Report to the City Council Submitting the Greenhouse Gas (GHG) Emissions Inventory and Reduction Target Recommendation.**

The Ad-Hoc Committee met on 8/06/08 and 8/16/08 to discuss strategies on submitting the GHG inventory and the GHG reduction target recommendations to the City Council on 9/2/08. The Task Force will review a draft copy of the Committee's agenda report and information to be presented to Council.

3. **Rescheduling of 9/1/08 Meeting.** The next regular meeting of the Sustainability Task Force is scheduled for September 1, 2008, which is a holiday. The Task Force is requested to either reschedule or cancel this meeting.

4. **Reports and Communications – None**

5. **Business from the Floor** – Members of the public may address the Committee at this time on any matter not already listed on the agenda, with comments being limited to three minutes. The Committee cannot take any action at this meeting on requests made under this section of the agenda.

6. **Adjournment** – The meeting will adjourn no later than 5:00 p.m.

Distribution available in the office of the City Clerk:

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Prior to: 5:00 p..m.

Chico City Clerk's Office
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Members:

Jason Bougie
Jim Goodwin
Dr. Scott G. McNall
Jim Stevens

Kristin Cooper - Carter
Ken Grossman
Jim Pushnik
Scott Wolf

Tom DiGiovanni
Amelia Gulling
Tami Ritter
Julian Zener

Chris Giampaoli
Jon Luvaas
Ann Schwab, Chair

2525 Dominic Drive, Suite J
Chico, CA 95928
(530) 891-2882
(530) 891-2878 Fax



W. James Wagoner
Air Pollution Control Officer
Robert McLaughlin
Asst. Air Pollution Control Officer

April 9, 2008

David Burkland, City Manager
City of Chico
411 Main Street
Chico, CA 95927

Dear Mr. Burkland:

The Butte County Air Quality Management District staff and Dr. Gary Incaudo would like to request an opportunity to address the Chico City Council concerning the air pollution that Butte County and, in particular, the City of Chico is experiencing. Increasingly, health studies in recent years have indicated both ozone and particulate pollution is more hazardous to our health than previously thought. For many years, we have received a grade of "F" for ozone air pollution in the summer months from the American Lung Association State of the Air reports. The Chico area regularly exceeds a new Federal standard for small respirable air pollution particles during the winter months.

We would like to present the health concerns with these pollutants, what are the major contributors, discussion of District air quality programs and offer the Council suggestions on how Chico can help to mitigate this major health risk and bring us into compliance with mandated Federal and State standards.

We appreciate your time and effort in processing this request. If you have any questions, please do not hesitate to contact Gary Incaudo at 864-0841 or Jim Wagoner at 891-2882.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Incaudo".

Gary A. Incaudo, M.D.

CM	ACM	ASD	FILE
CLK	ED/RDA	CA	ACA
COUNCIL	7	ISD	O&M
HRD/RM	FD	GSD	BDSO
CPSD	1	PSD	HNED
PROJ M	CDP	FC	MA
AA	OTHER		

W. James Wagoner, Air Pollution Control Officer
Butte County Air Quality Management District

6-GA-1-15

AIR POLLUTION: THE SILENT KILLER

The World Health Organization reports that over 3 million people die each year from the effects of air pollution. This is three times the number who die each year in automobile accidents. About half of these deaths can be traced to air pollution from vehicle emissions.

In the United States, traffic fatalities total just over 40,000 per year, while air pollution claims 70,000 lives annually. Air pollution deaths in the United States are equal to deaths from breast cancer and prostate cancer combined. This scourge of cities in industrial and developing countries alike threatens the health of billions of people worldwide.

Governments go to great lengths to reduce traffic accidents by fining those who drive at dangerous speeds, arresting those who drive under the influence of alcohol, placing stop signs or traffic signals at most intersections, and even sometimes revoking drivers' licenses. But they pay much less attention to the deaths caused by people simply driving their cars and trucks and polluting the air. While deaths from heart disease and respiratory illness from breathing polluted air may lack the drama of deaths from an automobile crash with flashing lights and sirens, they are no less real. The fact that air pollution fatalities substantially exceed traffic fatalities worldwide suggests the need to broadly redefine notions of safety to include the goal of decreasing air pollution. While only a few motorists contribute to traffic fatalities, all motorists contribute to air pollution fatalities.

- Air pollution is composed of both gases and particles (Particulate matter or PM) of varying size. The smaller the size of the pollutant, the more respirable and potentially dangerous. There are government standards set for particulates that are 10 microns in size and 2.5 microns in size. The primary source of PM 2.5 microns is combustion of fossil fuels and organic matter such as wood, coal etc.
- Air pollution comes from both indoor and outdoor sources. Indoor sources are mostly from smoking, cooking and heating (especially fire places and

wood/pellet stoves). Outdoor sources are mostly automobiles, buses, trucks, fireplaces and other combustion home heating sources. Some pollution also arises from agricultural activities and various industries and utilities.

- Air pollution increases heart attacks, strokes, asthma incidence, asthma and COPD acute visits to the doctor, heart and lung based hospitalizations and deaths, cancer, and allergy symptoms.
- The largest single source of dangerous PM is diesel exhaust, followed by burning (smoking, fire places, wood stoves, agricultural burns) and gasoline engine combustion.
- Children are particularly vulnerable to the health risks. There are higher rates of asthma and allergy among children living in close proximity to busy streets, freeways, and those with smoking parents.
- Even healthy volunteers exposed to high levels of air pollution in the laboratory show changes in their lungs suggestive of evolving Chronic Obstructive Lung disease (COPD), asthma, allergy, and lung cancer.
- Chico and much of Butte County is regularly out of compliance with recognized standards for air quality putting their citizens at risk for suffering from the health consequences listed above.

WHAT CAN BE DONE?

1. **Time all traffic signals to the speed limit and remove all other traffic control devices that do not meet engineering standards for safe and efficient placement.** A solution that maximizes public auto-pedestrian-bicycle safety, saves hundreds of dollars in fuel per family, reduces health and maintenance costs for every driver, and reduces air pollution by 22-40% is to follow California law and mandate that all Cities and Butte County comply with nationally recognized traffic control standards and time their signals to the speed limit. The State of California currently requires that all cities and counties follow the Manual of Uniform Traffic Control Devices (MUTCD), which embodies standards (called warrants) that maximize traffic-pedestrian-

bicycle safety and minimize traffic congestion and vehicle emissions. Unfortunately, the general public and most political office holders incorrectly view traffic signals and stop signs as safety devices. As a result, these mandated guidelines or “warrants” are frequently ignored by our governing bodies when the findings are contrary to what the public is demanding at the time. In truth, stop signs and traffic signals are primarily designed for determining right-of-way and, when improperly used, actually increase speed, accidents and pedestrian/bicycle injuries.

- **TRAFFIC SIGNALS:** The National Transportation Operations Coalition (NTOC), comprised of 24 major traffic engineering organizations, has given the entire United States a grade of D for traffic signal operation and that would include the City of Chico and all of Butte County. Traffic engineering in Chico is severely understaffed and underfunded.

Of the 97 traffic signals in Chico, 80% are NOT timed to the speed limit. The NTOC has determined that inconsistent signal maintenance and signal timing in Cities such as Chico result in increased air pollution, traffic congestion, speeding, accidents, fuel usage, and car/truck insurance and maintenance costs. Proper signal maintenance and timing to the speed limit as recommended by the NTOC would reduce air pollution from vehicles by 22%, speeding, accidents by 10-30%, traffic congestion up to 40%, fuel usage by 10% and save every household about \$400/year in fuel alone. The NTOC determined that a city like Chico would derive \$40 of benefit for every \$1 spent on proper signal management. This would require an investment in modern left turn signals and removal of unnecessary left turn signals, modern signal software and devoting one traffic engineer and two assistants to traffic signal management for every 75-100 signals.

- **STOP SIGNS:** Chico currently has over 3500 stop signs. Although it is unclear how many meet engineering standards, professional estimates suggest that 50-70% do not meet traffic engineering guidelines (MUTCD warrants) for safe and efficient placement. The net result is further unnecessary stopping and starting and an increase in traffic congestion, air pollution, auto-bicycle-pedestrian accident rates, cardiorespiratory injury and death, and global warming. The MUTCD mandates that stop signs are never to be used for speed control since they actually promote greater speeding as well as increased risks of pedestrian/bicycle/vehicle accidents yet such is common practice in Butte County. Removal of unwarranted stop signs would save each household annually several hundreds of dollars in fuel, insurance, maintenance and health costs without compromising road safety.
2. **Institute mandatory solid fuel burning curtailment.** Methods necessary to impose an effective curtailment have been discussed. We can draw from experience with this approach in other cities and counties.
 3. **Invest in the infrastructure and education necessary to promote bicycling and the use of public transportation and minimize driving.** When driving is necessary, construct local roads and manage traffic control in a way that encourages traffic flow at a uniform safe speed of not more than 40mph.

Gary A. Incaudo MD

June, 2008



National Transportation Operations Coalition



About NTOC
Local Press Kit
Press Room
Resources
Links
Traffic Signal Audit Guide
2007 Self Assessment
2005 Report Card

2007 National Traffic Signal Report Card Shows Improvements Made, But Much Work Still Needed

D Grade Means Headaches for Commuters; Improved Operation of Traffic Signals Could Lower Fuel Consumption Nationwide

The National Transportation Operations Coalition (NTOC) is pleased to announce that the **national press event to unveil the results of the 2007 National Traffic Signal Report Card, held this morning at Freedom Plaza in Washington, DC, was a great success!**

NTOC is an organization comprising transportation experts including the Institute of Transportation Engineers (ITE), the American Association of State Highway and Transportation Officials (AASHTO), the American Public Works Association (APWA), the International Municipal Signal Association (IMSA), ITS America, U.S. DOT–Federal Highway Administration (FHWA) and many other organizations.

National Traffic Signal Report Card 2007	
Management	D-
Signal Operation <small>at Individual Intersections</small>	C
Signal Operation <small>in Coordinated Systems</small>	D
Signal Timing Practices	C-
Traffic Monitoring <small>and Data Collection</small>	F
Maintenance	C
OVERALL	D

The report card shows how local jurisdictions such as cities, counties and states can reap large rewards, such as mitigating congestion and lessening fuel consumption, by making small changes in the way they manage and operate their traffic signal systems. The report also highlights several jurisdictions that have been successful in making changes since the 2005

report card was released.

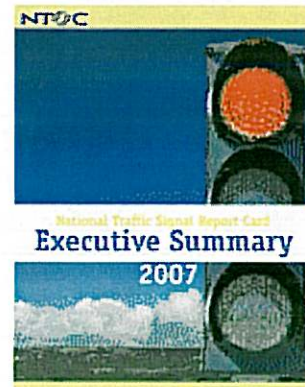
The results contained in the report card are based on the 2007 Traffic Signal Operation Self Assessment released by NTOC in the fall of 2006. A total of 417 agencies responded, representing 47 states.

Information about the press event will also be provided in ITE Journal and the ITE e-newsletter.

If you have any questions, please contact Lisa Fontana Tierney, ITE Traffic Engineering Senior Director, at ltierney@ite.org or 202-289-0222 ext. 116, or Marianne Saglam, ITE Communications and Marketing Senior Director, at msaglam@ite.org or 202-289-0222 ext 123.



[Technical Report](#)



[Executive Summary](#)



Institute of Transportation Engineers

AMERICAN ASSOCIATION OF
STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO
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U.S. Department of Transportation
Federal Highway Administration



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JUN 23 2008

CITY OF CHICO
GENERAL SERVICES DEPT

REPORT TO THE COMMUNITY

Presented by
Jim Wagoner, Air Pollution Control Officer
Butte County Air Quality Management District
and
Gary M. Incaudo MD
Chico Allergist, Clinical Professor of Medicine
U.C. Davis

Presented to
Chico City Council
June 17, 2008

Air Pollution in Butte County

- The Air in Butte County does not meet State and federal Health based standards.
- Air Pollution affects everyone's health!
- Children and older adults are the most vulnerable to the health risks.
- The District's purpose is to work towards achieving healthful air which benefits everyone.

Air Pollution:

Ozone & Particulate Matter

- Air Pollution is composed of both gases and particles, the smaller the size of the pollutant, the more respirable and potentially dangerous.
- The primary source of fine particulate matter (PM2.5) is combustion of fossil fuels and organic matter (wood, vegetative matter, gas).
- The primary source of ozone is combustion of fossil fuels.

Butte County Primary Air Pollution Sources

- Indoor air pollution sources: woodstoves & fireplaces (PM2.5), smoking and cooking.
- Outdoor air pollution sources: motor vehicles (Ozone).

Air Pollution Sources



- Ozone is highest during the summer when motor vehicle emissions react in the presence of sunlight.

Air Pollution Sources

- PM2.5 is highest during the winter months primarily from woodstoves/fireplaces.
- The largest source of dangerous (toxic) PM2.5 is diesel exhaust.

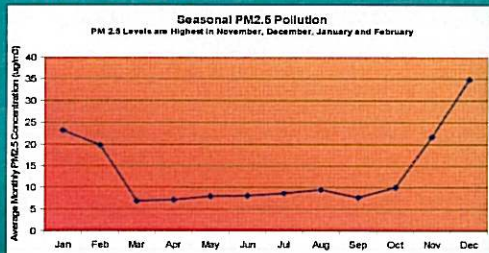


Attainment Status

- Butte County and particularly Chico are regularly out of compliance with air quality standards putting citizens health at risk.
- The federal Non-Attainment status will likely mandate that Butte County submit a State Implementation Plan (SIP) to the State and Federal EPA by 2012 & 2013.
- The SIP contains measures and regulations which require reduction of air pollutants.

Attainment Status

- Chico Area expected to be designated non-attainment for the new federal PM 2.5 standard in 2008.



Health Effects of Air Pollution

- Air pollution increases heart attacks, strokes, cancer and asthma.
- Air pollution increases Chronic Obstructive Pulmonary Disease (COPD).



Health Effects of Air Pollution

- Children are particularly vulnerable to the health risks of air pollution.
- There are higher rates of asthma and allergy among children living in close proximity to busy streets, freeways, and those with smoking parents.



Health Effects of Air Pollution

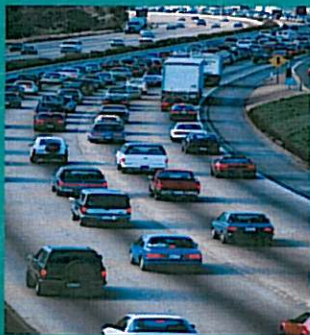


- Air pollution increases health care costs.

- Air pollution increases emergency room and doctor visits.
- PM2.5 prematurely kills 14,000-24,000 Californians each year.
- U.S. Air Pollution deaths are 4-6X traffic fatalities and are equal to deaths from breast cancer and prostate cancer combined.

Air Pollution and Motor Vehicles

- 70% of ozone air pollution in Butte County is caused by motor vehicles.



Air Pollution and Motor Vehicles

- Air pollution fatalities substantially exceed traffic fatalities which suggests the need to redefine notions of traffic safety to include the goal of **decreasing air pollution.**
- Only a few motorist contribute to traffic fatalities, **all motorists contribute to air pollution fatalities.**

Air Pollution and Motor Vehicles

- California law mandates compliance with nationally recognized traffic control standards (MUTCD warrants).
- MUTCD warrants are designed to maximize traffic-pedestrian-bicycle safety and minimize traffic congestion, fuel consumption and air pollution.

National Transportation operation Coalition (NTOC)



- NTOC consists of 24 major traffic engineering organizations nationwide.
- NTOC data suggests signal maintenance & timing to speed limits provides:
 - 22% reduced air pollution
 - 10% reduced fuel usage
 - 10 - 30% reduced accidents
 - 40% reduced traffic congestion

Air Pollution and Motor Vehicles

- Of the 97 traffic signals in Chico, 80% are NOT timed to the speed limit.
- Stop signs: Chico currently has over 3500 stop signs. Professional standards suggest that 50-70% do not meet MUTCD standards for safe and efficient placement.



Air Pollution and Motor Vehicles Benefits/Solutions



- Estimated that proper signal maintenance and timing and removal of unwarranted stop signs would save >\$500/household/year in fuel, insurance, maintenance and health care costs.
- The City of Chico could save \$40 for every \$1 spent on proper signal management.
- Devote greater staff to traffic signal and stop sign management.

Local Opportunities/Solutions

- Require upgrades to non-EPA certified wood burning devices.
- Provide incentives for low income households to convert wood burning devices.



Local Opportunities/Solutions

- Consider including the Air Quality Element for Chico's General Plan. Policies include "Smart Growth" Communities which supports walking, bicycling, and transit.
- Encourage land use patterns that reduce the number and length of motor vehicle trips.
- Support Mitigation Fees for development projects which exceed air quality thresholds.



Local Opportunities/Solutions

- Encourage alternative modes of travel.
- Modernize traffic control devices, time signals to the speed limit and remove unwarranted traffic control devices from our roadways.



Local Opportunities/Solutions

- We face many challenges. Some challenges will require cooperative solutions and the development of new and expanded partnerships and voluntary initiatives.