MEMO

To: Department of Homeland Security Officials

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Issue: How can U.S. cities achieve high interoperability performance? How can federal funds be used most effectively toward that objective?

Background: One of the most important lessons of the Sept. 11, 2001 terrorist attacks is that, in order to respond successfully, local agencies must be able to exchange information in real time. In the years that followed, interoperability programs have become one of the Department of Homeland Security's funding priorities in its allocations to state and local governments. In the past seven years, the federal government has given millions of dollars to state and local governments with the goal of improving interoperability programs. However, state and local politics often get in the way of effective use of the money. Our research provides insight and recommendations into how state and local governments can improve the effectiveness of these programs.

Importance: Local performance on homeland security is vital to the public interest. Maintaining effective local cooperation across policy sectors is necessary to create resilience in the face of terrorist attacks and natural disasters. Effective national security strategy is contingent on local policy, but local cooperation cannot be assumed. This is especially true given the political issues related to allocation of homeland security funds.

Objectives: Communications interoperability is vital to achieving community resilience given a natural disaster or terrorist attack. Moreover, achieving high performance on interoperability can inform how to secure other sectors such as critical infrastructure given similar political and economic constraints.

Discussion: Substantial federal funds are directed to local jurisdictions to address homeland security concerns, but results to date are uneven and inconsistent. How can local jurisdictions achieve high, sustained performance on homeland security goals? Comparing 48 U.S. cities that have received Urban Area Security Initiative (UASI) funds between 2003 and 2005, we examined the resources, institutional context, and governance features associated with local communications interoperability performance. Our analysis indicates that high local performance on interoperability is not associated with greater funding levels. Instead, governance attributes—particularly characteristics of multi-level engagement with strict, formal rules and procedures—are important intervening factors shaping interoperability performance. Cities judged to have "advanced" governance arrangements (i.e. Washington, DC, the Twin Cities, San Diego, and Columbus) are 60% likely to perform best on interoperability performance regardless

of UASI funds (see Figure 1 in Methodological Appendix). Cities judged to have "early" governance (i.e. Chicago, Baton Rouge, Cleveland) perform lowest on interoperability, even when UASI grants have been substantial. Among high-performing cities, governance arrangements with multi-level/multi-jurisdictional partnerships and formal rules have discernable performance advantages over loosely structured relationships with more autonomous units (Figure 2).

Strategic Options: Several options are possible to improve local interoperability performance among other homeland security priorities.

A. First, continue with status quo policies, since local performance coalitions sometimes form out of pre-existing institutions without state intervention.

B. Second, invest in creating multiple public-private partnerships, producing multiple informal coalitions. This option reflects the conventional wisdom about how local polities should cope with coordination dilemmas.

C. Third, facilitate local attempts to create and maintain the incentives for multi-jurisdictional cooperation and formalize rules and protocols across jurisdictions. As distinct from current Investment Justifications requiring how funds will be used, this option involves contractual relations indicating how stakeholders will perform different functions.

Recommendation: Option C. Performance is enhanced when formal rules and protocols establish durable coordination among multiple stakeholders. Federal funding is most effective when such rules and protocols exist, and when local coalitions are nested in multiple levels of governance. Creating the incentives for such multi-level cooperation and formalization of rules and protocols are important policy priorities. This strategic option involves the following three specific recommendations.

A. Homeland security officials should bring together stakeholders from multiple levels of government (local, state, and federal) across multiple policy sectors.

B. Partnerships among the different levels should be codified by formal, enforceable rules and protocols—as opposed to informal agreements—to maximize the utility of federal funds to cities.

C. State officials should require formal protocols among cities to specify the use of federal grant funds for homeland security. Specifically, cities should develop contractual agreements indicating which stakeholders will perform different functions prior to the distribution of funds. Cities with advanced governance, multi-level partnerships, and formal institutional linkages will be the most effective in using federal funds to improve interoperability.

Methodological Appendix

The Tactical Interoperable Communications Scorecards (TICS) (DHS 2007) provides data on the capacity for communications interoperability among law enforcement, fire, and emergency medical services (EMS) first responders in 48 cities. As Comfort (2005) notes the concept of interoperability extends beyond radios to the core communication capabilities of multiple institutions involved in dealing with disaster and terrorism.

We also rely on Scorecard data for standardized measures of governance and institutional context—specifically the embeddedness of local coalitions in multiple levels, and the formality or informality of these institutional linkages. We added the total amount of Urban Area Security Initiative (UASI) funds dispersed to each city between FY2003-2005 to measure the independent effect of resource levels.

The TICS is based on the SAFECOM Interoperability Continuum and the National Interoperability Baseline Survey's Interoperability Maturity Measurement Model. The survey assessed the capacity for communications interoperability among law enforcement, fire, and emergency medical services (EMS) first responders in the 50 states and the District of Columbia. Local capability is assessed in terms of coordination and cooperation across multiple jurisdictions at the regional level. The TICS track improvement in this critical function by assessing 75 cities and metropolitan areas on three dimensions: familiarity with and frequency of use of interoperable communications equipment during the TICP validation exercise (Usage); the maturity of their communications policies, practices, and procedures as well as command and control functions (Standard Operating Procedures); and the maturity of five basic elements critical to a successful and established governance structure: 1) Decision Making Groups, 2) Agreements, 3) Strategic Planning, 4) Interoperability Funding, and 5) Leadership (Governance).

The ratings for each locality were constructed by subject matter expert panels relying on field observations, local document analysis, local self-reports, and interviews. The Scorecards provide an overall summary score for each locality along with separate scores for the Usage, SOP, and Governance dimensions. They center on a continuum of maturation of local capacity, with scores reflecting Early to Advanced stages of implementation and capacity.

We use the combined urban TICS Usage and SOPs score as our dependent variable, since these scores measure the extent to which coordination and cooperation at a regional scale has been achieved and thus reflect the performance capacities of interest.

For the independent variables, we consider the effects of governance maturity, institutional context features, and UASI funding on city performance. The TICS Governance score (1=early, 2=intermediate, 3=established, 4=advanced) is used as a standardized measure of governance capacity across cities. To examine the institutional context, we coded the information in the Governance and SOP materials for the extent to which cities were dealing with multilevel, nested institutions (High=1, Low=0), whether those institutional linkages were formal or informal (Formal=1, Informal=0).

We also evaluate the basic contention that increased funding will improve SOPs and Usage scores across all cities regardless of governance capacities and institutional features. The funding measure is the total amount of Urban Area Security Initiative (UASI) funds dispersed to each city between FY2003-2005, logged.

Figure 1: Effects of Early-Stages and Advanced Governance on Interoperability Performance

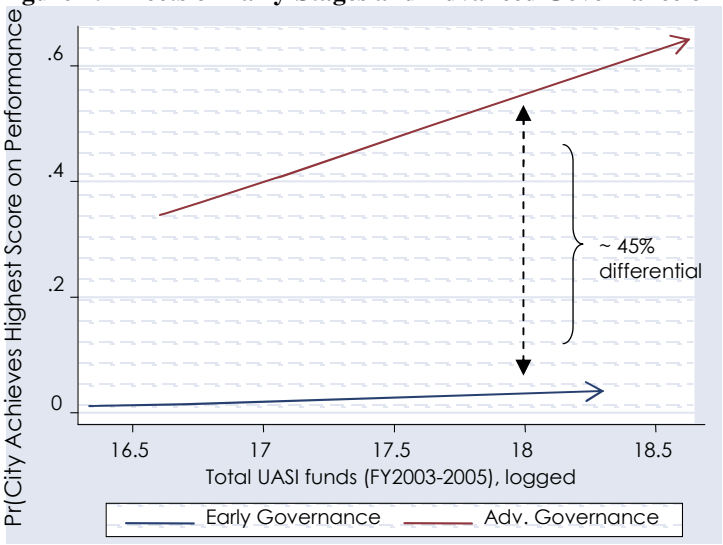

Figure 2: The Effects of Formal and Informal Linkages on Interoperability Performance

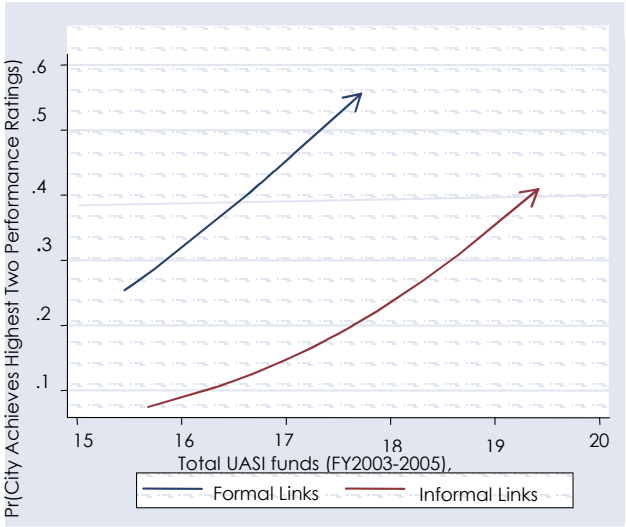

Table 1: City Governance Scores and Interoperability Scores

City	Governance Score	SOP and Usage Combined Score
Anaheim/Santa Ana	4	6
Atlanta Urban Area	2	7
Baltimore Urban Area	3	6
Baton Rouge Urban Area	1	4
Bay Area	2	7
Boston Urban Area	3	6
Buffalo Urban Area	3	5
Central Oklahoma Urban Area	2	5
Charlotte Urban Area	2	6

Chicago	1	4
Cincinnati/Hamilton Urban Area	2	4
Cleveland Urban Area	1	4
Columbus	4	8
Dallas/Fort Worth Urban Area	2	4
DC	4	8
Denver Urban Area	2	6
Detroit Urban Area	2	4
Honolulu Urban Area	2	5
Houston Urban Area	2	6
Indianapolis Urban Area	2	6
Jacksonville Urban Area	3	7
Jersey City/Newark Urban Area	3	6
Kansas City	3	6
Las Vegas Urban Area	4	7
Long Beach/LA	3	8
Louisville Urban Area	3	5
Miami Urban Area	2	8
Milwaukee Urban Area	2	5
New Orleans	4	5
New York City	3	6
Oakland Urban Area	2	8
Omaha Urban Area	2	5
Philadelphia Urban Area	2	5
Phoenix	2	6
Pittsburgh Urban Area	3	6
Portland Urban Area	2	5
Sacramento	3	5
San Antonio Urban Area	2	5
San Diego	4	8
San Francisco Urban Area	2	5
San Jose Urban Area	4	7
Seattle Urban Area	2	6
St. Louis Urban Area	2	5
Tampa Bay Urban Area	3	5
Toledo Urban Area	2	4
Twin Cities	4	8

(Source: DHS, 2007)

References

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