## Average Communication Cost: Hops-to-Edge-RSU Federated Centralized Decentralized Double (Ranked) Grid-3x3 (Ranked) Grid-5x5 (Ranked) 480k 2,650k 940k Avg. # Bytes 920k 2,625k 460k 900k 2,600k 20 30 40 50 30 40 50 30 40 50 10 # Hops-to-Edge-RSU # Hops-to-Edge-RSU # Hops-to-Edge-RSU Double (Unranked) Grid-3x3 (Unranked) Grid-5x5 (Unranked) x-x-x-x-x-x-2,800k 460k Avg. # Bytes 880k 2,700k 440k 860k 2,600k 420k 840k 10 20 30 40 50 10 20 30 40 50 10 30 40 50 Time-Steps Time-Steps Time-Steps (a) (b) (c)