

WE CAN DO **BETTER!**

- Highways in Arizona are declining due to inadequate funding.
- Concrete pavement requires \$3.9 billion less investment, while being cooler, more sustainable, and longer-lived.

In 2018, 43% of Arizona's major roads were in poor or mediocre condition. Driving on poorly maintained roads costs Arizona drivers \$3 billion a year in extra vehicle repairs and operating costs. The cost per motorist has risen to \$576, which is \$258 higher than in 2015."

– ASCE Arizona 2020 Report Card



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ARIZONA IS OUT OF TIME TO ACT

**Arizonans face increasing pavement maintenance needs.
What can be done to fix Arizona's freeways?**

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PAVEMENT NOISE IS CAUSED BY TIRES INTERACTING WITH THE ROAD'S SURFACE TEXTURE

- Not all concrete textures are created equal. Transverse textures—ones that are perpendicular to the direction of travel—create an objectional noise. But longitudinal textures, which are oriented in the direction of travel, are quieter.
- Longitudinal diamond-ground textures are the quietest concrete textures produced.

PAVEMENT AGE, NOT JUST PAVEMENT TYPE, MAKES A DIFFERENCE

- Asphalt rubber gets louder than concrete as it ages.
- Existing concrete pavement can be made quieter by diamond grinding, which removes older installations of transverse textures.

BENEFITS OF CONCRETE PAVEMENT



Arizona's concrete highways are low maintenance and long-lived with 60-year-old sections still in service today. Diamond grinding occurs once during a 30-year period, while Arizona's entire freeway would need to have asphalt rubber replaced twice during this period—with maintenance in between.



ADOT estimates asphalt rubber costs \$3.9 BILLION tax dollars more than diamond grinding over 30 years. Arizona ranks first in the U.S. for windshield damage claims. As asphalt rubber ages, it produces a potential 33 BILLION fly rocks damaging windshields and auto paint increasing your insurance costs.



Phoenix is one of the nation's fastest warming big cities. MIT data suggest that if Arizona's roads were constructed from concrete, the decrease in greenhouse gases would be equivalent to removing 5.5% of vehicles from the highway since concrete reflects more sunlight and absorbs less heat than asphalt, increasing neighborhood temperatures. Additionally, asphalt rubber consists of 90% non-renewable rock- which is becoming scarce.