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Material Between Tracker Towers

Assumptions:

- Mass of Al closeout for a 40cm tower: 275 g
- Mass of C closeout for a 40cm tower: 140 g
- Radiation length of Al: 24 g/cm^2
- Radiation length of C: 42.7 g/cm^2
- Electronics board: 1.35% R.L. over an area of 67.8 cm^2
- Backing plate: 0.04 cm of G10 under each electronics board.

I average the mass over projected side area of a tray to obtain radiation lengths. Also, I account for the fact that the circuit board and backing plate go on only two of four sides of each tray.

	Aluminum	Carbon Fiber
Closeout	2.2%	0.64%
Circuit Board	0.43%	0.43%
Backing plate	0.07%	0.07%
1.5 mm thick wall	1.7%	0.65%
Total	4.4%	1.8%

Hence the total amount of material from the active volume of one tower to the active volume of a neighbor would increase from 3.6% to 8.8% in going from the current carbon-fiber design to an aluminum design.