



**NORTH AMERICAN DEVELOPMENT BANK
FACT SHEET
AGUA PRIETA, SONORA**

Project: Reduction of Suspended Air Particles through Paving

Cost: US\$17,000,000

- Phase I: US\$2.90 million
- Phase II: US\$7.88 million
- Phase III: US\$6.22 million

Sponsor City of Agua Prieta, Sonora

Location: The city of Agua Prieta is located in the northeast region of the state of Sonora in Mexico, across the border from Douglas, Arizona.

Background: Increased traffic volume, vehicular congestion, and a high proportion of unpaved streets have resulted in alarming rates of air contamination due to particulate matter (PM₁₀) and carbon monoxide emissions in the Agua Prieta urban area, giving rise to a high incidence of respiratory diseases. During the period 1997-1999, local health officials reported that 73 percent of all illnesses were respiratory in nature. The problem is further compounded by the region's prevailing south-to-north winds that convey contaminants across the border into Douglas, Arizona, creating a transboundary environmental air quality problem.

Additional health risks arise during the rainy season, when the unpaved streets become a pathogenic breeding ground due to the accumulation of mud, debris, and trash. Moreover, heavy dust particles in storm runoff are filling the city's sewer lines with silt, thereby reducing their flow capacity and increasing maintenance requirements and costs.

Currently, 80 percent of the streets in Agua Prieta are unpaved. Beginning in 1999, the city of Agua Prieta initiated an ambitious program to improve regional air quality by increasing paved street coverage from 19.7 to 27 percent. The first phase of that initiative has been completed, and the city is seeking financial assistance to complete the paving program in Phase II.

Description: The project consists of increasing paved street coverage, modernizing a section of Federal Highway 2 and improving traffic flows by means of vehicular bridges. It is divided into three phases, as follows:

- Phase I: Paving 6.9 km (4.3 miles) of streets.
- Phase II: Paving 26.9 km (16.7 miles) of streets.

- Phase III: Widening 7 km. of Federal Highway 2 that passes through downtown Agua Prieta, from two to six lanes, and construction of three bridges at water crossings.

BECC Certification: December 17, 2002

NADB Funding: Loan & Guaranty Program
Market rate-loan US\$4,000,000

These funds will be applied towards the costs of Phase II street paving.

Other Funding Sources: The remaining Phase II construction costs will be covered by a grant from the state environmental and urban development ministry, *Secretaría de Infraestructura Urbana y Ecología* (SIUE), as well as by equity contributions from the municipal government.

Benefits: Increased street paving coverage will improve air quality for the 83,000 people living in the Agua Prieta-Douglas urban area, by reducing the amount of dust particles in the air. Improved traffic flows will also reduce carbon monoxide concentrations. According to a study performed by the Arizona Department of Environmental Quality (ADEQ), paving the streets in the project area could reduce PM₁₀ emissions from 125 to 68 tons in year one, to 29.04 tons in year two, and to .08 tons upon completion of the program. With the implementation of Phase I, the incidence of respiratory illnesses has already dropped from 73 to 63.2 percent in 2001.

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