Objective: \$635, 380, 465, 906; without intervention: \$819, 516, 110, 995 (Desired optimality gap: 80%; actual: 79%. Lower Bound: \$132,018,000,000. Time to solve: 32s)

 $C^{\prime} = \$10,000, C^{D} = \$10,000,000$ One Period=7 days (costs scaled by 1,000,000 during optimization) Solved using solve_and_process_vaccination_T_vax_1_S0_antivax_factor_0.4_KV_0.05 Infected - No intervention Infected \$800,000 Cumulative Deaths - No intervention Cumulative Deaths Recovered - No intervention Recovered Susceptible - No intervention 250000 Susceptible Vaccinated - No intervention Vaccinated \$600,000 Cumulative Cost Total Cumulative Cost Total - No intervention 200000 <u>≤</u> 150000 \$400,000 100000 50000 20 34 36 38 40 Period 34 35 36 37 38 -34 -35 -36 -37 -38 -33 -99 -28 3. Non-Food Service (bank, retail, etc) 3 2 2 2 2

1 1 1 1 1 1 1

\$6.5e+ \$5.5e+ \$4.6e+ \$3.8e+ \$3.1e+ \$2.2e+09 \$2.4e+ \$2.4e+ \$3.5e+ \$3.e+09 \$2.7e+ \$2.4e+ \$1.9e+09 0.626 0.677 0.732 0.791 0.856 0.925

\$3.3e+08 \$0.0 \$3.3e+08 1.000

\$1e+10 \$3.2e+09 \$7e+09 0.536

Movement

A: \$[5000 ,10000] 10² **B:** \$[10000,20000]·10² C: $\$[10 , 14] \cdot 10^2$ P: [.95 ,.93]

A: $\$[0, 0] \cdot 10^2$ B: $\$[0 , 0] \cdot 10^2$ C: $\$[10 , 14] \cdot 10^2$ P: [.99 ,.95]

Education (University level)

2. Social Gatherings (in a house) A: $\$[0, 0, 0, 0] \cdot 10^2$ B: $\$[0 , 0 , 0 , 0] \cdot 10^2$ C: $\$[8 , 10 , 12 , 14] \cdot 10^2$ P: [.99 ,.99 ,.97 ,.93]

A: \$[2500 ,5000 ,10000]·10² B: $\$[5000,10000,20000]\cdot10^2$

C: \$[8 ,10 ,14]·10² P: [.99 ,.95 ,.93]

A: $\$[0, 0, 0] \cdot 10^2$

B: $\$[0, 0, 0] \cdot 10^2$ C: \$[8 ,10 ,14] 10² P: [.99 ,.95 ,.93]

A: \$[2500 ,5000 ,10000] 10² B: \$[5000 ,10000,20000] ·10² C: $\$[8 , 10 , 14] \cdot 10^2$ P: [.99 ,.95 ,.93]

4. Restaurants

5. Masking

6. Mega Events

7. Border Control A: $$[5000,10000] \cdot 10^2$

B: \$[10000,20000] 10²

C: $\$[10 , 14] \cdot 10^2$ P: [.95 ,.93]

8. Physical Distancing

Cost Per Period: TOTAL

Probability Factor

Cost Per Period: POLICY Cost Per Period: DISEASE \$1.9e+10 \$3.7e+09 \$1.5e+10 0.509

A: \$[0]] 10^2

B: \$[0] 10^2 C: $\$[10] 10^2$ P: [.93]

A: \$[5000 ,10000]·10² **B:** $\$[10000,20000]\cdot10^2$ C: $\$[10 , 14] \cdot 10^2$ P: [.95 ,.93]