

Air quality on the border between the US and Mexico

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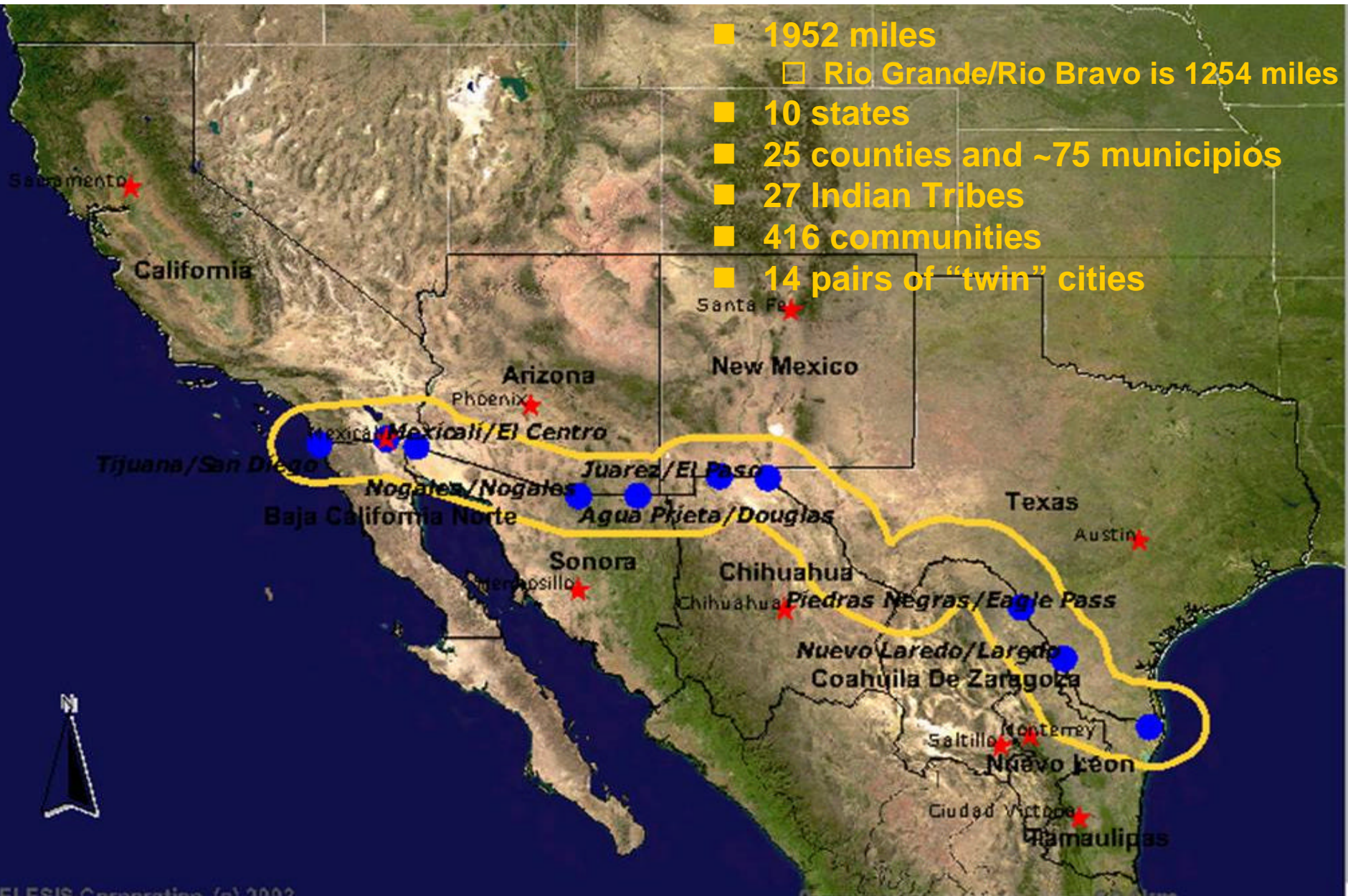
US-Mexico Border 2012
Air Policy Forum
Tijuana, BC, Mexico
Oct 6, 2004

Outline

- Characteristics of the border
- Air quality
 - Status
 - Issues
- Transborder cooperation
- The Future
- Comments



The US-Mexico Border



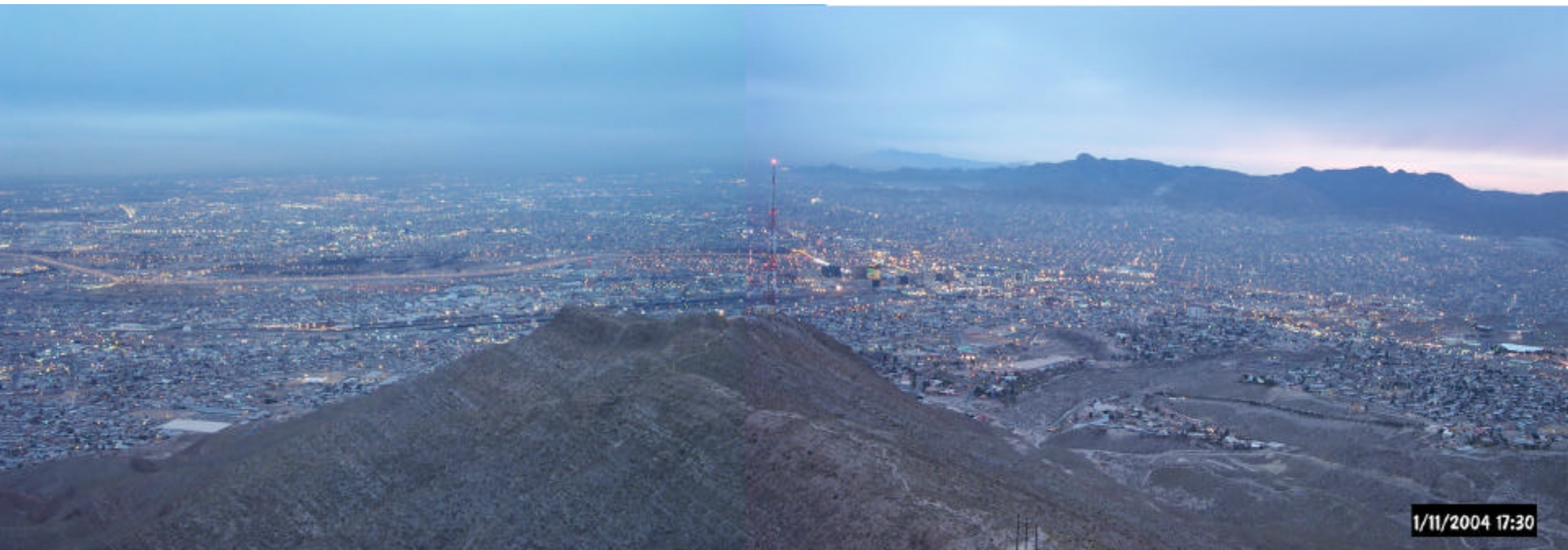
Characteristics of Border Communities



- Low income levels
- Poor municipal budgets
- Lack of infrastructure
- Expanding population
- Political boundaries
- Cultural factors
- Rapid Industrialization
 - Twin plants
- Economic asymmetries

Twin cities

- 14 pairs
- Most are contiguous
- Mexican cities are larger

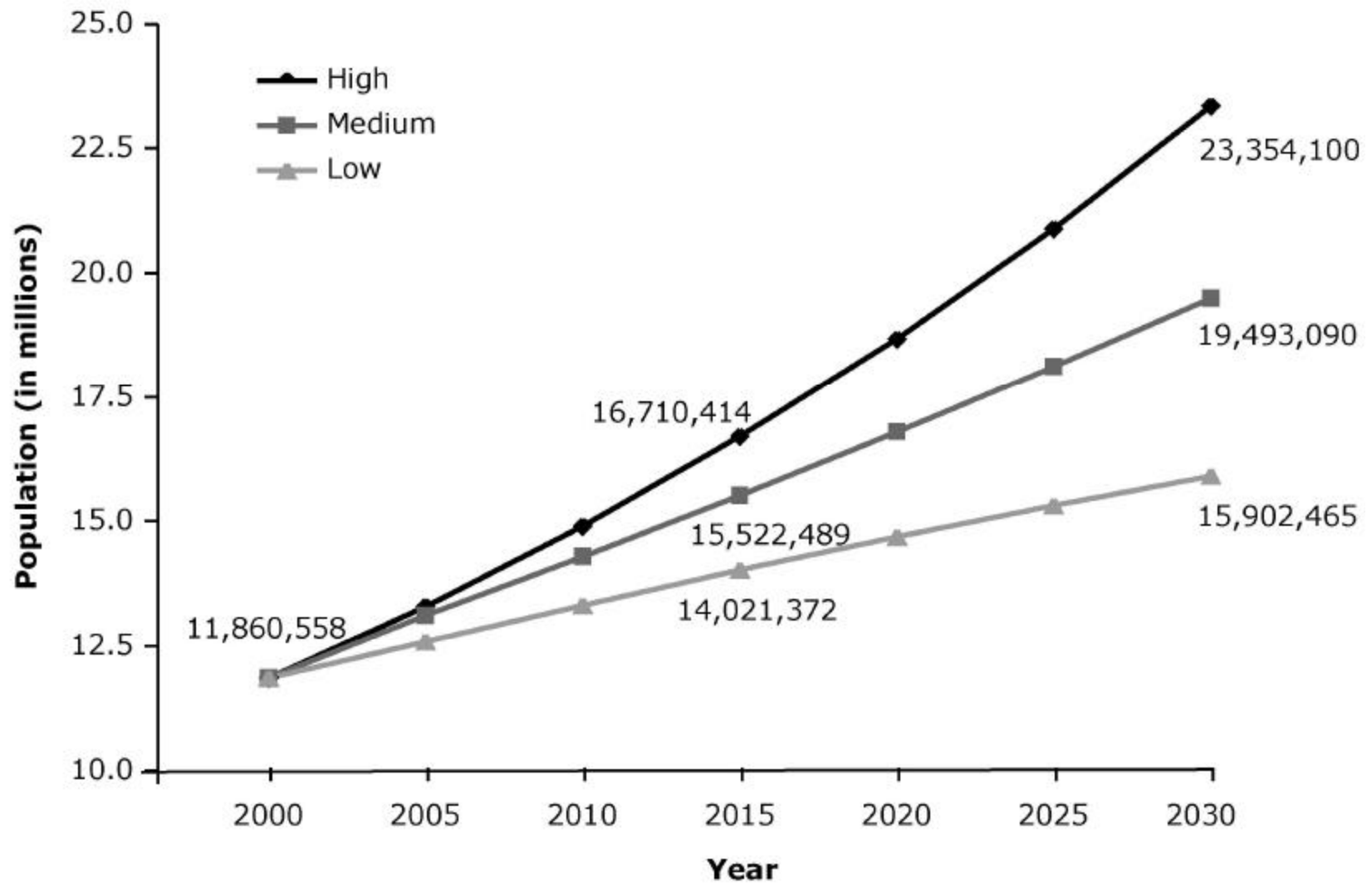




SCERP Background paper: Current & Emerging AQ Issues across the Border

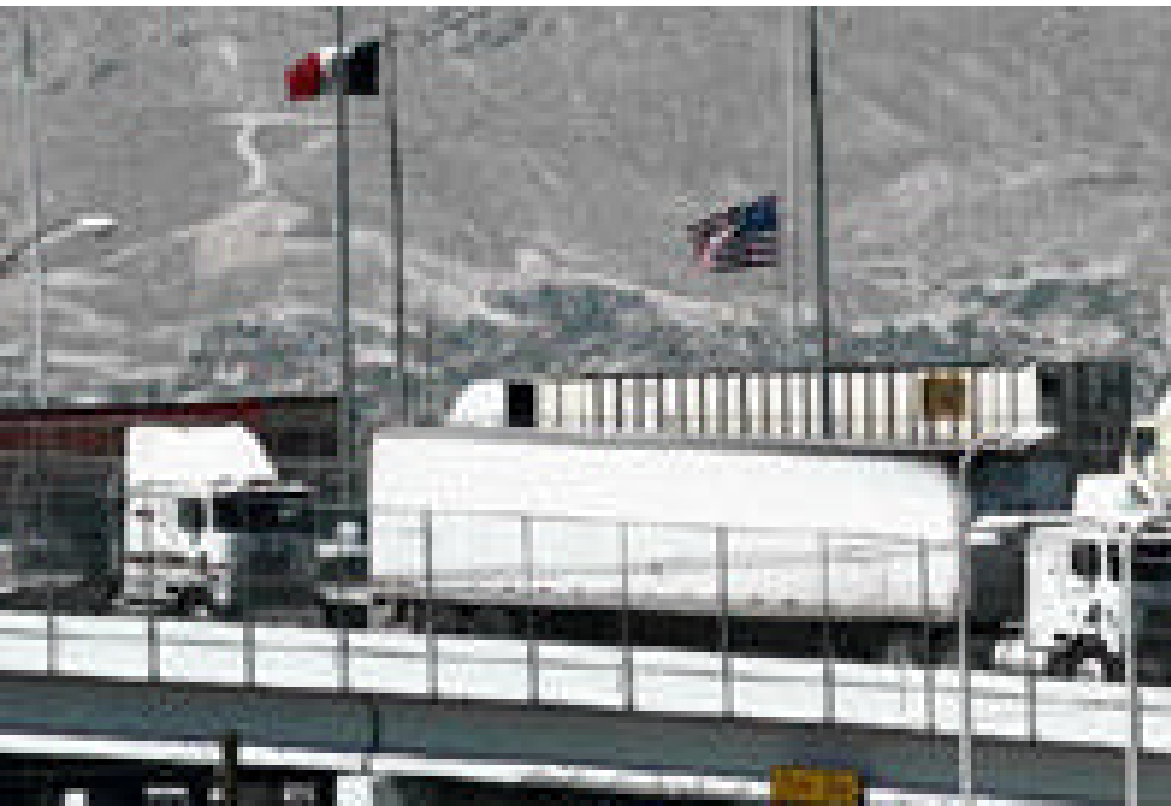
- Opportunities exist
- Challenges: to protect human and ecological health
- Demographic & economic growth can worsen air quality
- Border is not homogeneous, but similar issues exist
- Combination of sources create a unique mix
- AQ is related to health, energy, and water pollution
- Need to harmonize approaches, rules and outreach
- Future: both bright and bleak, policy options with incentives will be effective
- Measures: tie AQ, health and program effectiveness
- All players must be involved in the solution

Total Population Projection for the U.S.-Mexican Border Region



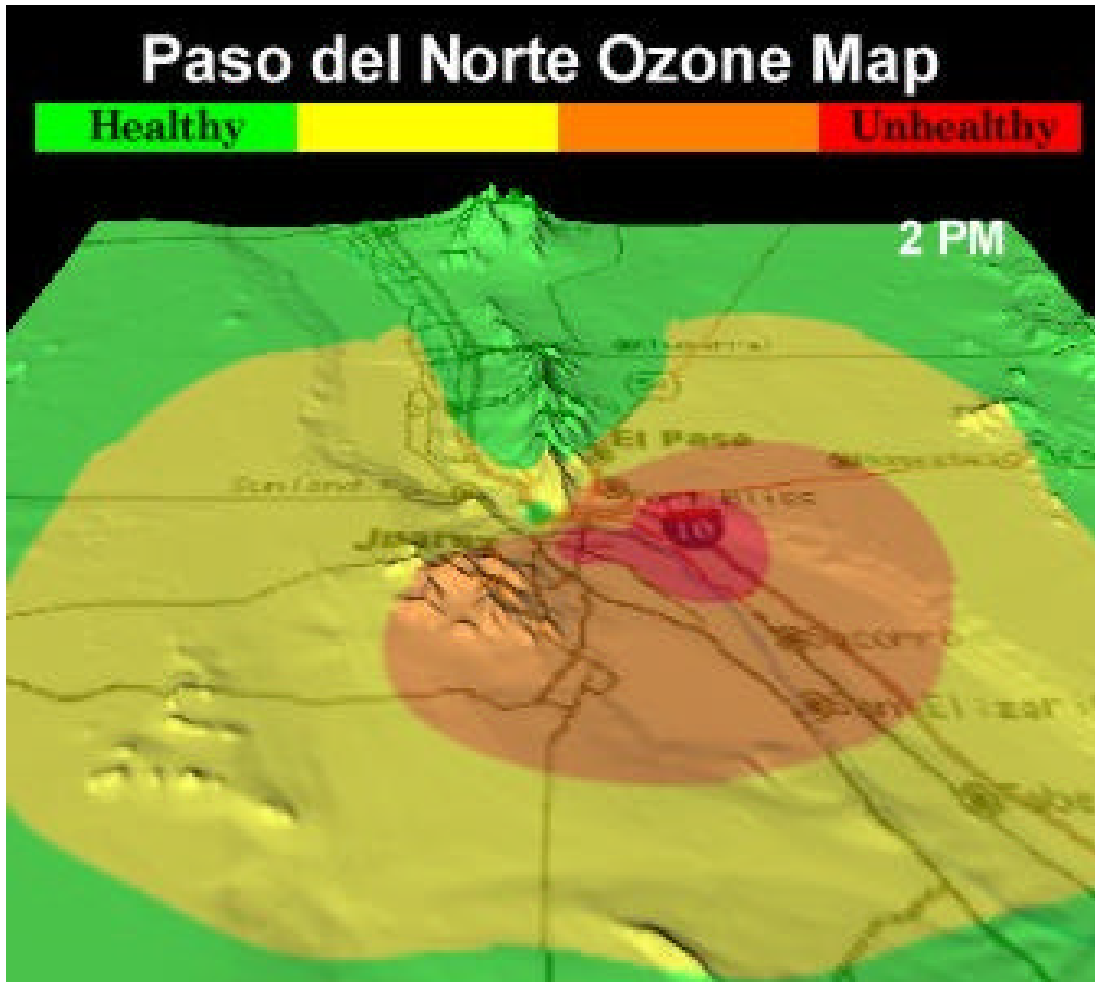
Border Crossings -- 2002

Commercial Trucks
Passenger vehicles



Laredo	1.44M 6.9M
El Paso	732K 13.5M
San Diego	731K 20.5M
Hidalgo	390K 8.1M
Brownsville	248K 7.9M
Calexico	276K 9.4M
Nogales	242K 4M
Total (all sites)	4.4M 89.8M (199M people) 50 M pedestrians

Air quality



- National standards for criteria pollutants are similar
- No Mexican standards for air toxics

Non-attainment status

Basin	O3	CO	PM	SO2
San Diego - Tijuana	8hr			
Imp Valley - Mexicali	Marginal (1 & 8 hr)		Moderate	
Douglas - Agua Prieta			Moderate	Primary
El Paso - Cd Juarez	Serious (1hr)	Moderate	Moderate	
Big Bend Park Region	Visibility concerns (Class I area)			
Lower RG Valley				

Items of binational concern

- Older vehicle fleets
 - Vehicle export/import
 - Used tires
- Unpaved roads
- Open burning
 - Agricultural
 - Residential
- Border crossings & delays
- DATA
 - Monitoring & Reporting
 - Emissions inventories
 - Maquilas
 - Small business/micro industries
- Power plants
- Full access for Mexican trucks (NAFTA)
- Smelters



April 6, 2001 El Paso, TX

11:30am



12:00



2:30pm

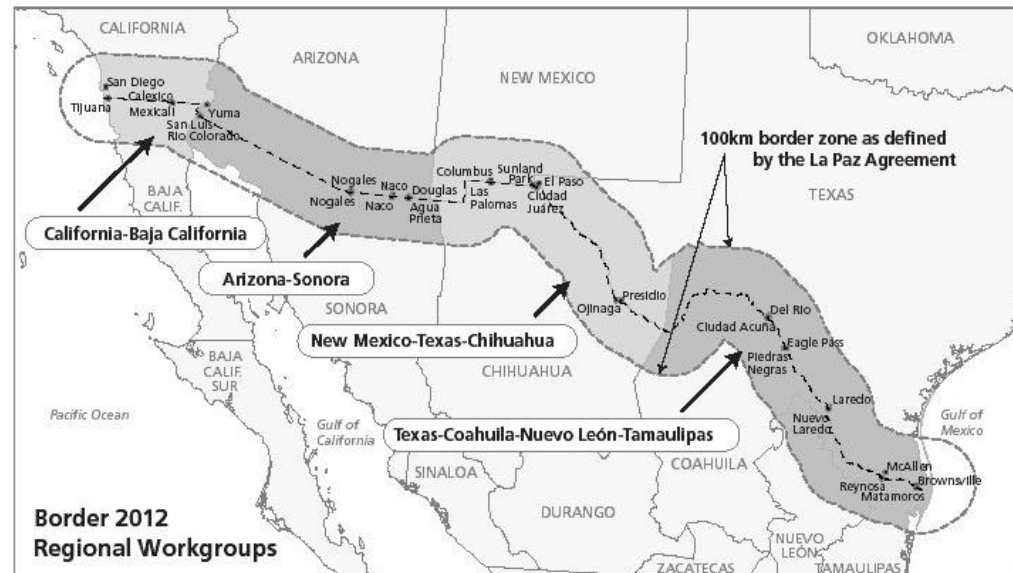


6:00pm



Binational cooperation

- La Paz Agreement – 1983
 - Annex V (1989) created an Air Work Group
 - Annex IV – Smelters and SO₂
 - Appendix I to Annex V (1996) created PdN JAC
- Integrated Border Environment Plan
 - National work groups
- Border XXI 1996-2001
 - National work groups
- Border 2012
 - Four Regional Workgroups
 - Regional air task forces
 - National Air Policy Forum





Key local efforts

- San Diego - Tijuana Binational Air Quality Alliance (BAQA) 1999
- Imperial - Mexicali Clean Air Stakeholders Group (IMECAS) 2000
- El Paso – Cd Juarez
 - Paso del Norte Air Quality Task Force (1993)
 - Joint Advisory Committee (1996)



Future



National Research Council

Air Quality Management in the United States

The National Academies Press
January 2004
www.nap.edu



AQM challenges

- New standards
- Toxic Air Pollutants
- Health effects at low pollutant concentrations
- Environmental Justice
- Protecting Ecosystem health
- Multistate, Cross-border, and Intercontinental Transport
- AQM and Climate Change

AQM Objectives:

- Identify/assess the ***most significant exposures, risks, and uncertainties***
- Take an ***integrated multipollutant approach***
- Take an ***airshed-based approach***
- Emphasize ***results over process***



NRC recommendations:

- Strengthen scientific and technical capacity to assess risk and track progress
- Expand national and multistate performance-oriented control strategies...
- Transform the SIP process
- Develop an integrated program for criteria pollutants and hazardous air pollutants
- Enhance protection of ecosystems and other aspects of public welfare

Trends for the Future

- Regulatory/legal
 - Enforcement
 - Technology
 - Economic Incentives
 - Emissions Reduction
 - Outreach/education
 - Research
 - Data
 - Indicators
- SCERP Border Institute VII
 - Rio Rico, Arizona
 - April 18-20, 2005

 - www.scerp.org

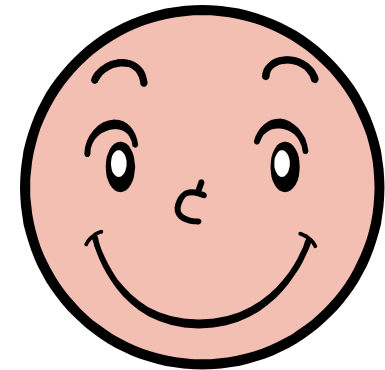




COMMENTS

What has worked

- National programs
 - Auto emission standards
 - Fuels
 - Lead free gasoline
 - Use of oxygenates
 - Monitoring programs
- Implementation Plans
 - US: SIP
 - Mx: Pro Aire
- Binational cooperation
- Mother nature



What hasn't worked



- National programs
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Let's look at that again

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Recommendation 1: **unified air shed approach**

- Define boundaries
- Standardize monitoring and dissemination
- Standardize & improve emissions inventories
- Conduct joint modeling
- Harmonize control programs



Recommendation 2: **invest in infrastructure**

(Observation: We've done air quality on the cheap)

- Pave dirt roads
- Improve public transportation
- Convert drayage fleets to alternative fuels
- Modernization of the diesel fleet
- Accelerated vehicle retirement
- Home insulation in Mexico
- Natural gas distribution systems in Mexican communities
- Renewable energy