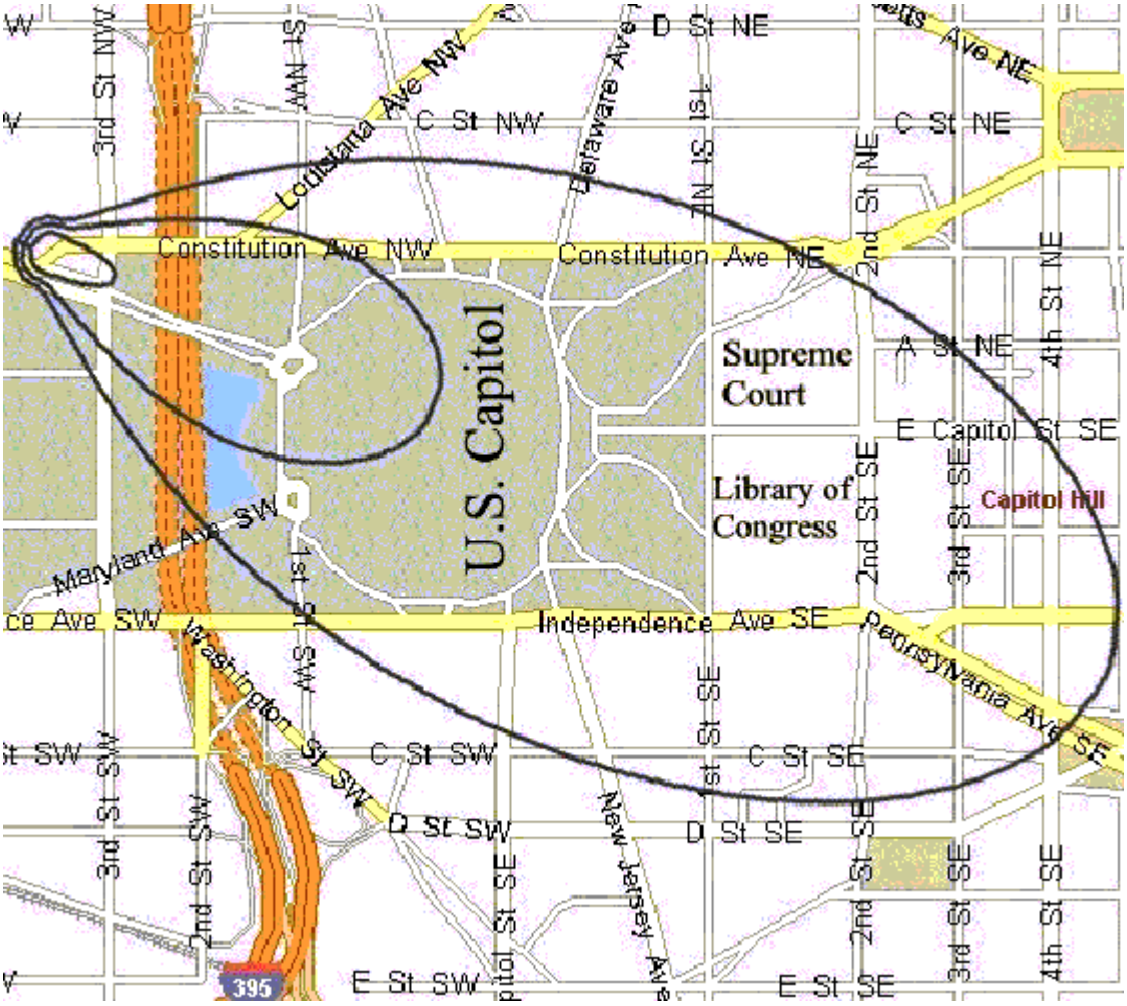
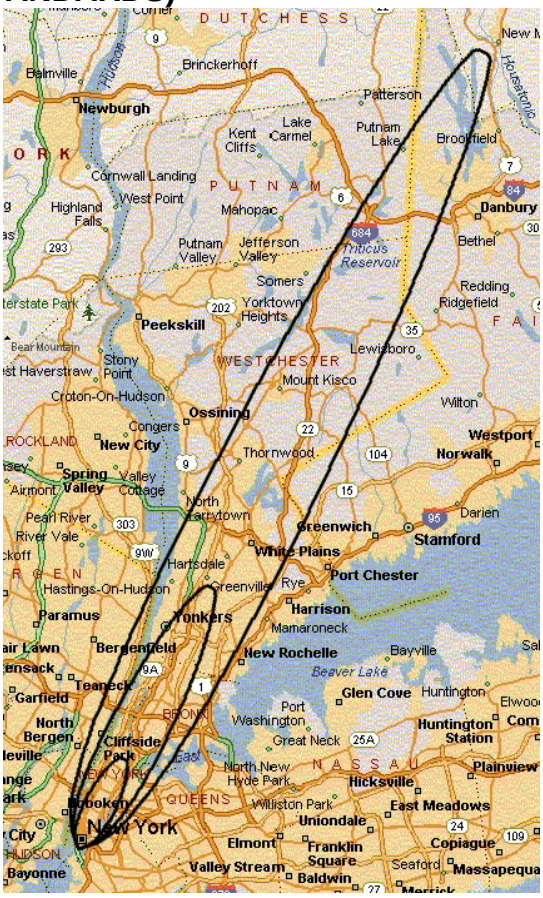
AREAS OF CONTAMINATION FOR RADIOLOGICAL DISPERSAL DEVICES

CESIUM BOMB IN WASHINGTON, DC (LONG TERM CONTAMINATION)



RDD: medical gauge of cesium, dispersed by ten pounds of TNT.
Inner Ring: One cancer death per 100 people due to remaining radiation (5% increase).
Middle Ring: One cancer death per 1,000 people due to remaining radiation (.5% increase): approximately five city blocks.
Outer Ring: One cancer death per 10,000 people due to remaining radiation (.05% increase): approximately one mile swath or 40 city blocks.

COBALT BOMB IN NEW YORK CITY (LONG TERM CONTAMINATION: EPA STANDARDS)



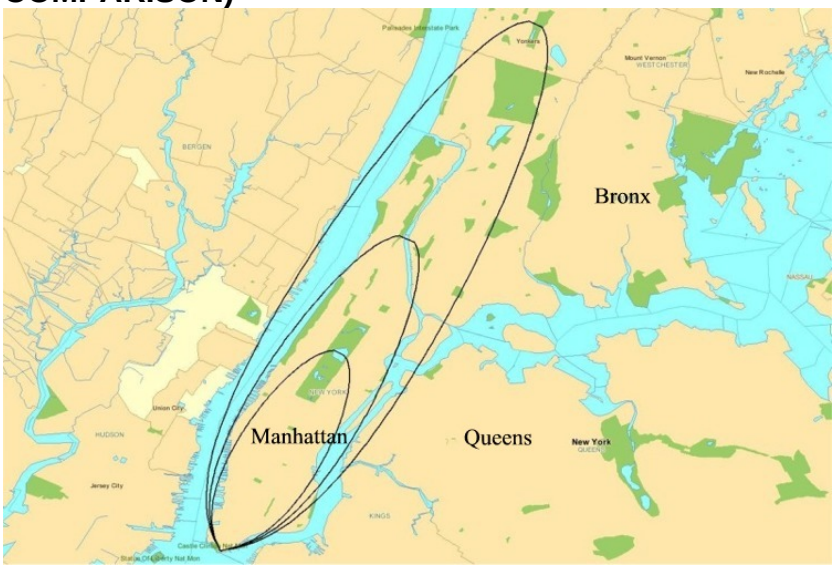
RDD: Single piece of radioactive cobalt from food irradiation plant (approximately one inch by one foot) dispersed by explosion.

Inner Ring: One cancer death per 100 people due to remaining radiation (5% increase): approximately 300 city blocks.

Middle Ring: One cancer death per 1,000 people due to remaining radiation (.5% increase): area similar to borough of Manhattan.

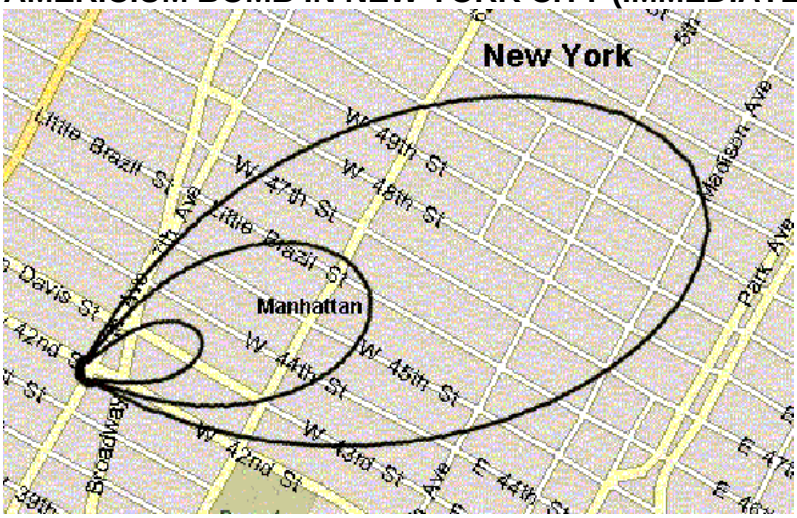
Outer Ring: One cancer death per 10,000 people due to remaining radiation (.05% increase): approximately 1000 square km.

COBALT BOMB IN NEW YORK CITY (LONG TERM CONTAMINATION: CHERNOBYL COMPARISON)



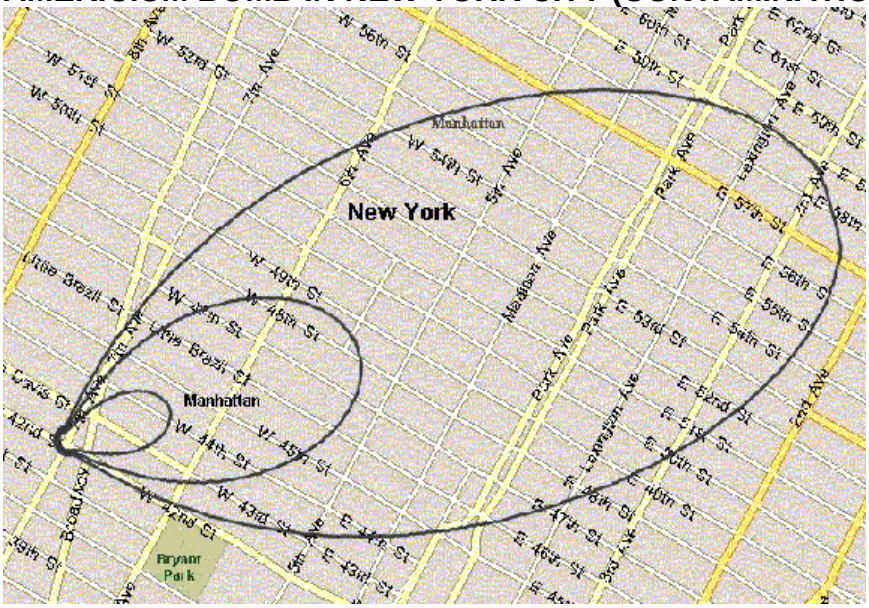
Inner Ring: Same radiation level as permanently closed zone around Chernobyl
Middle Ring: Same radiation level as permanently controlled zone around Chernobyl
Outer Ring: Same radiation level as periodically controlled zone around Chernobyl

AMERICIUM BOMB IN NEW YORK CITY (IMMEDIATE EFFECTS)



RDD: typical americium source used in oil well surveying, dispersed with one pound of TNT.
Inner Ring: Current guidelines state that all persons must receive medical supervision: 10 times area of initial bomb blast.
Middle Ring: Maximum annual dose for radiation workers exceeded.
Outer Ring: Current guidelines state that the area should be evacuated before radiation cloud passes: one kilometer long swath and 20 city blocks.

AMERICIUM BOMB IN NEW YORK CITY (CONTAMINATION)



Inner Ring: One cancer death per 100 people due to remaining radiation (5% increase).
Middle Ring: One cancer death per 1,000 people due to remaining radiation (.5% increase): approximately 10 city blocks.
Outer Ring: One cancer death per 10,000 people due to remaining radiation (.05% increase): approximately two km long / 60 city blocks.

NOTES: Above estimates might be too high by a factor of ten, or underestimated by the same factor, depending on the amount of material released, the nature of the material, the details of the distribution device, the direction and speed of the wind, other weather conditions, the size of the particles released, and the location and size of buildings near the release sight. Estimates assume a calm day (wind speed of one mile per hour), an explosion that distributes the material. Estimates do not include any direct blast injuries.

SOURCE: Testimony of Dr. Henry Kelly, President, Federation of American Scientists before the Senate Committee on Foreign Relations, March 6, 2002.