Quantified Perception has done a semantic and text analysis on four DHS strategic planning documents, and some interesting features come to light.

While the single term “cyber” is used 95 times, “biological” follows closely with 86 occurrences. DHS shows a prescient focus on biological threats that predates the Ebola focus of recent months, with “biological threats” used 31 times across the documents, while “cyber threats” is used only 12 times, despite the longer history and greater visibility of cyber incursions. The table below shows the number of occurrences of the two terms in phrases across the target documents. Other “threat” terms are used slightly less frequently: nuclear terrorism (13); climate change (11); terrorism threat (9); and weapons of mass destruction (3).

Table 1

|  |  |  |
| --- | --- | --- |
| **Phrase** | **Occurrences** | **Length** |
| **cyber** | 95 | 1 |
| secure cyberspace | 13 | 2 |
| **cyber threats** | 12 | 2 |
| cyber incidents | 11 | 2 |
| safeguard and secure cyberspace | 11 | 4 |
| safeguarding and securing cyberspace | 4 | 4 |
|  |  |  |
| **biological** | 87 | 1 |
| **biological threats** | 31 | 2 |
| biological threats and hazards | 29 | 4 |
| biological incidents | 19 | 2 |
| priority biological threats | 15 | 3 |
| chemical biological | 13 | 2 |
| biological radiological | 11 | 2 |
| chemical biological radiological | 11 | 3 |
| biological radiological and nuclear | 9 | 4 |
| countering biological threats | 6 | 3 |
| use of chemical biological | 4 | 4 |
| biological incidents from occurring | 3 | 4 |
| risk of biological threats | 3 | 4 |

One of the major topical areas is what we have classified as “community and commerce.” Terms referring to citizens, community, and trade are represented across the documents more heavily than might be expected of DHS. Cooperation and collaboration between different sectors of government and communities are a major theme of the reports. Public-private partnerships, as well as other partner references, are prominent in the language.

Table 2 shows the frequency of this terminology.

|  |  |  |
| --- | --- | --- |
| **Phrase** | **Occurrences** | **Length** |
| community(ies) | 212 | 1 |
| partners | 174 | 1 |
| private | 148 | 1 |
| public | 140 | 1 |
| state | 137 | 1 |
| local | 126 | 1 |
| people | 104 | 1 |
| private sector | 96 | 2 |
| people and goods | 51 | 3 |
| whole community | 46 | 2 |
| public private partnerships | 20 | 3 |
| territorial partners | 19 | 2 |
| public and private | 19 | 3 |
| trade and travel | 18 | 3 |
| public and private sector/s | 18 | 4 |
| security partners | 13 | 2 |
| partners and stakeholders | 13 | 3 |
| local leaders | 13 | 2 |
| faith based | 11 | 2 |
| government(al) and private sector | 7 | 4 |
| lawful trade and travel | 6 | 4 |
| community of practice | 6 | 3 |
| across the whole community | 6 | 4 |
| private sector and international | 3 | 4 |
| parts of the community | 3 | 4 |
| members of the public | 3 | 4 |
| individuals families and communities | 3 | 4 |
| assistance from neighboring jurisdictions | 3 | 4 |

Terminology used less frequently than might be expected refers to the response phase following an incident. While “first responders” and “public safety are prominent, other terms of response and recovery are relatively sparse.

Table 3 displays those terms.

|  |  |  |
| --- | --- | --- |
| **Phrase** | **Occurrences** | **Length** |
| first responders | 32 | 2 |
| public safety | 19 | 2 |
| essential services | 12 | 2 |
| emergency support function | 10 | 3 |
| survivor centric | 9 | 2 |
| during and after disasters | 9 | 4 |
| social services recovery | 6 | 3 |
| national response framework | 6 | 3 |
| health and social services | 6 | 4 |
| actions of survivors bystanders | 3 | 4 |
| independent actions of survivors | 3 | 4 |

A final area for consideration is the planning and process language. True to the expectations of a government document, citizen support is prominent in the language.

Table 3 shows this terminology.

|  |  |  |
| --- | --- | --- |
| **Phrase** | **Occurrences** | **Length** |
| services | 104 | 1 |
| resources | 97 | 1 |
| plan | 96 | 1 |
| national preparedness | 53 | 2 |
| decision making | 23 | 2 |
| information sharing | 21 | 2 |
| best practices | 21 | 2 |
| civil liberties | 13 | 2 |
| human services | 12 | 2 |
| cost effective | 11 | 2 |
| intellectual property | 10 | 2 |
| civil rights | 10 | 2 |
| advisory committee | 9 | 2 |
| owners and operators | 7 | 3 |
| critical infrastructure systems | 6 | 3 |
| infrastructure owners and operators | 5 | 4 |
| travel and trade systems | 3 | 4 |
| individual and collective readiness | 3 | 4 |
| incentivize and facilitate investments | 3 | 4 |
| financial stability and affordability | 3 | 4 |

QPL uses our semantics analysis tool CopyRater and our Text Analysis Profiles (TAP) to examine the underlying structure and content of documents. In comparing words and phrases, a Fibonacci factor is used to normalize phrase length. That is, while a single word occurrence is counted by the number of repetitions, a two-word phrase is multiplied by 2, and a three-word phrase is multiplied by 3+2, a four-word phrase by 4+3+2. This has been empirically shown to be a reasonable adjustment to account for the probability of longer word strings in comparison to shorter strings.

The DHS documents used in this analysis are:

* The 2014 Quadrennial Homeland Security Review
* FEMA Strategic Plan, 2014–2018
* Department of Homeland Security Strategic Plan, Fiscal Years 2012-2016
* DHS Science and Technology Directorate 2011 Strategic Plan