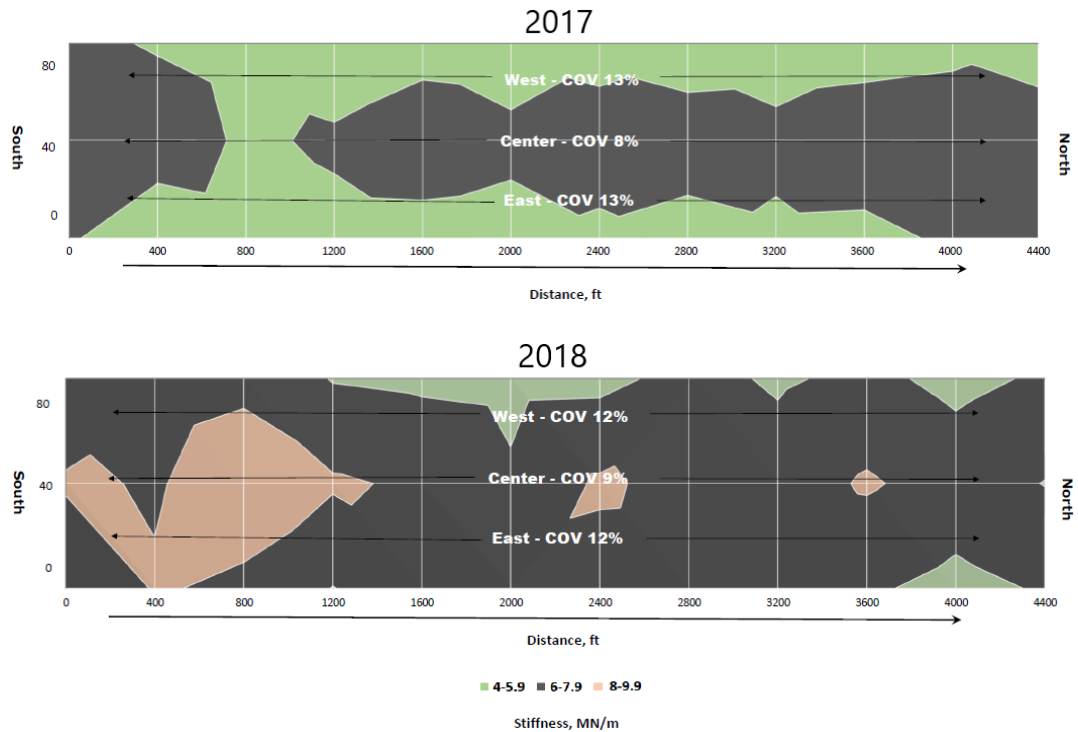


# Increases Surface Stiffness and Uniformity

**Overview:** Runway stiffness and uniformity are essential to maintaining an operational runway surface. By reducing the variation in surface stiffness throughout the runway, the life of the runway can be extended significantly. This is achieved by identifying and eliminating potential weak areas which deteriorate faster than the rest of the runway. Surface stiffness is a measure of the runway's ability to resist deformation from aircraft loads. A higher stiffness equates to a greater resistance to deformations during aircraft movements, resulting in a longer runway life cycle.

The GeoGauge is a non-destructive, portable device used to measure surface stiffness of unbound compacted aggregate layers. During Midwest's annual runway assessments, GeoGauge readings are taken every 400 linear feet along the runway at 3 different locations: 1.) Along the centerline, 2.) Halfway from the centerline and the apron on the right and 3.) Halfway from the centerline and the apron on the left. The collected data is analyzed and mapped to show the change in stiffness and uniformity over time for each runway. Below is a map illustrating how the stiffness and uniformity increased at the same runway 1 year after application.

## Test Results:



**Conclusion:** Midwest's Semi-Permanent Gravel Runway system not only maintained the stiffness and uniformity after 1 year of use, but actually **increased the overall stiffness and uniformity of the runway surface.**