

These trapezes are significantly larger: 209,229 square km.

In terms of the distribution of urban, cultivated, and virgin lands, there are five types of trapezes: 1% urban, 2% cultivated, 97% virgin; 3%-7%-90%; 10%-20%-70%; 15%-25%-60%; and 25%-35%-45%. Interestingly, the regions with larger urban percentages also tend to be larger in area. Because urban damage per unit area is 10 times that of cultivated area, and 100 times that of virgin area, we explored if it was possible to place brigades and planes so that *all* urban fires could be extinguished when the brigades or planes arrived, so that it was not necessary to get extra water or to use extra brigades or planes. We describe a distribution of brigades and planes in the next section that nearly meets this goal.

### 3.2 Our Placement of Fire-Fighters

We have distributed the fire-fighters so that for a specific trapeze, there are either brigades or planes, but not both. Our distribution is based on the goal that most urban fires will be extinguished when the brigades or planes arrive. This result is derived in the next section, followed by further discussion of other fires. See Tables 1 and 2 for our distribution of brigades and planes.

Trapezes	Number of Brigades
N2, O2, P2, Q2, R2, S2, T2, U2, V2, W2, X2, Y2	13
P3	15
Q3, R3, S3, T3, U3, V3, W3	16
A2, B2, C2, D2, E2, F2, G2, H2, I2, J2, K2, L2, M2	28
A3, B3, C3, D3, E3, F3, G3, H3, I3, J3, K3, L3, M3, N3, O3	65
E4, F4, G4, H4, I4, J4, K4, L4, M4, N4, O4, P4	94
E5, F5, G5, H5, I5, J5, K5, L5, N5, O5, P5, Q5	100
O6, P6, Q6	106
A4, B4, C4, D4, T4, U4	122

Table 1: Our Distribution of Brigades

Trapezes	Number of Planes
B1, C1, M1, N1	7
D1, E1, F1, G1, H1, I1, J1, K1, L1	8

Table 2: Our Distribution of Planes