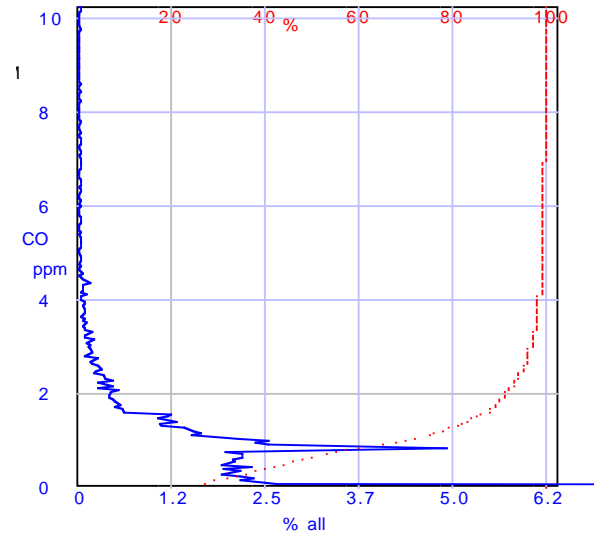


A standard-issue police traffic motorcycle was used for these measurements.



A full workweek of measurements, on and off duty, show a very low exposure by one police officer to carbon monoxide. Time-series plots, while riding his motorcycle, are shown on the opposite side.

The Langan T15 Enhanced CO Measurer was placed in the accessory pouch, a part of the cockpit (upper left). A cover loosely fit over the instrument to keep the vehicle in conformance with normal procedures. Ventilation was generous.

A Motorcycle COp!

Bear Facts -- #116

The work of a motorcycle police officer is difficult.
Add the air they breathe to the risks they take each day.
Measurements of carbon monoxide were surprising in one growing community.



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the DataBear

Bear Facts are published to provide useful insights into the operation and applications for the DataBear™ Measurer and associated complete instruments.

The time of measurement was selected randomly. Spring is not a high-smog time of the year in the West; cold winter inversions create a condition where levels are highest. Nevertheless, the primary source of carbon monoxide (CO) is from traffic, and traffic cops are in the flow all during their shift!. Perhaps these data can be considered a baseline condition.

The measuring procedure was to mount a Langan T15d Enhanced CO Measurer in a pouch near the front wind shield; this is essentially the air breathed by the operator. In fact the air along the roadway is the same, more or less, gathered anywhere on the motorcycle. This has been found true within automobiles where air circulation is good. Air circulation is very good on a bike.

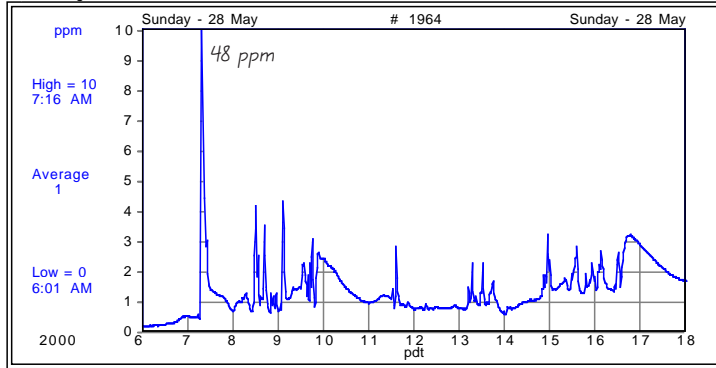
The daily activity varies. Some time is spent enroute to various locations; some time guiding traffic; there are tickets and warnings issued; there are breaks and meals; even meetings are part of the day. Most of the days were spent on city streets; some time was on freeways. If a study was to be made of police-officer exposure, a record of activities would have to be maintained. As an initial overview, however, just the measurements suffice.

These data were observed during the routine operations of a single police officer, operating an official motorcycle in a medium-sized metropolitan area in the western United States. Who, which model cycle, and where are unimportant for an overview.

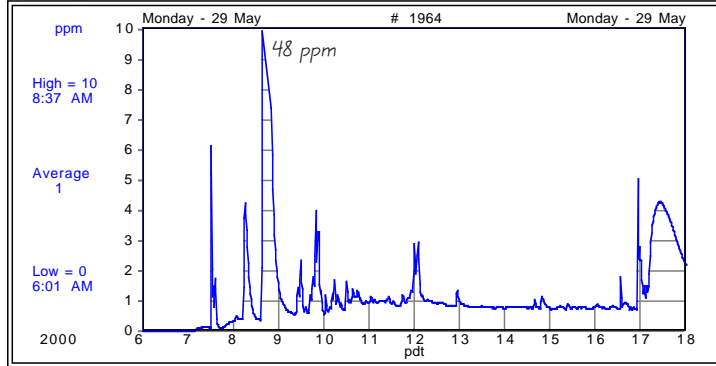
It was surprising that the observed levels were so low! Partly this is due to the sparse traffic; most data were gathered on surface streets (vs. freeway traffic). Partly due to the improved emission levels achieved by newer automobiles. Partly due to driving conditions; there is little bumper-hugging and driving habits tend to improve in the known presence of the law!

The officer's exposure, despite periodic peaks of CO, averaged well below any harmful levels as defined by the Environmental Protection Agency.

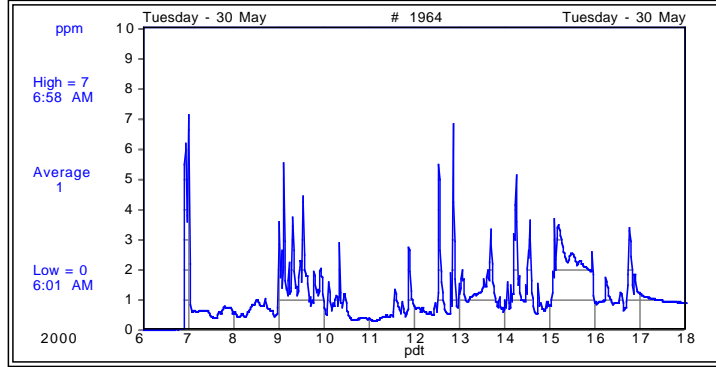
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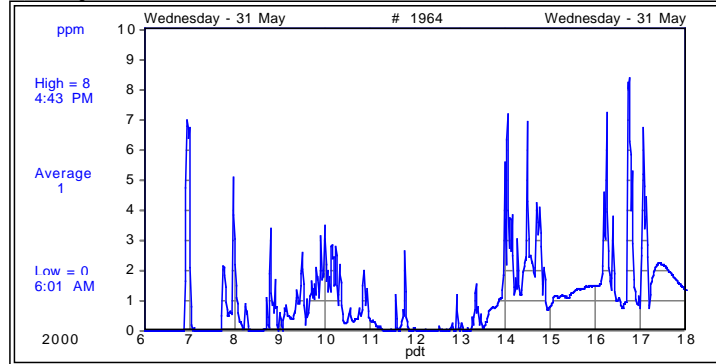
Title: High Resolution



Title: High Resolution



Title: High Resolution



Daily average exposure:	
Sunday: 1.39 ppm	Monday: 1.12 ppm
Tuesday: 1.19 ppm	Wednesday: 1.03 ppm

Here are the 'high-resolution' data gathered during four ten-hour shifts, and an hour before and after, of a motorcycle officer on duty. On two occasions, as noted, the values were much higher; these may have been in an enclosed garage.

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cut inside dotted line for small size

The Langan CO Measurer is a convenient device to use in an unobtrusive manner for measuring the levels of carbon monoxide almost anywhere. This application is an example of its mobility in an environment which is rugged, heat, vibration and the desire to have the instrument out of sight.