Hyderabad, India

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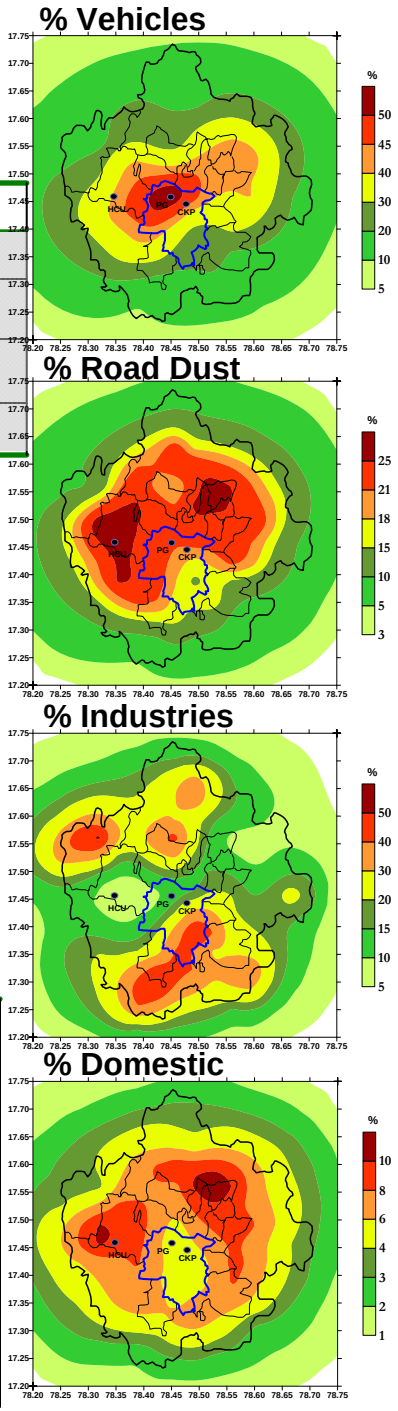
This multi-agency study was designed to prepare a **co-benefit action plan** for air pollution control in Hyderabad, India, with base year 2006.

Location	% Vehicles		% Veh+RD		% Industry		% Dom+Waste	
	SA	M	SA	M	SA	M	SA	M
PG	54 ± 10	40-45	81 ± 10	66-70	13 ± 10	15-20	5 ± 10	4-6
CKP	45 ± 10	40-45	80 ± 10	60-66	15 ± 10	20-30	4 ± 10	4-6
HCU	43 ± 10	30-35	80 ± 10	50-60	16 ± 10	10-15	5 ± 10	8-10

SA = top-down = source apportionment M = bottom-up = modeled



The program steps included (a) a year long source apportionment study using mini-vol sampler, chemical analysis, and receptor modeling using CMB model (summarized above) (b) bottom-up air pollution analysis by developing emissions inventory for local and global air pollutants, dispersion modeling (presented in the right panel), and co-benefits analysis of the city action plan. Tools utilized are SIM-air & ATMoS dispersion model.

Category (2006)	PM_{10}	SO_2	NO_x	CO_2
Vehicular activity	8,410	6,304	38,772	6,260,099
Paved road dust	3,422			
Unpaved road dust	5,110			
Industry	11,054	7,110	7,836	916,486
Domestic	1,845	667	545	83,485
Open Waste Burning	810			
Total (ktons)	30,473	14,081	47,152	7,260,070

By improving traffic flow, public transport, emission standards, industrial efficiency, domestic LPG use, and reducing waste burning, a reduction of ~42% and ~32% in PM_{10} and CO_2 emissions respectively and ~US$472 million in health and carbon benefits is expected by year 2020.