WORKING BETWEEN THE LINES:

ONE CITY'S APPROACH TO REDUCING AIR TOXICS

Elena M. Marks
Director of Health & Environmental Policy
City of Houston, Mayor's Office
September 2009

HOUSTON 2004

- Unacceptably high levels of benzene and 1,3 butadiene measured at numerous monitors located in neighborhoods, parks and schools for several years
- Source apportionment data indicated significant contribution by industry
- Industry-reported emission levels had not decreased significantly in nearly a decade

2004 BENZENE AND 1,3 BUTADIENE MEAN AMBIENT CONCENTRATION, PPBV

City	Benzene	1,3 Butadiene
Chicago	0.5	0.08
Los Angeles	0.9	0.2
St. Louis	0.5	0.07
Houston	1.7	4.0

Source: "The Control of Air Toxics: Toxicology Motivations and Houston Implications- Final Report" 2006. Table 12

2004 Harris County vs. Entire US

Source: TRI "total air emissions"

1,3 Butadiene

- **Harris County: 357 tons**
- **Texas: 768 tons**
- **US: 1032 tons**

- **Harris County accounts for 46.4% of Texas 1,3 butadiene air releases**
- **Harris County accounts for 34% of US 1,3 butadiene air releases**

Benzene

- **Harris County: 376 tons**
- **Texas 1030 tons**
- **US: 2983 tons**

- **Harris County accounts for 36% of Texas benzene air releases**
- **Harris County accounts for 12.6% of US benzene air releases**

2004 STATE REGULATION OF AIR TOXICS

State	Benzene (ug/m^3)	1,3 Butadiene (ug/m^3)
Texas	1.4	5
California	0.000025	0.00017
Michigan	0.1	0.03
New York	0.13	0.028
Massachusetts	0.12	0.003
Louisiana	2	0.92
Oregon	0.13	0.033

Source: "The Control of Air Toxics: Toxicology Motivations and Houston Implications-Final Report" 2006. Tables 13, 14, 16, 18, 19, 20, 22; Pg. 115-156.

9 Strategies for Reduction

1. **Get the Facts**—Mayor's Task Force on Air Pollution convenes scientists to advise on which pollutants post definite health risk to Houstonians

2. **Engage the Public**—City holds hearings, public meetings and press conferences

3. **Build Capacity**—City ends enforcement partnership with TCEQ; acquires state of the art tools for toxics monitoring; hires expert staff

9 Strategies for Reduction

4. **Engage Industry**—Produce a site specific plan for major benzene emitters

5. **Sue Polluters**—City initiates action against major 1,3 butadiene emitter resulting in the first facility in Texas to be required to install continuous fence line monitoring along upwind and downwind boundaries

6. **Pass New Ordinances**—City proposes an ordinance to adopt ambient standards for 8 toxics

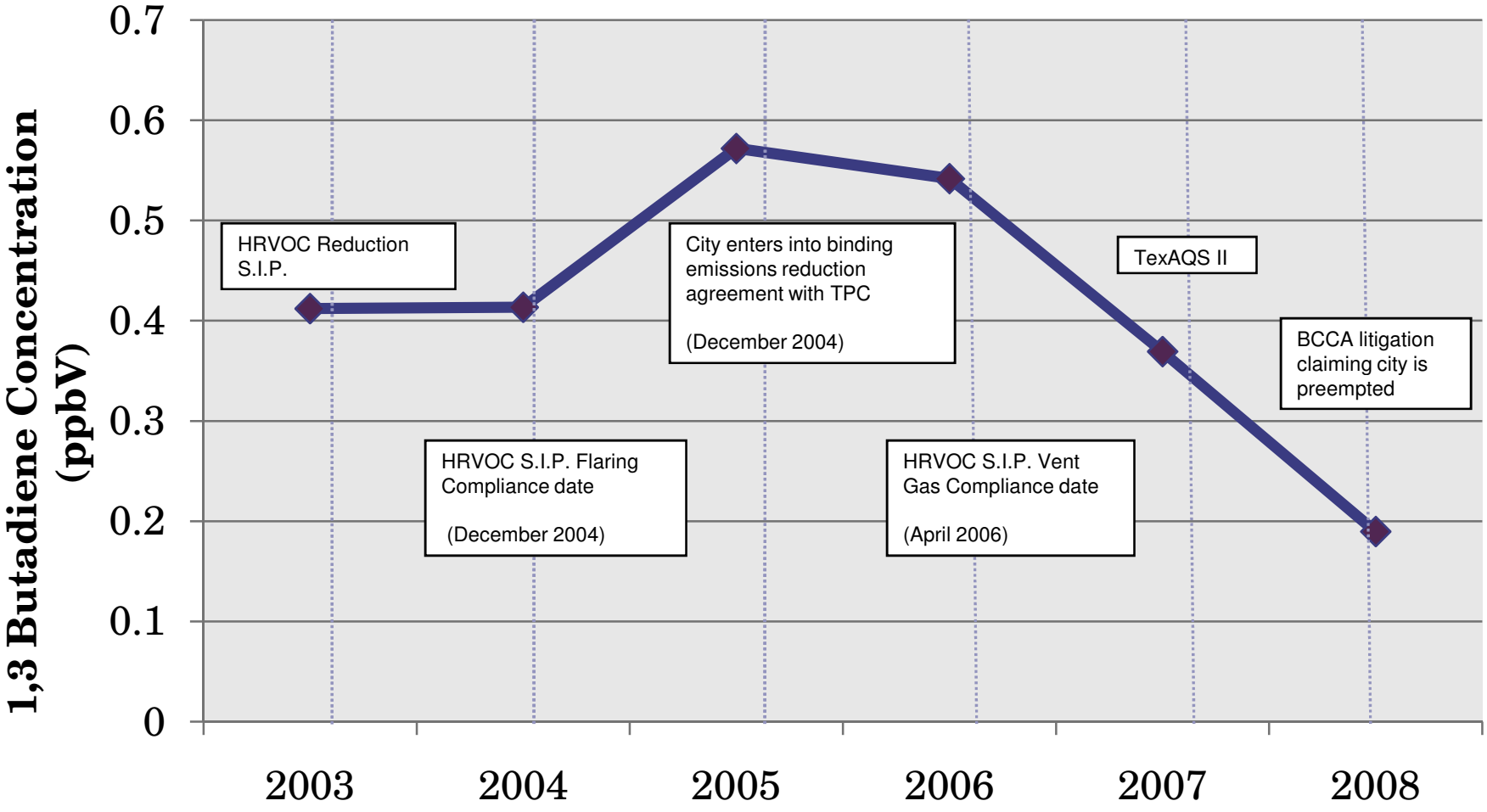
9 Strategies for Reduction

7. **Get the EPA to help**—City approaches EPA in DC with benzene data resulting in joint investigation and enforcement project

8. **Challenge the Emissions Data**—City challenges the validity of the emissions inventory through the Data Quality Act

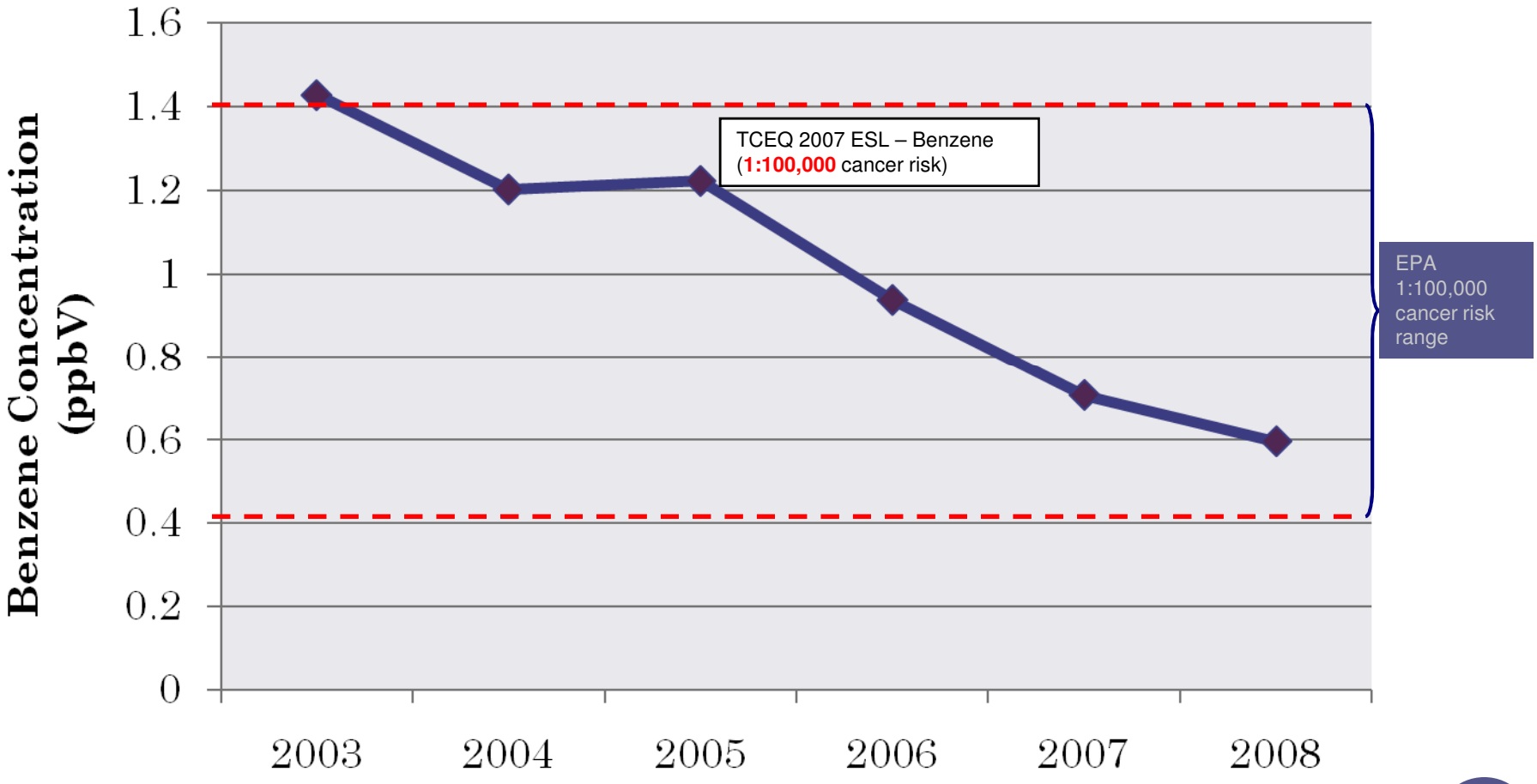
9. **Challenge Polluters' Permits**—City intervenes in the renewal application of the nation's largest benzene emitter

HGB Area 1,3 Butadiene Annual Mean (95% UCL)



Source: Statistical Assessment of Benzene and 1,3-Butadienein Ambient Air in the Houston Region", Loren Raun, PhD, Mayor's Office of Environmental Programming, City of Houston June 2008; TCEQ "HRVOC Rules Overview" PowerPoint March 2003.

HGB Area Benzene Annual Mean (95% UCL)



Source: "Statistical Assessment of Benzene and 1,3-Butadienein Ambient Air in the Houston Region", Loren Raun, PhD, Mayor's Office of Environmental Programming, City of Houston June 2008; "The Control of Air Toxics: Toxicology Motivations and Houston Implications- Final Report" 2006 pg. 34.