

## WHAT ARE THE ODDS ON YOUR PAVING PROJECT'S SUCCESS?

Everybody knows that if you tried to do a paving job in January or February, you would need to have extraordinary luck to be successful. In fact, the chances of success are so slim that no one ever even tries to "get lucky." Even in the warm Sunbelt states, paving generally shuts down for the winter.

But what of the rest of the year? What is the best time to do paving? Would it not make sense to consider your chances, and then try to schedule your paving jobs at the time of the year when the chances of success are the greatest? First, let us define success. A paving job is successful if it lasts for the period of time it could reasonably be expected to last. Thus, there would be no premature failure.

This period of time might be five or six years for a single-layer chip seal, and up to 15 to 20 years for a substantial thickness of hot-mix asphalt (HMA). One must consider the traffic (volume and loads), as well as the strength of the supporting layers when estimating the lifetime of an improvement. Of course, it has to be assumed that the construction would be done by a knowledgeable crew, using good quality materials.

The graph (on the next page) depicts the probability of successful paving on the first day of each given month. It is based on the weather in the Northeast. In general, it would be applicable for most of the U.S., with the possible exception of Florida and parts of Arizona and California, where the favorable construction season is longer.

It shows that the chances of getting a successful paving job are greatest in the months of July and August. The season for HMA paving starts about one month earlier than it does for cold-mix and chip seal operations, and extends about one month later. This is because the latter are dependent on both temperature and humidity for curing of the emulsified asphalt. The conditions required for drying hay in the fields are about the same for curing cold mix and chip seals. Note that there is never a time when the chances of success are either zero or 100%. There is a gradual transition from "poor" (less than 50%), to "excellent" (better than 80%), and then back down. The chances get steadily more favorably in May and steadily worse in September.

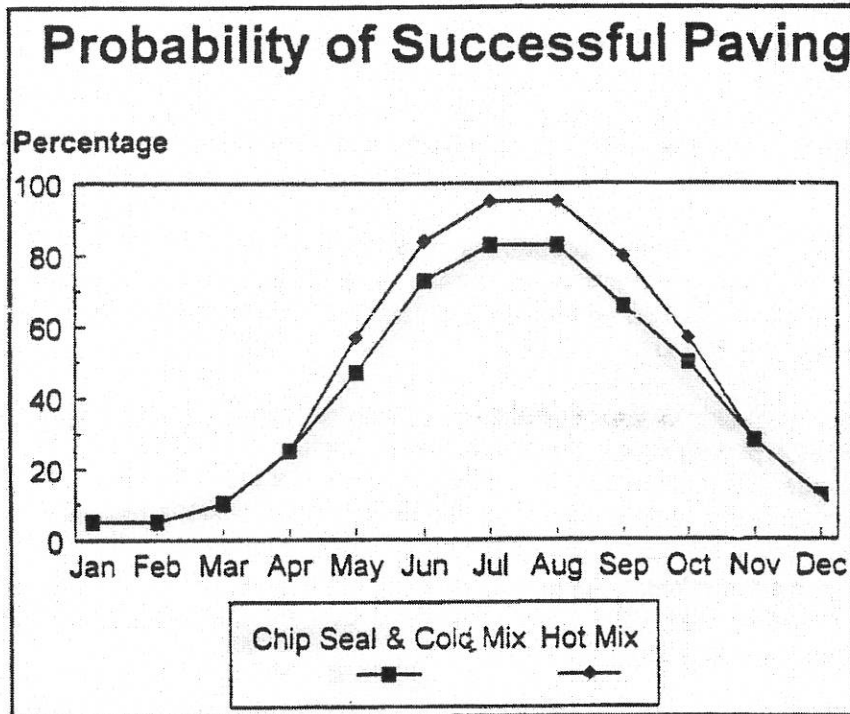
Even in July and August, however, you must consider the weather. If a thunderstorm is predicted for a given day, it would be wise to spend the taxpayers' money doing something other than paving. A cold night in late September can pose major problems for paving early the next morning. If it is a nice, warm day, it would be wise to wait until late morning to begin paving, thereby allowing the old surface to warm up.

All years are not the same, especially in the fall. It is possible to have a few very warm days in late October, and "get away" with late season paving. Try it again another year and the pavement breaks up before an average year.

Given this information, it is suggested to:

- Wait until after Memorial Day to begin all paving operations
- Try to do as much of your paving as possible in July and August
- Complete all cold-mix and chip seals by Labor Day, and
- Complete all HMA paving before Columbus Day.

By considering your chances for success, and choosing the best time of the year to do paving, you will ensure that you get the maximum amount of value out of your paving dollars. If your scheduling is accompanied by good workmanship, you will create a situation that will give you the best possible opportunity to avoid premature failures.



Dr. Lynne Irwin, P.E., Roads & Bridges/February, 1994