Dale R. Hettinger has worked for Jefferson County Public Works for the past 24 years. He was appointed county road engineer in January 1986 and in July 1991 he was appointed Director of Public Works/County Engineer.

Prior to that, he worked five years with the Louisville Office of Watkins Consulting Engineers. He has served on the board of the American Public Works Association and served as President for the Kentucky Chapter in 1989. He is currently serving as Director in that organization.

OPENING GENERAL SESSION
Monday, July 25, 1994

Dale R. Hettinger, County Road Engineer
Jefferson County Public Works

A KENTUCKY PERSPECTIVE AND COMPARISON WITH MILWAUKEE’S EXPERIENCE

It is easy to compare Kentucky’s snow operation with Milwaukee’s—there is no comparison!

I will give you an overview of our experience fighting the 1994 snowstorm. Approximately 16 inches of snow fell in Jefferson County on January 16-17, 1994. We started with 35 trucks equipped with snow blades and spreaders working 12-hour shifts. The first night after the snow fell, the temperature dropped to zero. The second night, the temperature dropped to 22 degrees below zero. The bad visibility and extreme temperatures took their toll on our fleet. By the third day, we had 25 trucks stuck or broken down. By the fourth day, we had half of these trucks back in operation. For the remaining time, we averaged 12 trucks out of operation, leaving us with 23 trucks on the road.

One of our most common problems was a truck going off the road into a ditch. This frequently happened because the driver could not tell where the edge of the pavement was because the snow was so deep and the roadside ditch was not discernible. We had access to several wreckers and a contract service for wreckers, but we soon learned one of our biggest problems was not having enough wreckers to pull our trucks out. Also, since most of our rural roads are lined with trees, when a truck went off into a ditch, it frequently rolled into a tree causing major damage to the truck.
Subdivision streets was another problem. Our policy is to only plow subdivision streets on steep grades. In this emergency, we plowed every unincorporated public street. Because of the depth of snow in front of driveways, we had a lot of requests to plow driveways. Our policy was to plow driveways only if a person had an emergency need to get out.

Because of the magnitude of the snowstorm, we subcontracted snow removal to 12 private contractors with approximately sixty pieces of equipment. Even with this additional help, it took us eight days to clear all the streets of snow. We have 335 miles of county through roads and over 2,600 miles of local roads for a total of almost 3,000 miles of road to maintain.

Murphy's Law! When anything can go wrong, it will. During our snow removal operation, an abandoned bridge on Old Taylorsville Road over Floyds Fork collapsed. This was a 160-foot-span steel truss bridge (no small bridge). We assumed this was caused by the additional snow load on the bridge. It was planned to be removed ten years ago, but the Historical Society decided it was historical and blocked us from removing it. The collapse became an emergency problem because the structure was causing a huge ice jam on Floyds Fork, which was backing water up and threatening to flood several homes. The ability to communicate and bid by use of fax machine was a great help. Within 24 hours of the time the bridge collapsed, we faxed specs for removing this bridge and received four bids by fax the following day. A low-bid of $31,000 was awarded and work began the next day. The contractor used two large-track backhoes and a boom truck with a basket to lower a worker over the water to torch the steel into sections that could be removed. The water was approaching flood stage before the bridge collapsed, and the ice jam was creating about a four-foot head on Floyds Fork bringing the water level to within one foot of several homes. Within two days of the collapse, the bridge was removed, releasing the ice jam which lowered the water level preventing damage to the homes.

Let me take a moment to explain our present operation. We have five salt storage structures strategically located throughout the county. One particular storage barn cost about $127,000 and the covering over the steel shell lasts about eight years. This structure is portable and is ideal for us since we plan to move the location within a couple of years.

We add calcium chloride to our salt at the rate of 8 gallons per ton. We consider using cinders only if we run out of salt.

Our typical truck used for plowing and spreading salt is unique because of a two-way-tilt feature. The bed dumps forward allowing salt to be spread before the rear wheels pass over the snow. This gives us great flexibility to use the truck for other purposes during the winter.

What have we learned from the snowstorm of 1994 and what do we plan to do? We have budgeted $1.4 million to buy more trucks, plows, spreaders, and salt storage facilities. We will add 10 tandem trucks to
our fleet. After taking obsolete trucks out of service, we will have a net gain of 10 trucks for a total of 41 trucks.

We did not have enough salt storage for an emergency situation. There was a large portion of the United States that had snow and ice; and, therefore, a great demand for salt. We normally store 3,000-4,000 tons of salt. During this past winter, we used a little over 9,000 tons. Because of the great demand for salt over such a large area, it was very difficult to buy additional salt. We are very fortunate to be located on the river and we always received a barge of salt just before we ran out. We plan to build two new salt storage facilities, each having the capacity of 3,000 tons.

We also learned that it was very difficult to get contractors to respond when they have more lucrative contracts than government offers. We are attacking the above problems from two perspectives. One situation will be for an emergency snowfall and another situation will be for a routine snowfall. For the emergency, the county is working with the city of Louisville to let a contract for snow and ice removal in which we can share a list of contractors as needed. Our attorneys are working on solving the problem of paying mobilizations fees to assure contractors will respond to our needs. For the routine snowfall, we are working out an agreement with the State Highway Department in which the state will reimburse the county for snow and ice removal on 220 two-lane miles of state roads. In addition, the county is working on an agreement with Metropolitan Sewer District in which the county will reimburse MSD for the use of 16 drivers and dump trucks that the county will equip with plows and spreaders. This new proposal will give us approximately 620 miles of major roads to maintain. Our 41 trucks with MSD's 16 trucks will give us a total fleet of 57 trucks for snow removal. This equates to approximately one truck for every 11 two-lane miles of roads, which is very close to our goal of one truck for every 10 two-lane miles of roads.

The plan we have worked out with the state will allow them to concentrate on the Interstate System in Jefferson County while we work on the county system and the major state surface streets in Jefferson County.

The crisis created by this snowstorm encouraged us to put more energy into coordinating our work effort with city and state government. With our proposed plan, I am very confident that city, county, and state governments will be much better prepared to fight all size snowstorms in Jefferson County in the future.