Diffusion

$$P_{t+1}(G) = P_t(G) + k_{ig} \cdot P_t(I) + k_{ag} \cdot P_t(A) - k_{gi} \cdot P_t(G) - k_{ga} \cdot P_t(G)$$
$$P_{t+1}(I) = P_t(I) + k_{gi} \cdot P_t(G) + k_{ai} \cdot P_t(I) - k_{ig} \cdot P_t(I) - k_{ia} \cdot P_t(I)$$
$$P_{t+1}(A) = 1 - P_{t+1}(G) - P_{t+1}(I)$$

Contagion

$$P_{t+1}(G) = P_t(G) + T_{ig} \cdot P_t(I) \cdot P_t(G) + T_{ag} \cdot P_t(A) \cdot P_t(G) - T_{gi} \cdot P_t(G) \cdot P_t(I) - T_{ga} \cdot P_t(G) \cdot P_t(A)$$
$$P_{t+1}(I) = P_t(I) + T_{gi} \cdot P_t(G) \cdot P_t(I) + T_{ai} \cdot P_t(I) \cdot P_t(A) - T_{ig} \cdot P_t(I) \cdot P_t(G) - T_{ia} \cdot P_t(I) \cdot P_t(A)$$
$$P_{t+1}(A) = 1 - P_{t+1}(G) - P_{t+1}(I)$$

Hybrid

$$P_{t+1}(G) = P_t(G) + T_{ig} \cdot P_t(I) \cdot P_t(G)^{C_{ig}} + T_{ag} \cdot P_t(A) \cdot P_t(G)^{C_{ag}} - T_{gi} \cdot P_t(G) \cdot P_t(I)^{C_{gi}} - T_{ga} \cdot P_t(G) \cdot P_t(A)^{C_{ga}}$$
$$P_{t+1}(I) = P_t(I) + T_{gi} \cdot P_t(G) \cdot P_t(I)^{C_{gi}} + T_{ai} \cdot P_t(I) \cdot P_t(A)^{C_{ai}} - T_{ig} \cdot P_t(I) \cdot P_t(G)^{C_{ig}} - T_{ia} \cdot P_t(I) \cdot P_t(A)^{C_{ia}}$$
$$P_{t+1}(A) = 1 - P_{t+1}(G) - P_{t+1}(I)$$