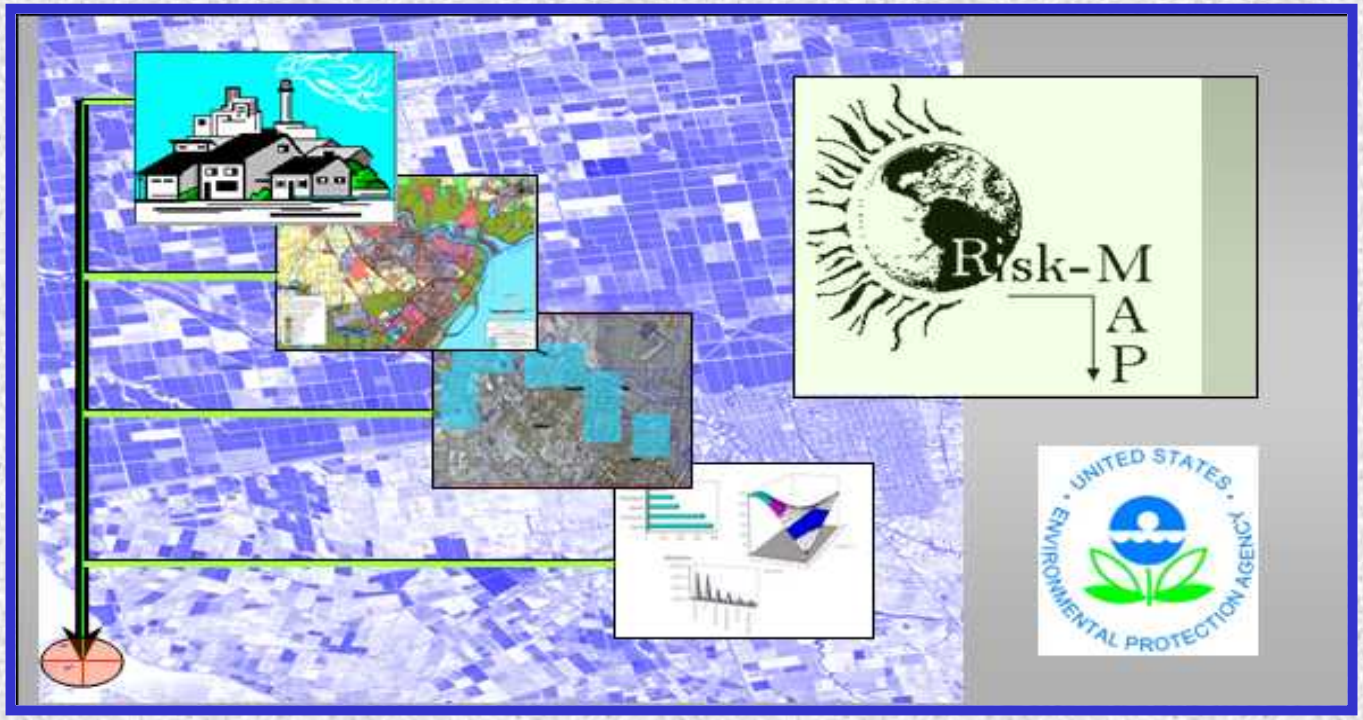
Cumulative Risk Prioritization Tool

Prioritizing Cumulative Inhalation Risks and Developing Solutions



Community Issues:

- **Is the air I breath safe?**
- **Is the water I drink safe?**
- **Is the food I eat safe?**

It is possible to have facilities/geographic areas meeting all state and Federal rules yet still have unhealthy air?

Regional Air Impact Modeling Initiative (RAIMI)

Region 6 developed a tool that:

- Assesses “community-level” inhalation impact
- Evaluates an unlimited number of stationary and mobile sources
- Tracks emissions and risks to individual sources

Regional Air Impact Modeling Initiative (RAIMI)

What's different from past efforts?

- Attributes impact back to **individual** compounds and **individual** emission sources
- Serves as platform for strategic and tailored environmental actions—***facilitates solutions***

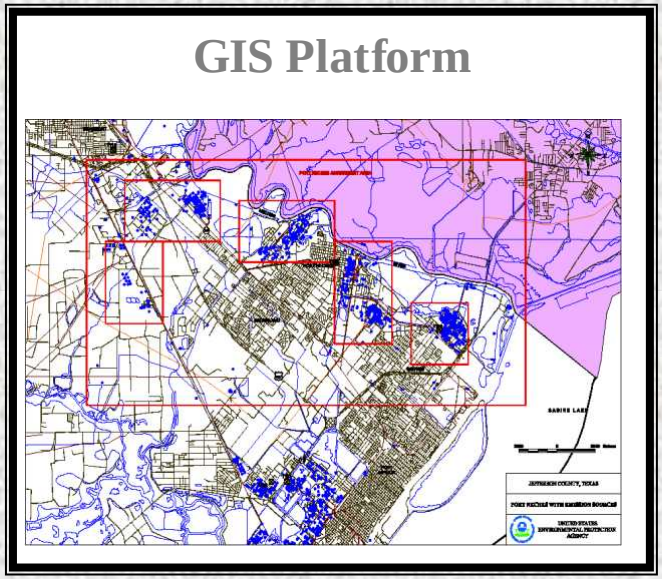
Example Case Study – Port Neches, Texas

History

- CEP shows Jefferson County, as having the highest potential for exposure in Region 6

Context

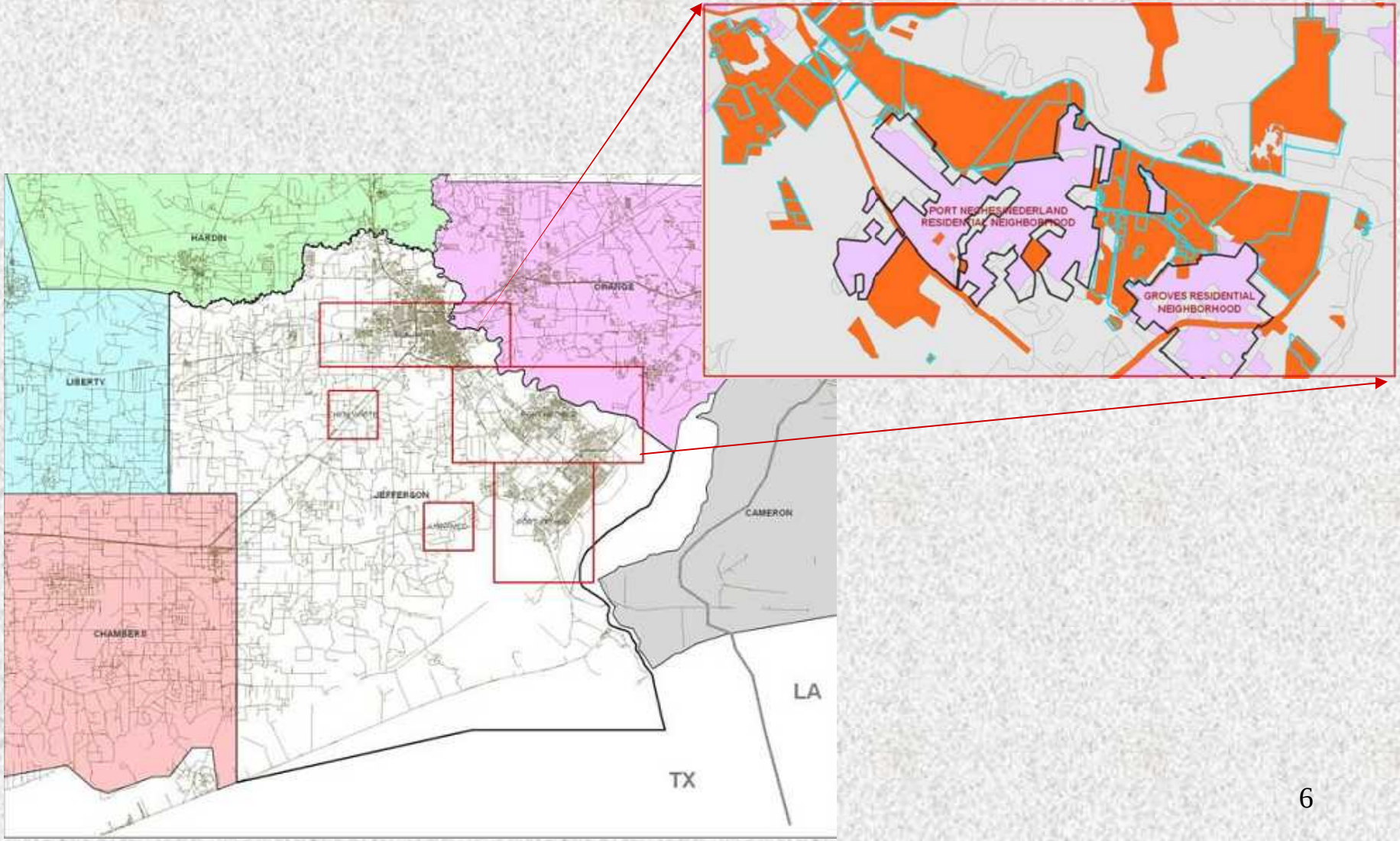
- 16 Major industrial facilities
- 1,500 Point source emissions
- 82 Area and mobile source categories
- 188+ HAPs



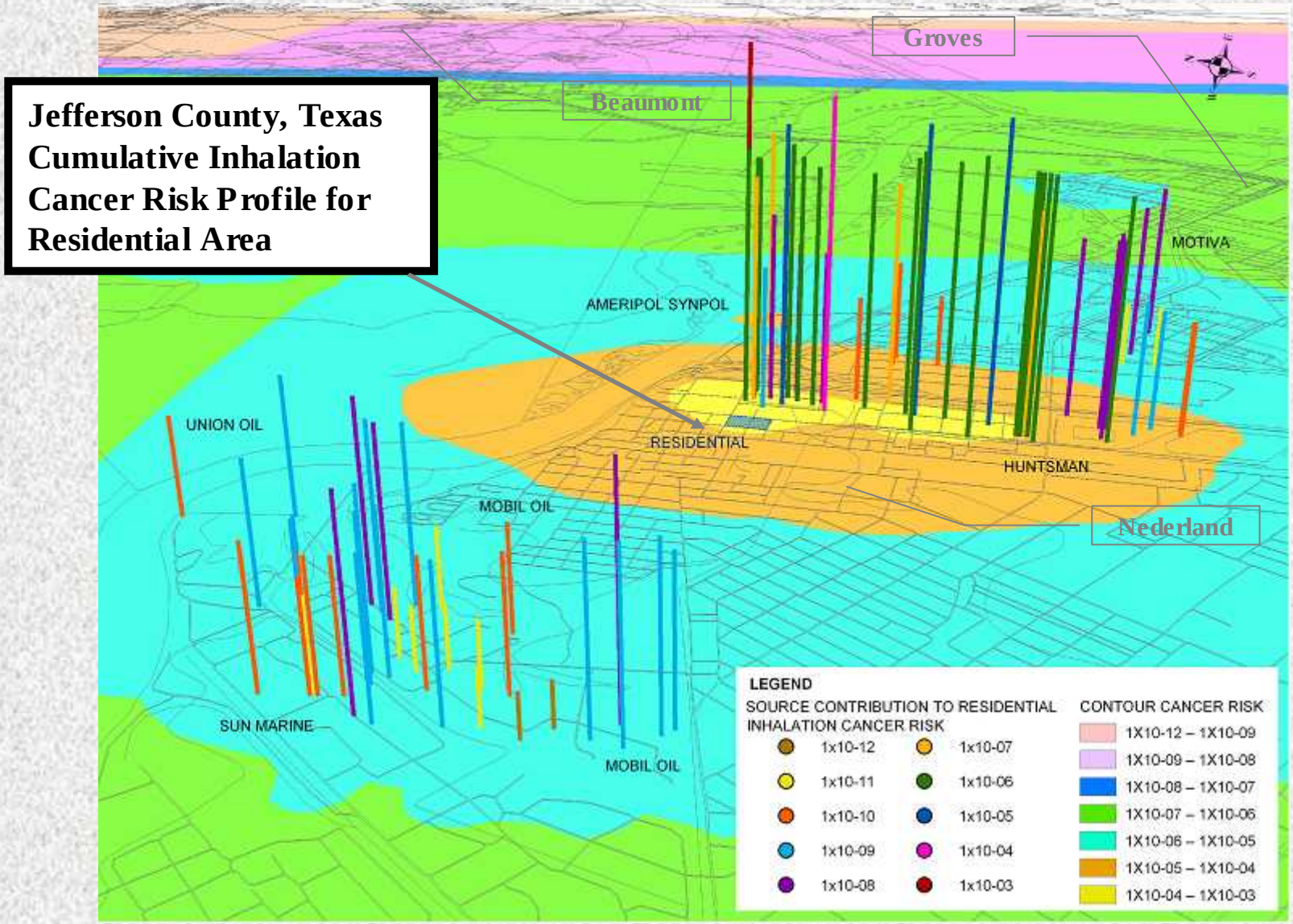
Findings

- Identified and prioritized 2 facilities
- Identified and prioritized 5 point sources
- Identified local data gaps
- Prioritized 1 area and 2 mobile emission source categories

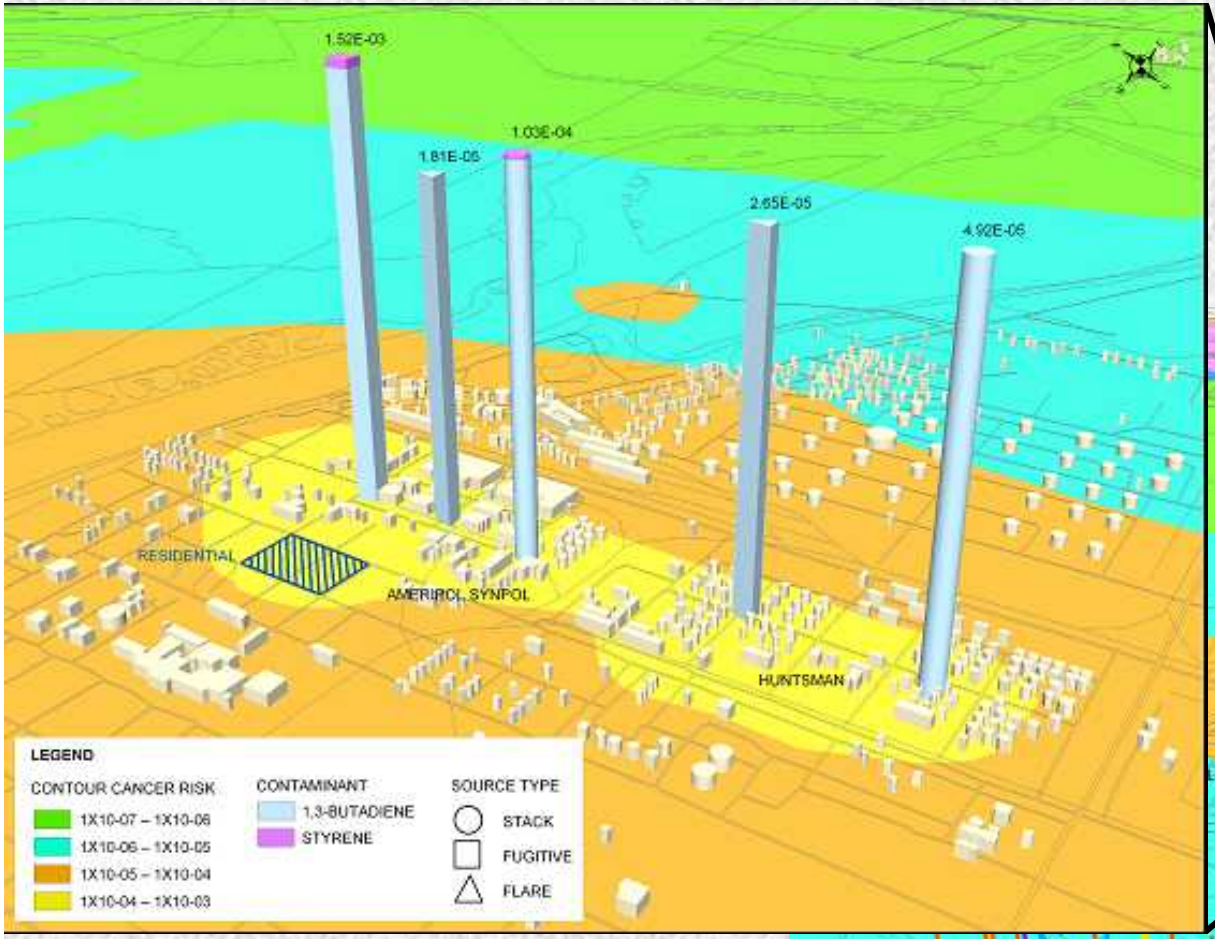
Define Assessment Scope – County vs. Community Level Resolution



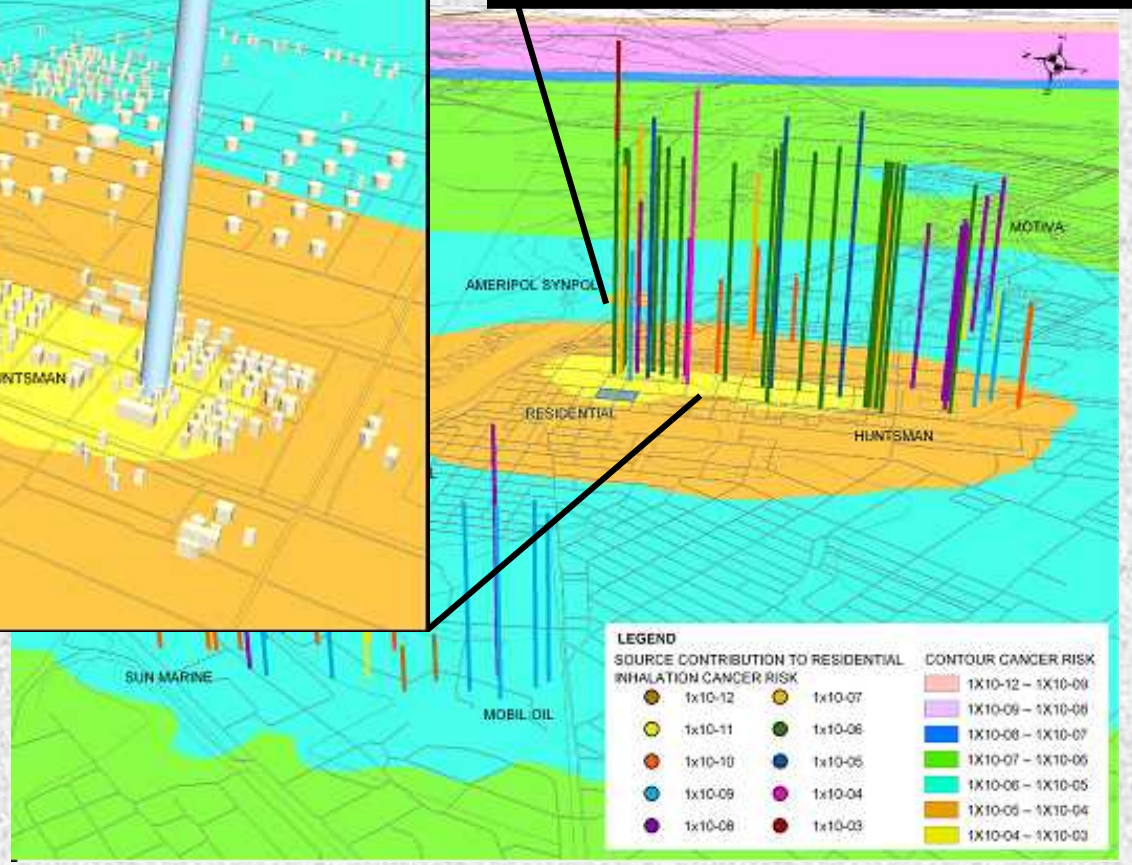
Results Transparency to Support Prioritization



Results Resolution to Support Prioritization and Verification – Source Attribution Profiling (Zoom)



Identified source was shared with TCEQ, source impacts validated by mobile monitoring, solution (covering wastewater impoundment) was negotiated.

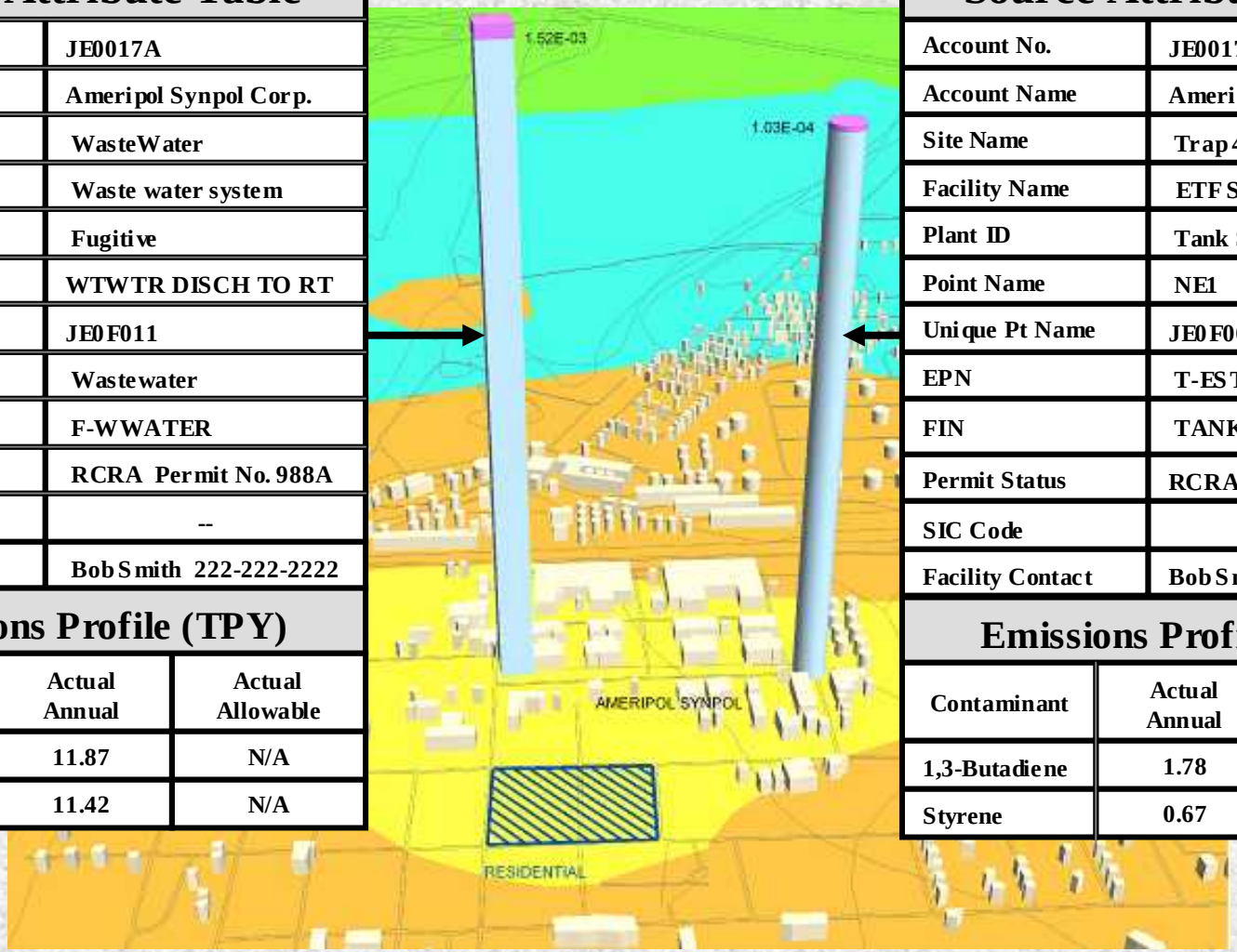


Jefferson County, Texas Cumulative Inhalation Cancer Risk Profile for Residential Area

Results Resolution to Support Verification and Legal Review – Source Attribute Tracking (Sample)

Source Attribute Table	
Account No.	JE0017A
Account Name	Ameripol Synpol Corp.
Site Name	WasteWater
Facility Name	Waste water system
Source Type	Fugitive
Point Name	WTWTR DISCH TO RT
Unique Pt Name	JE0F011
EPN	Wastewater
FIN	F-WWATER
Permit Status	RCRA Permit No. 988A
SIC Code	--
Facility Contact	Bob Smith 222-222-2222

Emissions Profile (TPY)		
Contaminant	Actual Annual	Actual Allowable
1,3-Butadiene	11.87	N/A
Styrene	11.42	N/A



Source Attribute Table	
Account No.	JE0017A
Account Name	Ameripol Synpol Corp.
Site Name	Trap 4 – XS99
Facility Name	ETF Styrene Tank
Plant ID	Tank Sector 9989A
Point Name	NE1
Unique Pt Name	JE0F00M
EPN	T-ESTY
FIN	TANKS-ESTY
Permit Status	RCRA – Permit No. 988A
SIC Code	--
Facility Contact	Bob Smith – 222-222-2222

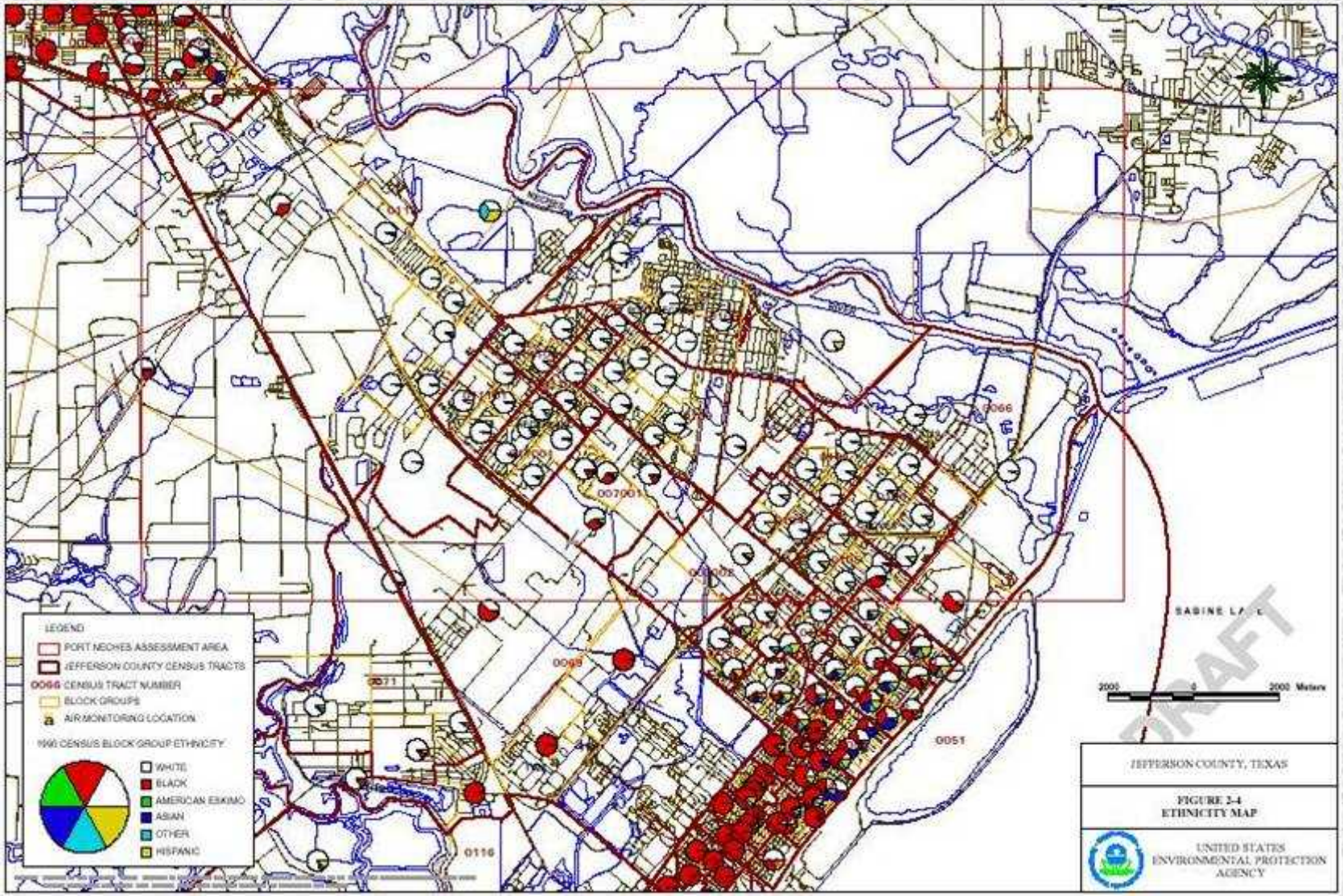
Emissions Profile (TPY)		
Contaminant	Actual Annual	Actual Allowable
1,3-Butadiene	1.78	N/A
Styrene	0.67	N/A

How to Use Results

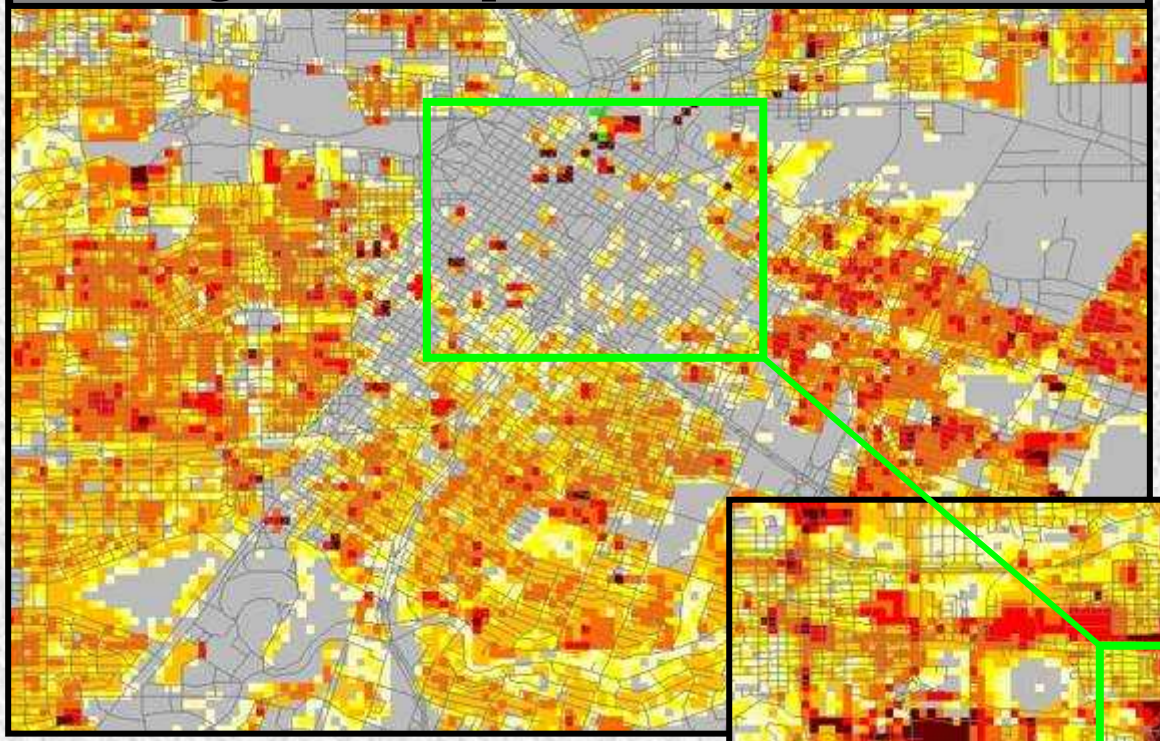
- **Conduct Risk-Based Prioritizations**
- **Prioritize Reduction Efforts for Ozone Precursors**
- **Identify Risk Trends**
- **Determine Significance of Data Gaps**
- **Track Emissions Reduction Efforts**
- **Support Monitoring Programs**

RAIMI COMPONENTS

Example Population Maps: Ethnicity

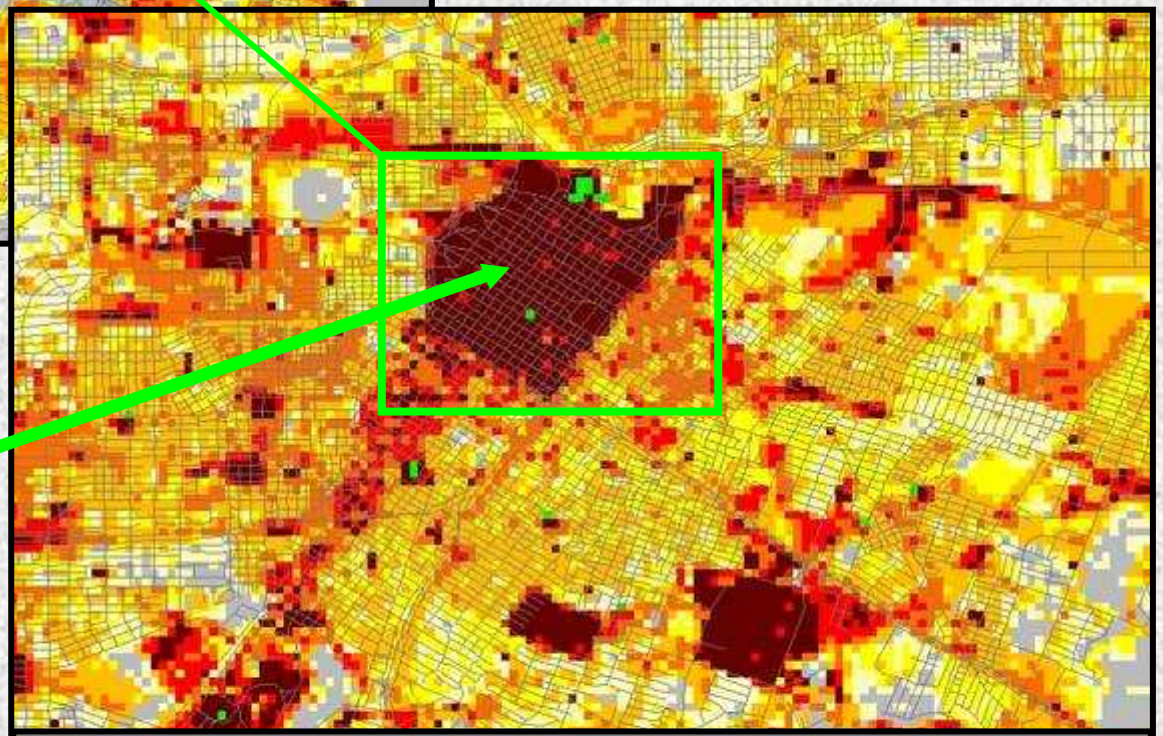


Nighttime Population Distribution



Land Scan USA Population Data

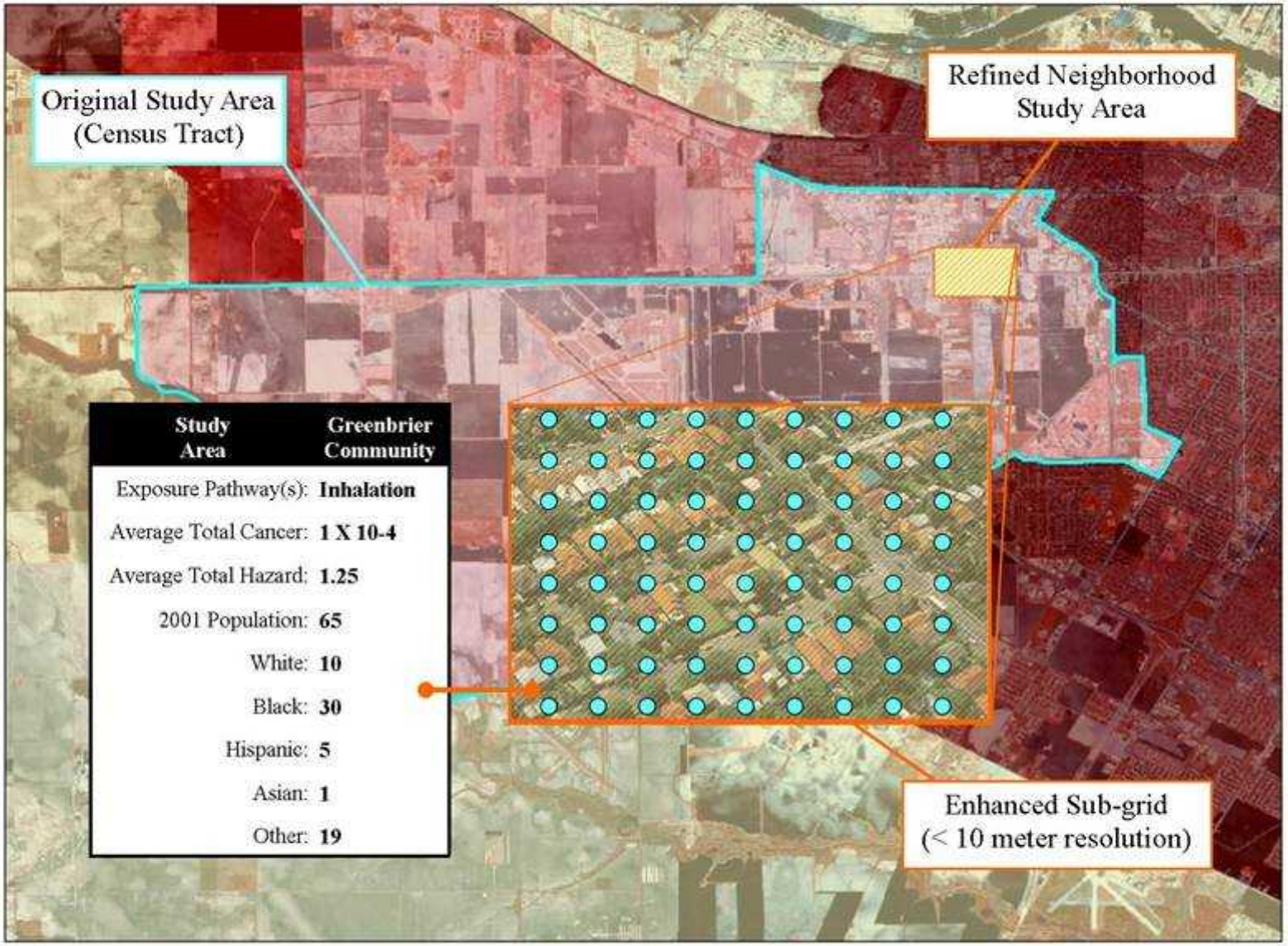
Diurnal population distribution is critical to understanding the localized nature of exposure.



Daytime Population Distribution

More than 160,000 people occupy this downtown tract during a typical workday. The same area is almost deserted during nighttime hours.

Population and Risk Averaging



Summary

- Focus is on identifying individual sources for targeted reductions, not simply identifying areas of concern

- Initial findings: a small number of sources/ chemicals result in majority of impact