



TEXAS SOUTHERN UNIVERSITY
"EXCELLENCE IN ACHIEVEMENT"



DHS 4th Annual University Network Summit

**National Transportation Security
Center of Excellence – Petrochemical**

Carol Abel Lewis, Ph.D., Principal

Lei Yu, Ph.D., Co-Principal

Carroll Robinson, J.D., Co-Principal

Sharon Adams, M.S., Director

Gwendolyn Goodwin, M. S., Senior Researcher

TEXAS SOUTHERN UNIVERSITY

3rd LARGEST HBCU

9700 STUDENTS



**CENTRALLY LOCATED
THREE MILES FROM
DOWNTOWN HOUSTON**

NTSCOE – P Steering Committee

Principal Investigator

- Carol A. Lewis, Ph.D.



Co-Principal Investigators

- Lei Yu, Ph.D.
- Carroll G. Robinson, Esq.



Center Director

- Sharon Adams, M.S.



Program Director

- Oscar Criner, Ph.D.



Faculty Researcher

- Yi Qi, Ph.D.



Senior Researcher

- Gwen Goodwin, M.S.



TSU NTSCOPE—P



Problem Statement/Objectives

Investigate and advance methods and strategies that will increase the resilience of the nation's multimodal infrastructure to terrorist attack on the movement of petrochemicals.

Methodology

- Create Commodity Flow Data Base
- Assist with Bus Operator Training
- Develop Petrochemical Incident Location System
- Educate incoming and upgrade training for existing workforce.

Impact Statement

- Results from this research will improve the availability of real-time data to 1st line responders.
- Better equip bus operators to respond to an emergency security event.

Timeline and Deliverables

- Commodity Flow Report (Aug. 2010)
- 1st Iteration of PILS (Summer 2010)
- Bus Operator Training (Summer 2010)
- Security Concentration in Existing Degree (Fall 2010)



Houston: 4th Largest Concentration of World's Petrochemical Companies



Photo by Steve Rowell; <http://www.clui.org/lotl/v27/i.html>

<http://www.nipc.net/hpcnews/news11and12/image/project4.JPG>



<http://www.gcfcd.org/docs/GCFRD%20Outreach%20Document.pdf>



Bus Operator Training

Houston Metropolitan Transit Authority as Model

- **Two Focus Group Sessions with METRO Houston Operators**
 - **General Attitudes Toward Security**
 - **Heavily focused on bio-chemical events group feels *very* exposed and at risk**
 - **Sense that management priorities are to other things, not to security.**
 - **Operators routinely scan the bus stop locations and boarding passengers**
 - **Exposure is higher when removed from major employment or activity areas, such as the end or near ends of route.**
 - **Recognize unpredictability, but would appreciate official protocol**
 - **Thoughts About the Training Module**
 - **Material for operators and those to whom they report**
 - **Want scenario based training**
 - **Pay particular attention to routes that service area airports**

Lessons from International Reconnaissance

Tel Aviv / Jerusalem, Israel and London, England

- **Anticipate focus on high passenger volume, high visibility locations**
- **Importance of the layered approach to security,**
- **The critical nature of training and refresher courses,**
- **Decision making power to the driver**
- **Improving security improves safety.**

Product Under Development

Petrochemical Incident Location System (PILS)

PILS Interface : Form

Chemical Search: <input type="text"/>	Chemical	Beginning Time <input type="text" value="0"/>
City Search: <input type="text"/>	Incident	<input type="text" value="2359"/>
Choose State: <input type="text"/>	Time	End Time <input type="text" value="2359"/>
Zip Code <input type="text"/>		

2007 QUERY



City of Houston Active Incidents

SEARCH ACTIVE INCIDENTS



This page contains current information about active incidents being handled by Fire, Police, and EMS Personnel. The contents are updated on five minute intervals and generated by the Central Command dispatch system. Users should refresh the page frequently, by clicking on their browser's refresh button, to ensure current data is presented.



Incidents as of 2009/09/14 10:50:01

[Back to Search](#)

Agency (FD/PD)	Address	Cross Street	Key Map	Call Time (Opened)	Incident Type	Combined Response (Y/N)
PD/FD	RIESNER	H	BLK WASHINGTON AVE	F	09/14/2009 10:41	Y
FD	CHADWELL DR	BLK TOTTENHAM DR	570A	09/14/2009 10:49	Ems Event	N
FD	BELLAIRE BLVD	BLK RENWICK	531F	09/14/2009 10:49	Ems Event	N
FD	JENSEN DR	BLK VAUGHN	454J	09/14/2009 10:48	Ems Event	N
PD	1000 ELDRIDGE PKWY	1100 ENCLAVE PKWY	488F	09/14/2009 10:45	TRAFFIC HAZARD/URGENT	N
PD				09/14/2009 10:45	TRAFFIC HAZARD/NON URGENT	N
FD	NORTH FWY	TIDWELL IB UTURN RAMP	453A	09/14/2009 10:44	Ems Event	N
PD				09/14/2009 10:44	TRAFFIC HAZARD/URGENT	N
FD	GRANDVIEW	BLK BELLFORT ST	533X	09/14/2009 10:43	Ems Event	N

Tasks for Next Six Months

- Complete commodity flow analysis.
- Hold discussions with U.S. managers of bus operators; train operators.
- Deploy phase 1 of PILS.



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