Valley's hazy air originates locally

Report: Construction, dust play big roles

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Haze that often obscures views around the Las Vegas Valley is largely a homegrown problem related to construction activities and dust from vacant lots and unpaved roads, a yearlong study presented Wednesday night says.

"If you want to have better visibility, you'll want to have lower emissions of dust and carbon," Desert Research Institute atmospheric scientist Mark Green said during a lecture at the University of Nevada, Las Vegas.

Overall, about 45 percent to 75 percent of the haze is of local origin, the researchers found.

Green and graduate research assistant Arsineh Hecobian based their conclusions on an analysis of filter samples collected from three air-quality monitoring stations from July 2000 through July 2001. The study was funded by the Nevada Department of Motor Vehicles, the Clark County Air Quality Management Department and the U.S. Environmental Protection Agency.

Haze, which is the scattering and absorption of light by particles and gases in the air, stems primarily from diesel soot, organic carbon and coarse dust particles that can stay suspended in the atmosphere for several days.

"Diesel soot, which can penetrate deep into the lungs when inhaled, is the most efficient of the chemical components for reducing visibility. The greatest portion of the components comes from coarse particles of desert soils, the researchers found.

To tackle the haze problem, Green and Hecobian suggested that planners make it a priority to develop land in the urban valley, where vacant land is already disturbed.

Although master-planned communities on the fringes of the valley are popular, Green warned "there is a price to pay. It makes everything dusty."

Layers of haze can appear as brown or whitish clouds

▶ HAZE: Problem worst on calm, winter mornings

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depending on the angle of the sun and the observer's line of sight.

"In the morning, if you're in Summerlin, you'll see a whitish haze. Later in the day, when the sun is behind you, it will appear brown," Green explained.

A small fraction of the haze problem stems from sulfates transported into the valley from regional sources. Some off-road travel on the outskirts of the valley also contributes to reduced visibility, the researchers found.

Air samples were collected from monitoring stations at East Charleston Boulevard, at Palo Verde High School on the western edge of the valley and at Jean, about 15 miles southwest of the urban valley.

Green said Las Vegas haze is worst on calm, winter mornings when material builds up; during strong winds; when smoke and soot from distant forest fires blow into the valley; and, like last year, when a windstorm transported dust from Asia's Gobi Desert into Southern Nevada.

At the Palo Verde station, observations during one week showed soot concentrations peaked at 5 a.m., particularly when the wind was blowing from the west.

"We figured it came from firing up big earth movers for construction on the beltway," Green said.

In that case, up to 50 percent of the haze stemmed from soot, or elemental carbon, which absorbs light.