

Emergency Transportation, Protective Actions and Shelter-in-Place Progress and Products to Date

**Presentation to the
Evacuation & Protective Actions Joint Technical Working Group
Metropolitan Washington Council of Governments
For Consideration- Draft- June 5 Meeting of NCR**

**May 27, 2003
Item #5**

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Presentation

- **Project Definition**
- **Transportation Aspects**
 - **Scenario Testing, Initial Results**
 - **Review of Analysis Tools, Initial Results**
- **Protective Actions Aspects**
 - **Vulnerable populations**
 - **Shelters**
 - **Behavioral Research**
 - **Public Messages, Public Warning**

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Project Definition

- Purpose is to plan for probable incidents with broad regional impacts requiring coordination
- Evacuation may be advisable for a limited geographic region for a particular incident
- In most situations, most should stay put
- Imperative for Public Safety
 - Advance public education
 - Clear warning systems giving appropriate guidance
 - Coordination across jurisdictions, across functions, and across all levels of government

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Risk Matrix

	Probability of Mishap					
Severity of Consequences	F Impossible	E Improbable	D Remote	C Occasional	B Probable	A Frequent
I Catastrophic						
II Critical				Moderate Risk		
III Marginal		Low Risk				
IV Negligible						

Transportation Aspects: Scenarios

- **Scenarios from Phase 1 revised, specified**
 - To develop time estimates
 - To test strategies
- **Stage 1 (May)- immediate vicinity**
- **Stage 2 (June-August)- broader area analysis, baskets of strategies**

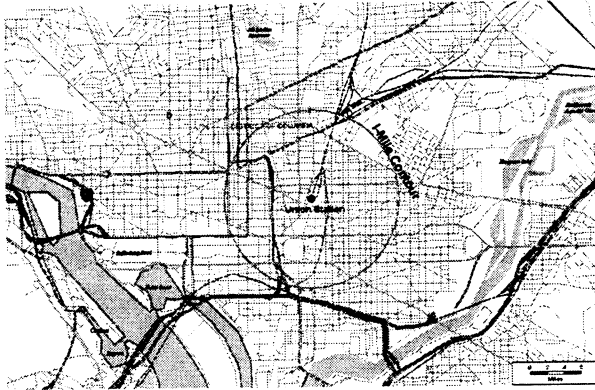
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Scenario 1

- Union Station
- Large conventional explosion
- 9 am weekday
- Extensive loss of life, structural damage, fire

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Scenario 1: Union Station



Evacuating (1 mile radius):

Time required

- Uncontrolled
- HOV-4 no transit
- HOV-4 w/ transit
- Pedestrian only

Special issues

- Proximity to gov't bldgs likely to evoke federal response

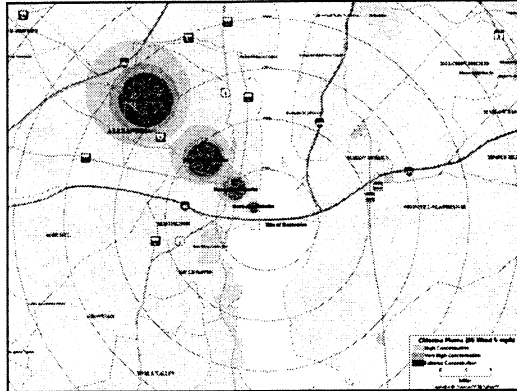
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Scenario 2

- Woodrow Wilson Bridge
- Tanker truck explosion- liquefied chlorine gas
- 4 pm Sunday, holiday weekend
- Plume headed to Old Town Alexandria at 5 mph
- Extensive loss of life at site, limited structural damage

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Scenario 2: W. Wilson Bridge



- # Evacuating (Plume area):
- Time required
 - Uncontrolled
 - HOV-4 no transit
 - HOV-4 w/ transit
 - Pedestrian only
- Special issues:
 - Gas sinks, best shelter in place 2nd floor, up
 - Large #s tourists, shoppers
 - Key decision-makers likely dispersed

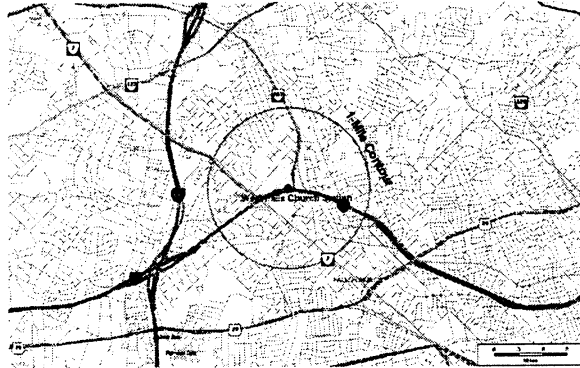
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Scenario 3

- West Falls Church
- Large conventional explosion at Metro station
- 2 pm weekday
- Some loss of life, extensive structural damage, fire, Metro and I-66 disrupted

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Scenario 3: Falls Church



Evacuating (1 mile radius):

Time required

- Uncontrolled
- HOV-4 no transit
- HOV-4 w/ transit
- Pedestrian only

Special issues

- Major commuter artery
- Timing involves schools, parent notification, etc.

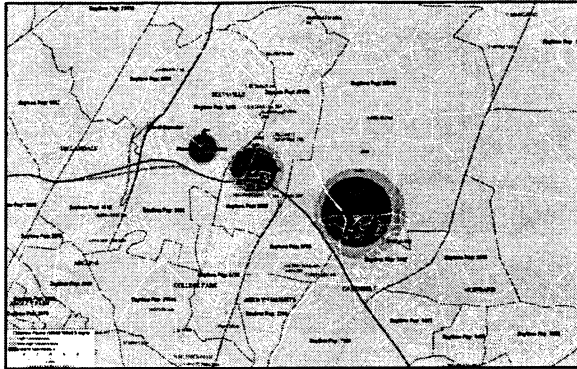
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Scenario 4

- Greenbelt Station
- RR tanker explosion (accidental) on tracks next to station- liquefied chlorine gas
- 2 pm weekday
- Plume headed to Beltway, BW Parkway, residences and office parks at 5 mph
- Extensive loss of life at site, limited structural damage

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Scenario 4: Greenbelt



Evacuating (Plume area):

Time required

- Uncontrolled
- HOV-4 no transit
- HOV-4 w/ transit
- Pedestrian only

Special issues

- Plume disrupts I-95, Beltway, BW Parkway
- Residences, office parks
- 2-3 days for full clearance

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Transportation Aspects: Analysis Tools

- Four potential tools identified
 - Oak Ridge Emergency Management System (OREMS) from ORNL (all-hazard)
 - TransCad/Transmodeler from Caliper (all-hazard)
 - Hurrivac/ETIS from PBS&J (natural hazard, prim. hurricane, large scale)
 - PC Based Dynamic Network Evacuation Planning System (PCDYNEV) from KLD (all-hazard, large scale)
- Demos, in-depth evaluations June-August

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Protective Actions

- Research and stakeholder contacts underway
- Participating in meetings across spectrum
- David McMillion (former head of MEMA) full-time at COG
- Other experts part-time: Behavior, warnings, messages, federal COOPs and EMs
- Initial GIS database in place- vulnerable pops.
- Requests for information initiated

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Shelters, Vulnerable Populations

- Information requests made
 - To regional EMs to provide aggregate shelter, contact information
 - To school superintendents to provide general planning guidelines
 - To COG committee on pets/ animals to provide planning guidelines, public information
- Initial vulnerable population database
 - Schools, day care centers, hospitals, nursing homes, other medical facilities, correctional institutions, animal facilities
 - All: Location, name, # employees
 - Schools, medical facilities: Size (range)

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Human Behavior

- Dr. Peter Lindell consulting
- Initial findings:
 - “End users critically evaluate (warning) information, and will challenge it, supplement it with additional information, or ignore it if they consider it inadequate”
 - 28 summary principles (see handout)
 - Advance preparation, education, and practice key to reasoned response

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Public Messages

- Kay Ingel consulting
- Initial findings:
 - Messages should point to action – from “tune in to Station XX” to “take shelter”- action alleviates worry
 - Messages and recommended actions should be consistent across media for any given population segment

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Public Warning

- Dr. Peter Ward consulting
- Attended national conference 5/15-17
- Initial findings:
 - Many methods available for dissemination-jurisdictions employing many of them
 - Key regional challenge is ensuring secure, consistent protocols and procedures between decision-makers (e.g., RICCS) and disseminators- EAS, NOAA, beyond

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Federal/ COOP plans

- Hilary Styron consulting
- Initial findings
 - Joint Federal COOP meeting June 5th, request for information to be delivered
 - Joint Federal EM meeting June 19th, to request coordination

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Next Stage June-September

- **Transportation Aspects**
 - Test baskets of strategies for scenarios
 - Develop recommendation for analysis tool
 - Develop initial plans
- **Protective Action Aspects**
 - Complete research, information gathering
 - Develop initial plans
- **Identify future needs**

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Development of Initial Plans

- **Transportation elements**
 - **Initial evacuation traffic management and mitigation regional coordination plan**
 - **Initial emergency response vehicle route regional coordination plan**
 - **Initial transit and bus emergency regional coordination plans**

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Development of Initial Plans

Continued

- **Protective actions elements**
 - **Initial school emergency regional coordination plan**
 - **Initial regional mass care shelter coordination plan**
 - **Initial Special Needs Groups coordination plan**
 - **Initial pet and animal regional coordination plan**
 - **Initial strategic plan for long-term clearance recovery and re-entry**

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Development of Initial Plans

Continued

- **Public awareness and communications elements**
 - **Initial population alert and warning system regional coordination plan**
 - **Initial RESF 14 mass media information coordination plan**
 - **Initial public education campaign materials on protective actions**
 - **Initial pre-scripted public awareness messages for evacuation, sheltering-in-place, and self-protection based on protective actions recommendations of EMAs**
 - **Initial shelter-in-place information guide**

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Assessment of Future Needs

- **Develop list of tasks for a potential follow-on Phase III**

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Schedule

- **June**
 - **Interaction of analysis and involved RESFs**
- **July**
 - **Further interaction of analysis and involved RESFs; drafting of document**
- **August**
 - **Finalization of analysis and document; identification of follow-on issues**
- **September**
 - **Presentation of deliverables; begin process for next phase.**

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Outlook

- **Renewed effort funded through 2003**
- **Federal participation and leadership vital**
- **State emergency management agency participation vital**
- **Private sector also a partner**
- **Numerous and wide-ranging stakeholders**
- **High visibility**

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