

# Solving the Puzzle

## FACT: Concrete is as Quiet as Asphalt

Research shows that no paving material, concrete or asphalt, is noisier than any other paving material. New paving technologies are available to ensure that roads provide a safe, comfortable and quiet ride for Michigan drivers.

The Federal Highway Administration (FHWA) conducted a review of current and previous highway noise studies in order to recommend pavement surface textures that could reduce noise without compromising safety.

After an extensive review of the facts, the FHWA concluded that “Available research data indicate it is the construction process, not an inherent material property difference between AC (asphalt) and PCC (concrete) pavements, that currently results in slightly lower initial noise levels for AC pavements.”

A five-year study was also conducted by University of Marquette researchers and sponsored by the Wisconsin Department of Transportation and the Federal Highway Administration. Fifty-seven sites in Colorado, Iowa, Michigan, Minnesota, North Dakota and Wisconsin were studied, using a variety of concrete pavement textures: random skewed tining, random transverse tining, longitudinal tining, AC pavement

and European texture. Researchers throughout the country have found that concrete pavement is just as quiet as asphalt when the correct pavement texture is used.

Noise was measured both inside and outside the vehicle, and at points across the edge of the road. Twenty-four people with good hearing were used to subjectively rate the noise levels.

The study revealed that properly textured concrete sounds just as quiet as asphalt. Conclusions were based on exterior, interior, subjective and prominent frequency analysis. Twenty-one of the 57 pavements were ranked subjectively.

**“A safe PCC pavement can be constructed with no whine, and at no additional cost.”**

—Steve Shober  
Wisconsin Department  
of Transportation

Steve Shober, of the Wisconsin Department of Transportation, concluded, “A safe PCC (concrete) pavement can be constructed with no whine, and at no additional cost.”

No paving material, concrete or asphalt, is noisier than any other paving material. Through a team effort among policy makers and road builders, specifications can be developed for all road projects to obtain optimum driving conditions on Michigan roads.

