



**NORTH AMERICAN DEVELOPMENT BANK  
FACT SHEET  
STATE OF BAJA CALIFORNIA**

- Project:** Air Quality Improvement and Street Paving Program (PIPCA)
- Cost:** US\$487,000,000<sup>1</sup>
- Phase I: US\$65,200,000
- Sponsor** The State of Baja California is the project sponsor and borrower. The project will be implemented by the state ministry of planning and finance, *Secretaría de Planeación y Finanzas* (SPF), and the state ministry of infrastructure and urban development, *Secretaría de Infraestructura y Desarrollo Urbano* (SIDUE), through the *Junta de Urbanización del Estado* (JUEBC), a decentralized government entity created in 1981 to execute municipal public works projects throughout the state.
- Location:** Baja California is located in the northwest corner of Mexico, along the Pacific coast and shares a border with California. The project will be carried out in the five municipalities of the state: Ensenada, Mexicali, Playas de Rosarito, Tecate and Tijuana, all of which are located within 100 km. of the U.S.-Mexico international border.
- Background:** The State of Baja California (population 2.5 million) is mostly urban, with an average annual growth rate of 4.1%. About 91.6 % of the total population lives in the urban areas of the five municipalities, with almost 80% concentrated in the cities of Tijuana (1.2 million) and Mexicali (764,000).
- Dust in the air contains PM<sub>10</sub><sup>2</sup>, which reduces breathing capability, aggravates asthma, and damages lung tissue. The strong relationship between exposure to high concentrations of PM<sub>10</sub> in the air and the incidence of respiratory illnesses has been well documented in medical reports. According to the Baja California Institute of Health Services, 611,555 cases of acute respiratory illnesses were reported in the state during 2001.
- Measurements of air emissions in several pair-cities along the border were initiated in 1996 as part of the Border XXI Program under the guidance of the EPA and the Mexican National Institute of Environment. According to the data collected, Mexicali has the worst air quality problems of the five cities. National daily standards for PM<sub>10</sub>

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<sup>1</sup> Monetary figures are quoted at an exchange rate of \$10 pesos to the dollar.

<sup>2</sup> Particles larger than 2.5 microns in diameter and smaller than 10 microns in diameter.

concentrations are exceeded in Mexicali 25% to 30% of the year and about 2% in Tijuana. Air quality conditions in Tijuana are much better than those in Mexicali, due to its more temperate climate and breezes from the nearby Pacific Ocean. Air quality conditions in Tecate are estimated to be similar to those in Mexicali. Though no measurements have been taken in Ensenada, PM<sub>10</sub> concentrations there can be expected to be similar to those in Tijuana based on similar climatic conditions.

Dust within Mexicali and Tijuana is mainly generated by traffic on unpaved roads, which accounts for over 60% of total PM<sub>10</sub> in both cities. The State estimates that 40% of the streets in the five cities are unpaved, and about half of these streets are located in Tijuana. To address this issue, the State of Baja California is undertaking an ambitious street paving program.

**Description:**

The PIPCA program consists of paving 14.9 million m<sup>2</sup> (equivalent to about 926 miles) of street surface area in the municipalities of Tijuana, Mexicali, Ensenada, Tecate and Playas de Rosarito, to be implemented over a four and a half year period ending in December 2007. Full implementation of the project is expected to increase pavement coverage of all urban streets in the state from around 59% to 80%.

PIPCA has been divided into phases. In the first phase, an estimated 2.3 million m<sup>2</sup> of streets will be paved over an 18-month period as follows:

- Tijuana: 1,003,000 m<sup>2</sup>
- Mexicali: 484,000 m<sup>2</sup>
- Ensenada: 352,000 m<sup>2</sup>
- Rosarito: 345,000 m<sup>2</sup>
- Tecate: 124,000 m<sup>2</sup>

Only streets with proper water supply and wastewater infrastructure in place will qualify for paving. Streets in Tijuana, Tecate, Playas de Rosarito and Ensenada will be paved with hydraulic concrete, which is considered the most economic solution over the long-term considering both paving and maintenance costs. Because of the extreme temperatures, low rainfall and soil conditions particular to Mexicali, the most economic surfacing material for that area is asphalt. Once paving is completed, streets will be formally delivered to the municipalities, who will be responsible for ongoing maintenance and repairs.

**BECC Certification:** April 3, 2003

**NADB Funding:** Loan & Guaranty Program  
Market-rate loan US\$27,620,000

These funds will be applied towards the construction costs of Phase I street paving and transaction expenses.

Institutional Development Cooperation Program (IDP)

The Bank is also financing the institutional strengthening required by JUEBC to successfully carry out the project.

**Other Funding Sources:**

The rest of the funding for Phase I will come from grants provided by the federal, state and local governments.

**Benefits:**

When fully implemented, PIPCA will have paved over 50% of the currently unpaved streets in the five cities, directly benefiting approximately 527,000 residents. The remaining two million residents, as well as those living across the international border in counties of Imperial Valley and San Diego, will also benefit from improved air quality and health conditions. Street paving will also help the local communities by facilitating economic activity, improving communication efficiency and extending access to public services including police, fire protection and other emergency services.

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