PM2.5 AV Scenarios – Year 20

Policies: No Policy | High Rebates | Infra Focus | Aggressive | Moderate Rebate | Supply Push | Phaseout | Ramp–Up | Pulse | Adaptive | Front–Loaded

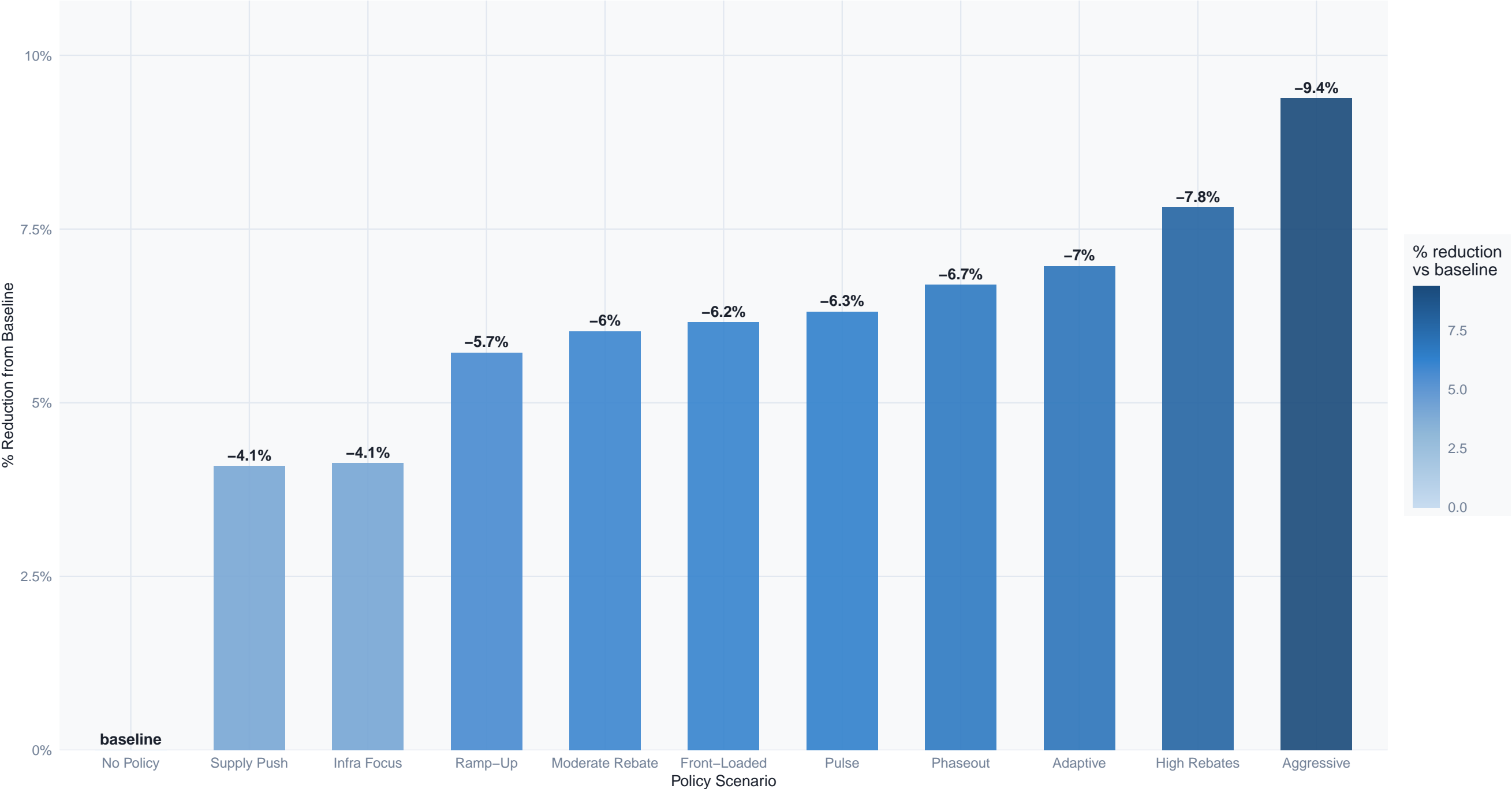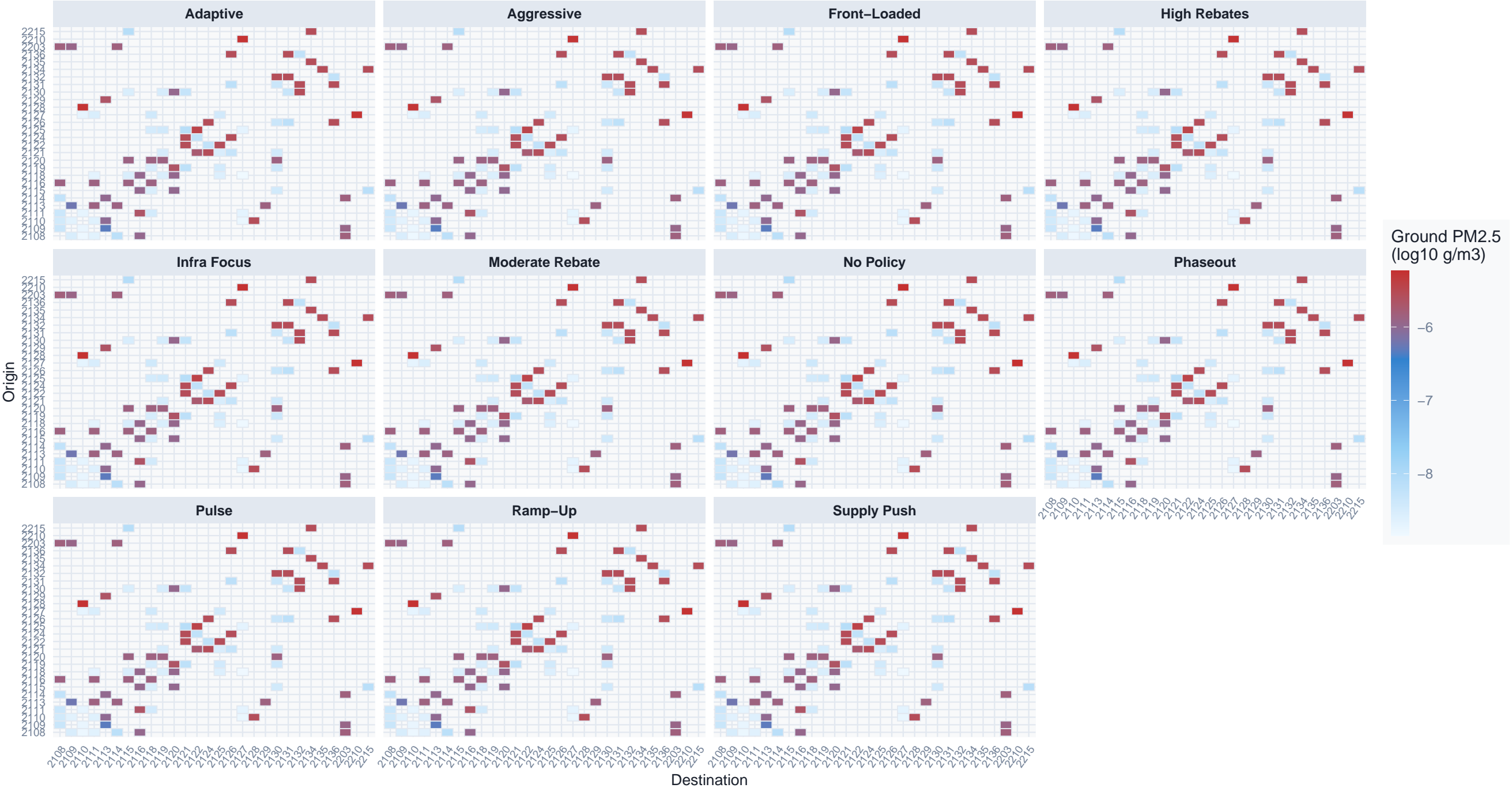**Total Network Emission Rate by Policy Scenario**

Sum of E_eff across all active flow corridors; % reduction vs baseline scenario

% reduction
vs baseline

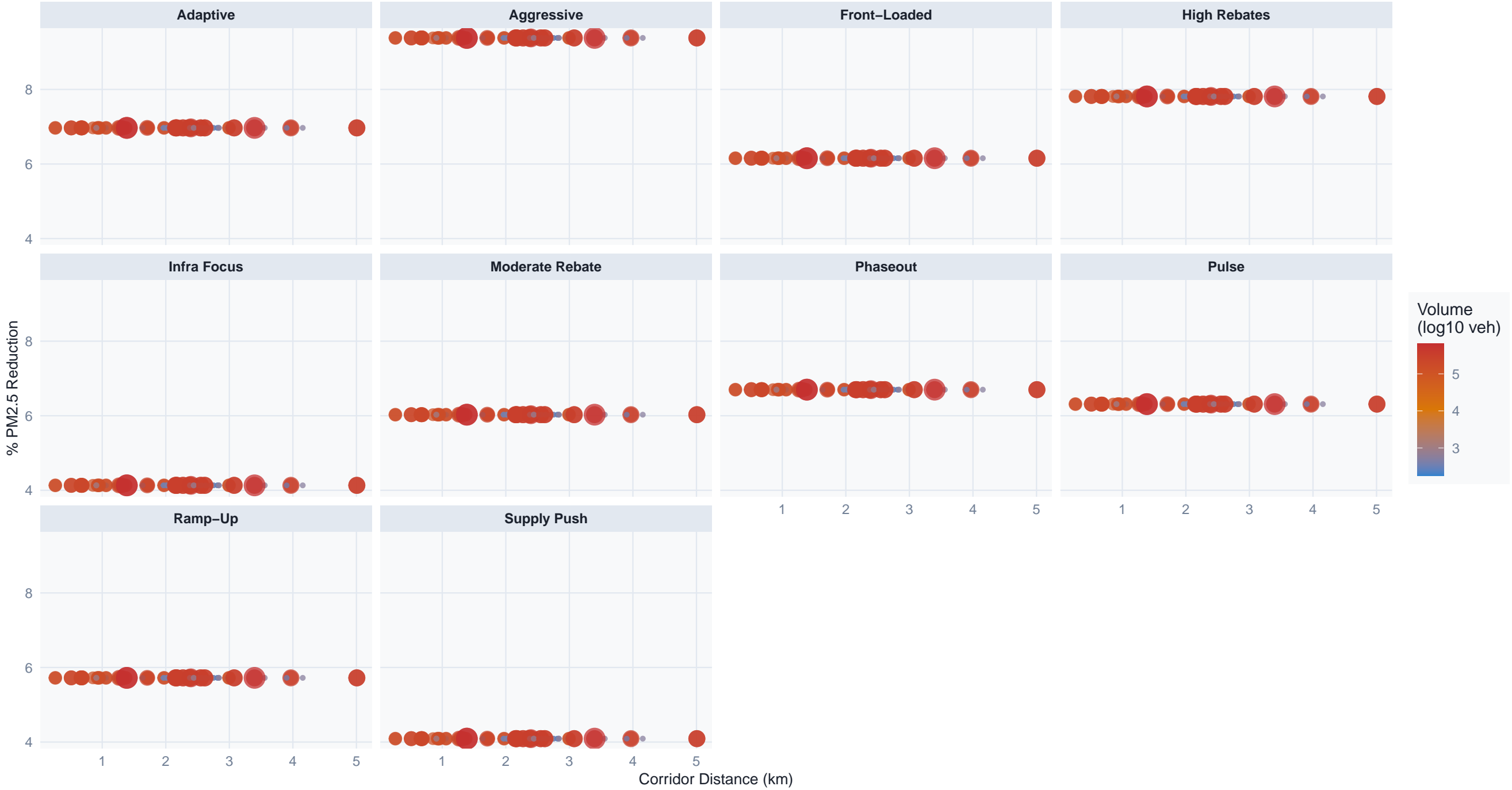| Policy Scenario	% Reduction
No Policy	baseline
Supply Push	−4.1%
Infra Focus	−4.1%
Ramp−Up	−5.7%
Moderate Rebate	−6%
Front−Loaded	−6.2%
Pulse	−6.3%
Phaseout	−6.7%
Adaptive	−7%
High Rebates	−7.8%
Aggressive	−9.4%

Ground–Level Peak PM2.5 by Flow Pair

Each cell = one origin–destination corridor, color = peak ground concentration

PM2.5 Reduction by Corridor vs Baseline

Each point = one flow pair; x = distance, y = % reduction in ground-level PM2.5
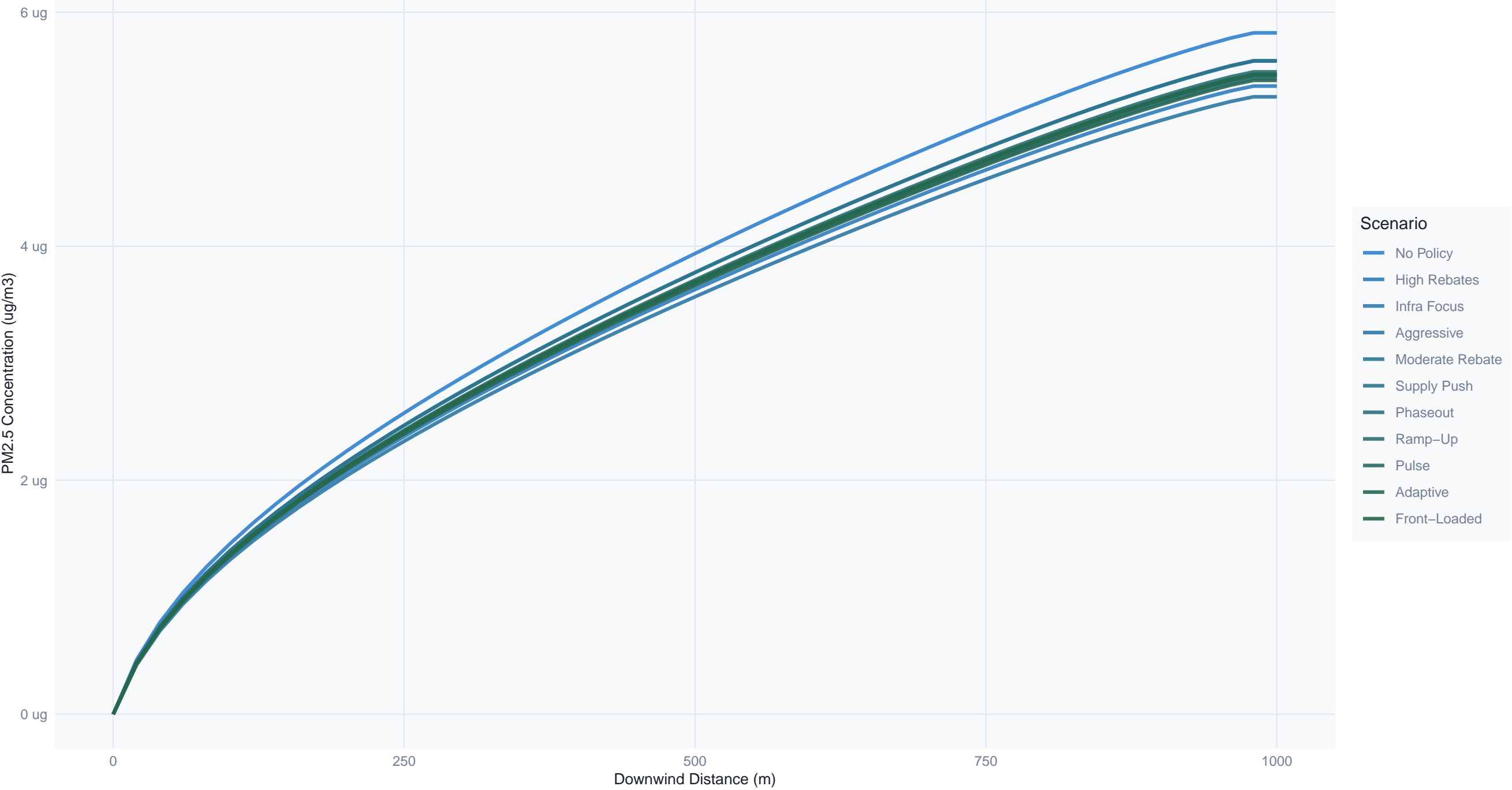
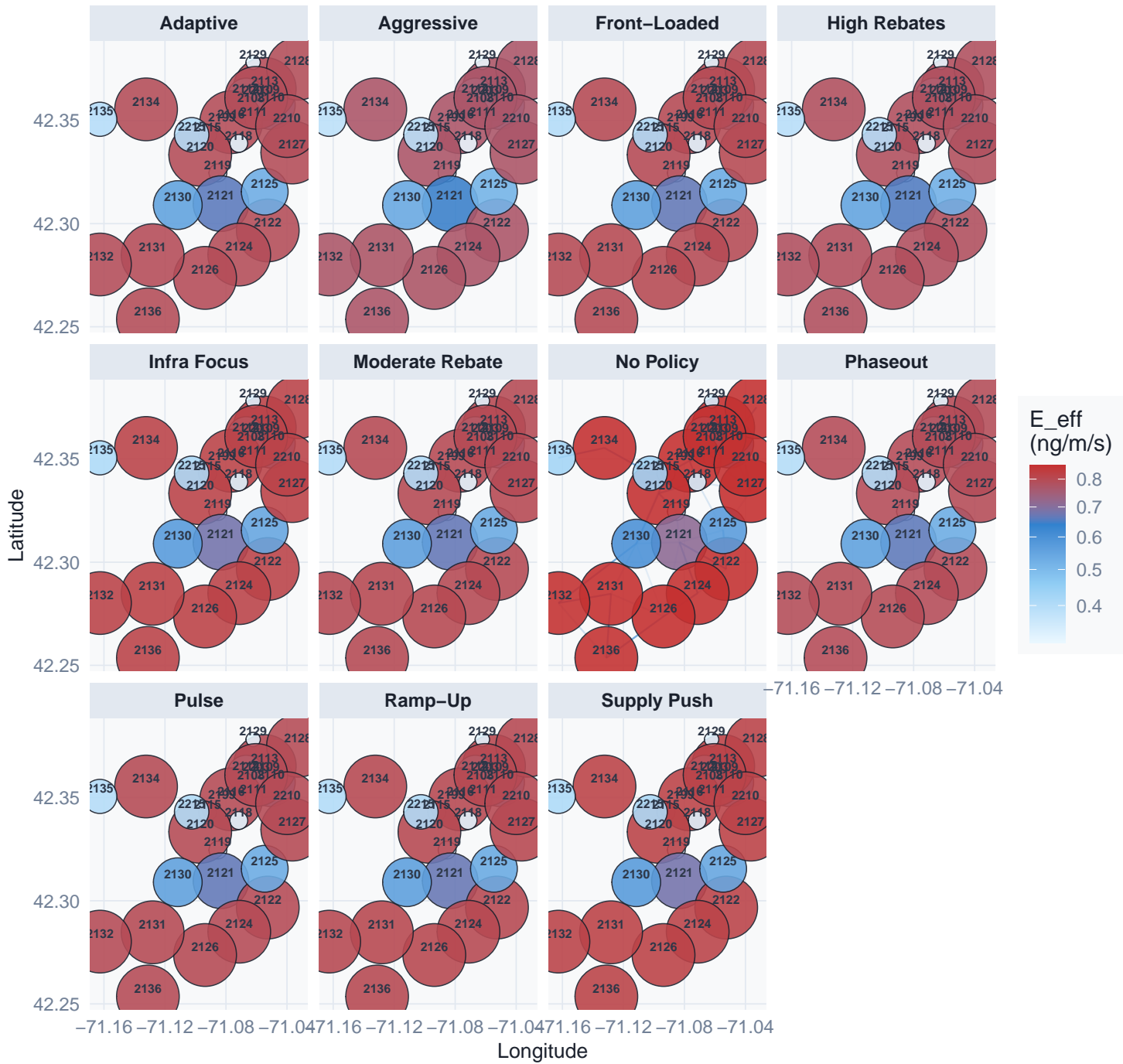PM2.5 Plume – Busiest Corridor (2127 – 2210)

659,690 vehicles/month, 1.4 km

Ground–Level PM2.5 Profile – 2127 – 2210

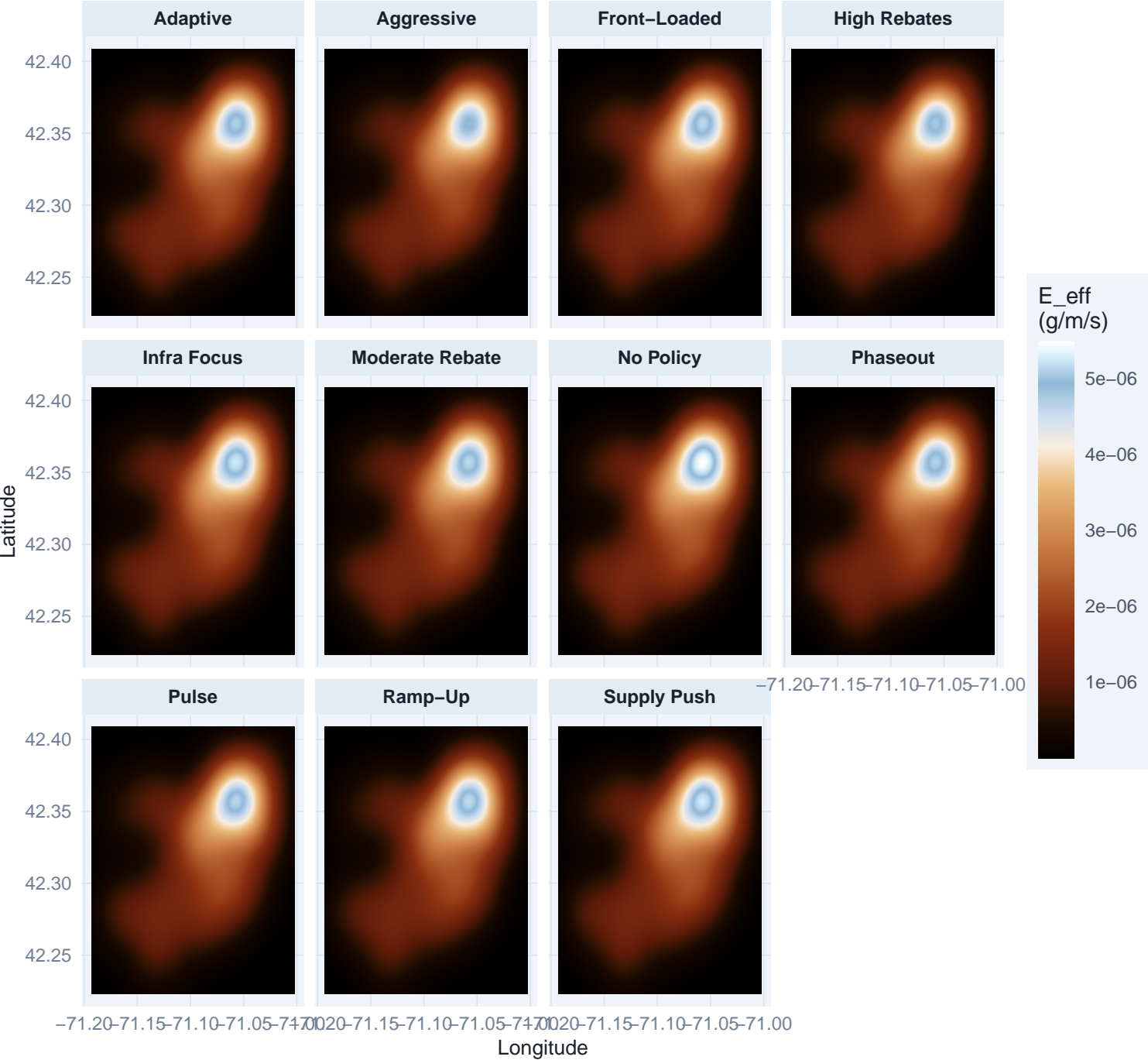Concentration along downwind axis at z = 0 (street level), converted to ug/m3

PM2.5 Concentration (ug/m3)

6 ug

4 ug

2 ug

0 ug

0   250   500   750   1000

Downwind Distance (m)

Scenario
- No Policy
- High Rebates
- Infra Focus
- Aggressive
- Moderate Rebate
- Supply Push
- Phaseout
- Ramp–Up
- Pulse
- Adaptive
- Front–Loaded

Spatial Distribution of PM2.5 Emission Burden

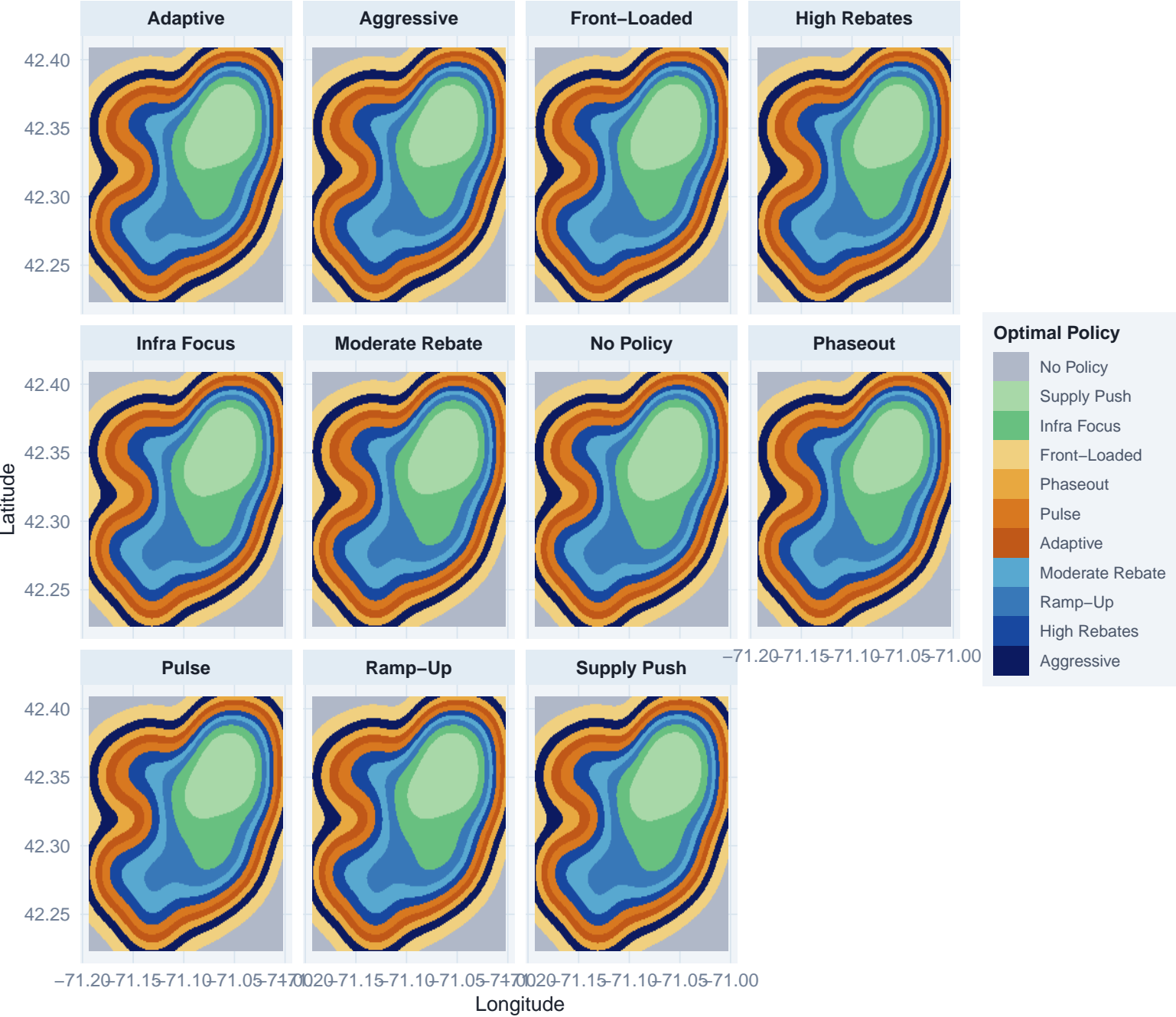Node size = outbound vehicle volume, color = total emission rate

Spatial Distribution of PM2.5 Emission Burden (Absolute)

Gaussian emission surface per zone, warmer color = more pollution

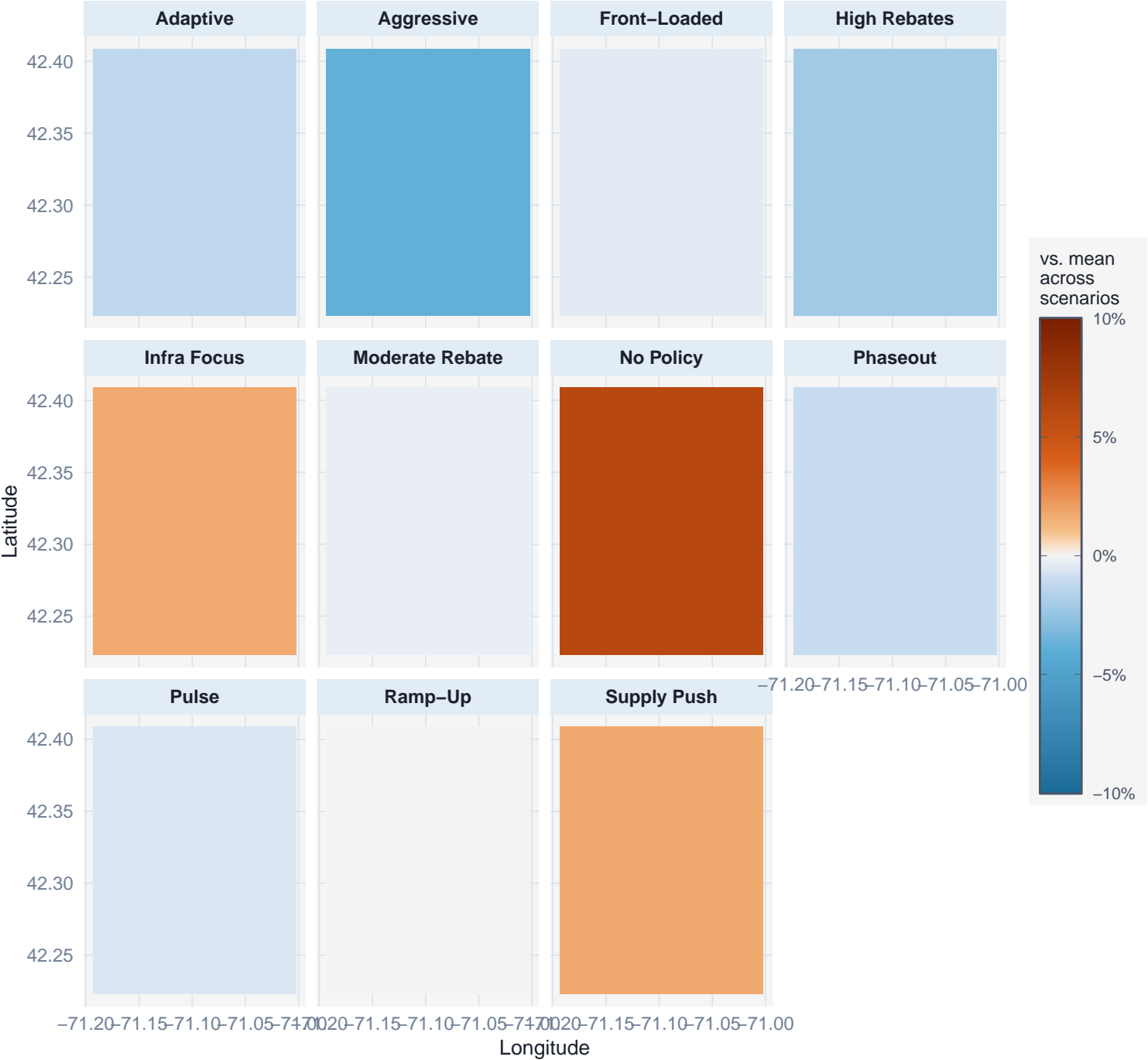**Optimal Policy Assignment by Emission Zone**

Minimising pollution & spend simultaneously | Reduction weight: 60% | Cost weight: 40%

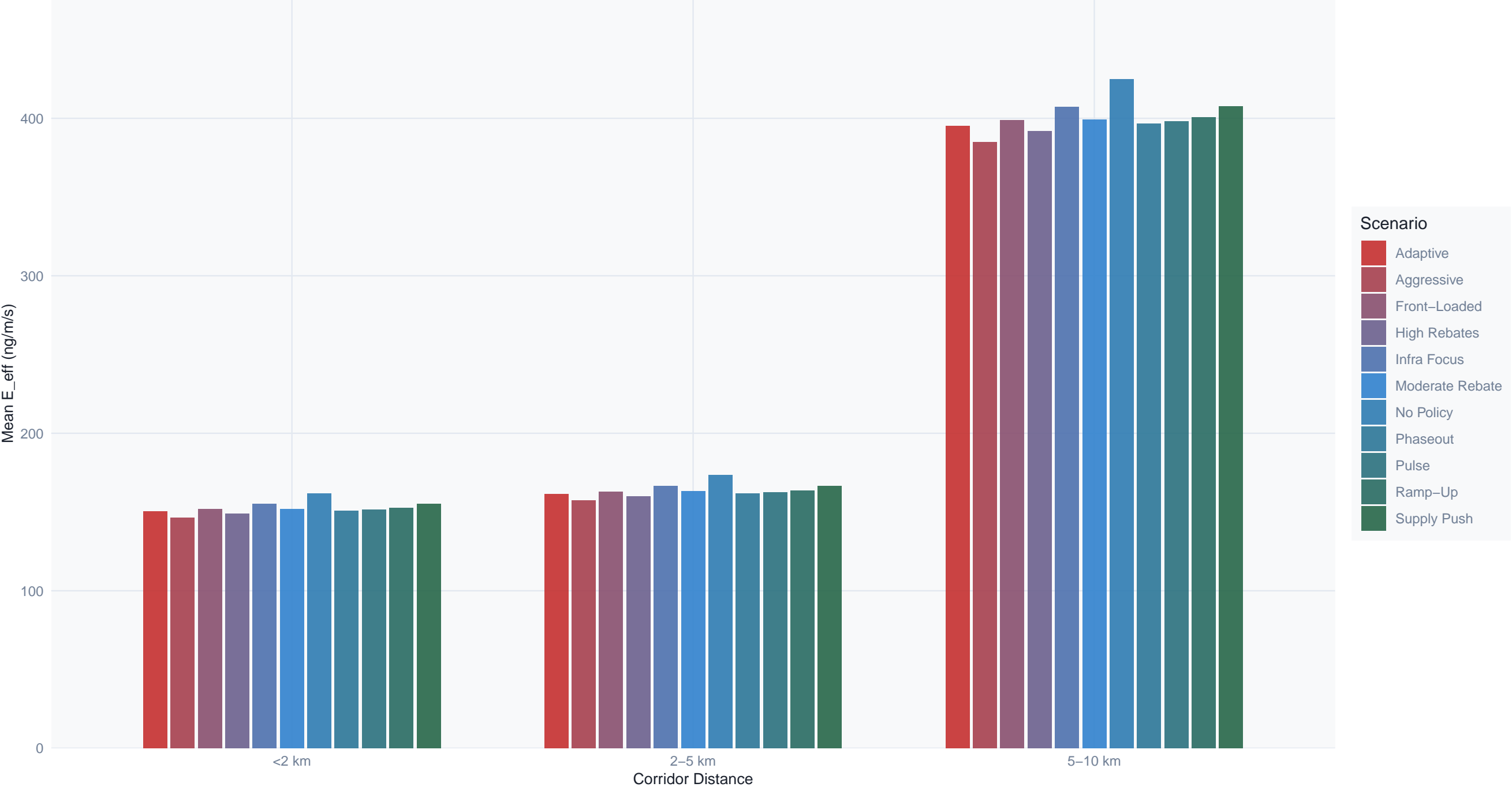Green = low–cost sufficient · Blue = high–reduction needed · Navy = most aggressive

Spatial PM2.5 Emission Burden: Deviation from Cross–Scenario Mean

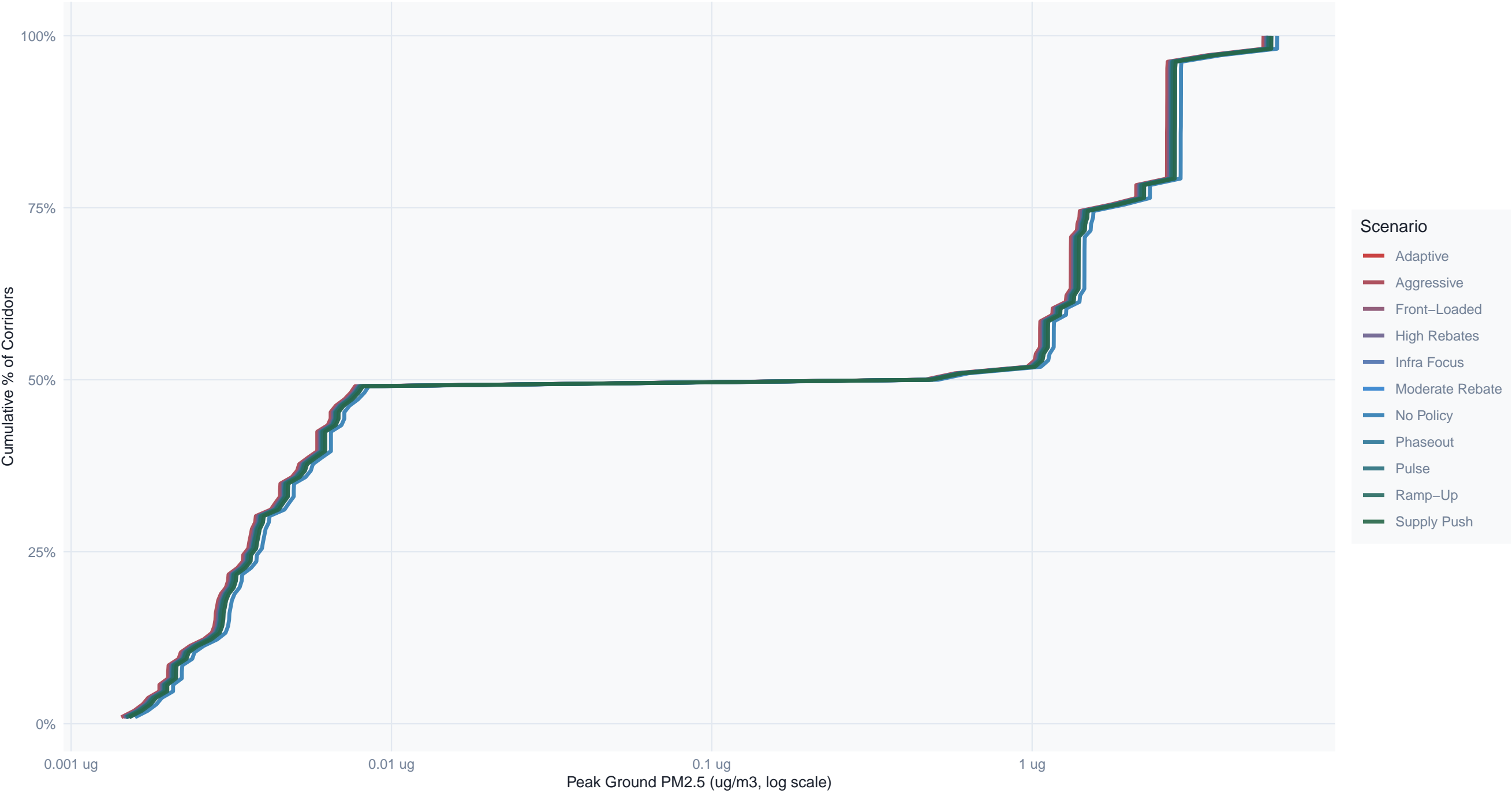Orange/red = above average; blue = below average at each map cell

Mean Emission Rate by Corridor Distance Band

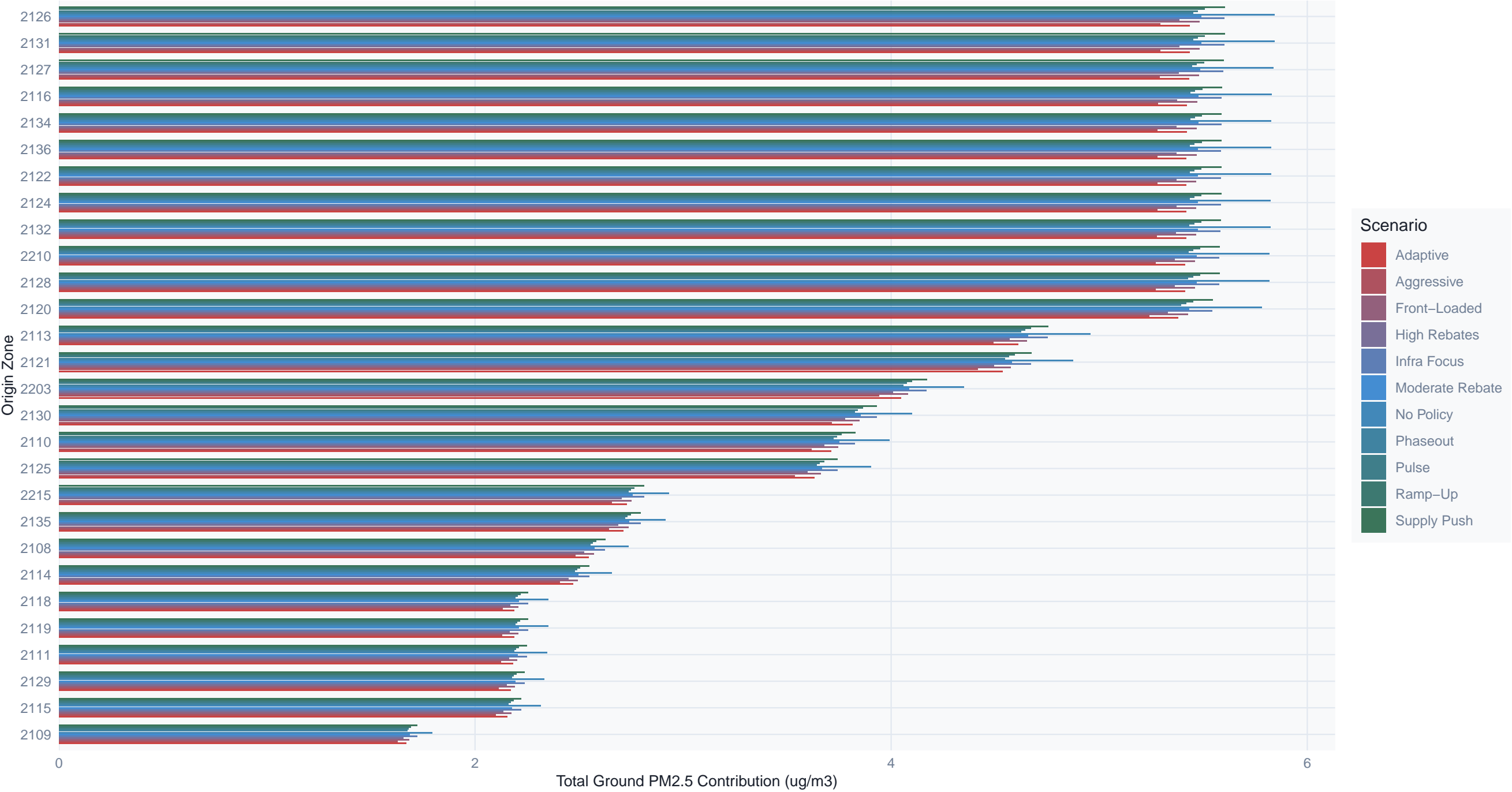Average E_eff per corridor length category

Cumulative Distribution of Peak Ground–Level PM2.5

Each point = one corridor, rightward shift = worse air quality

PM2.5 Burden by Origin Zone

Sum of peak ground concentrations across all outbound corridors per zone

Vehicle Volume vs. Peak Ground PM2.5 by Corridor

Both axes log scale, color = corridor distance