



Improving health worldwide

THE LANCET

Impact on Public Health of Reducing Greenhouse Gas Emissions from Urban Land Transport



Improving health worldwide

Impact on Public Health of Car Free Cities



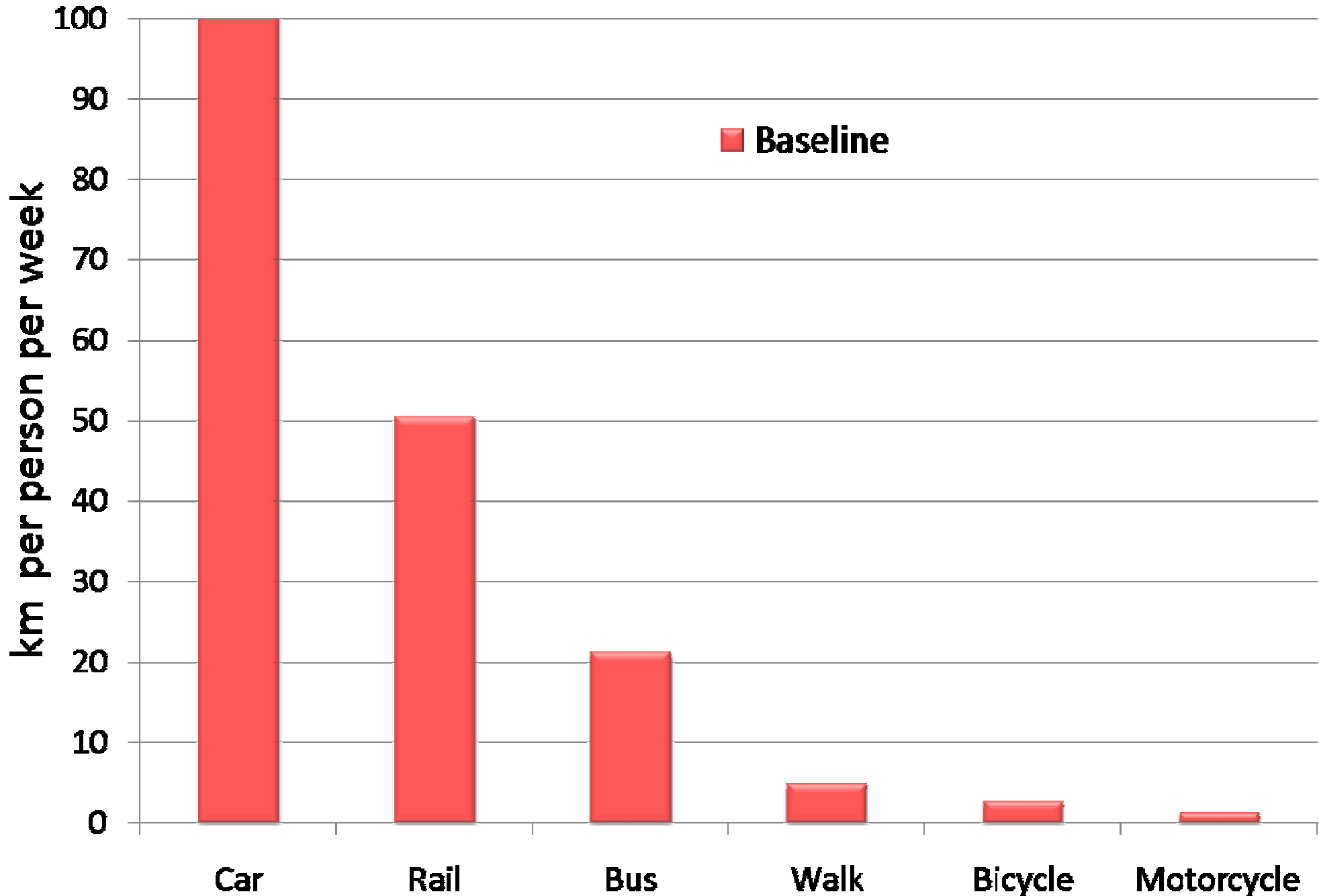
Pathways modelled



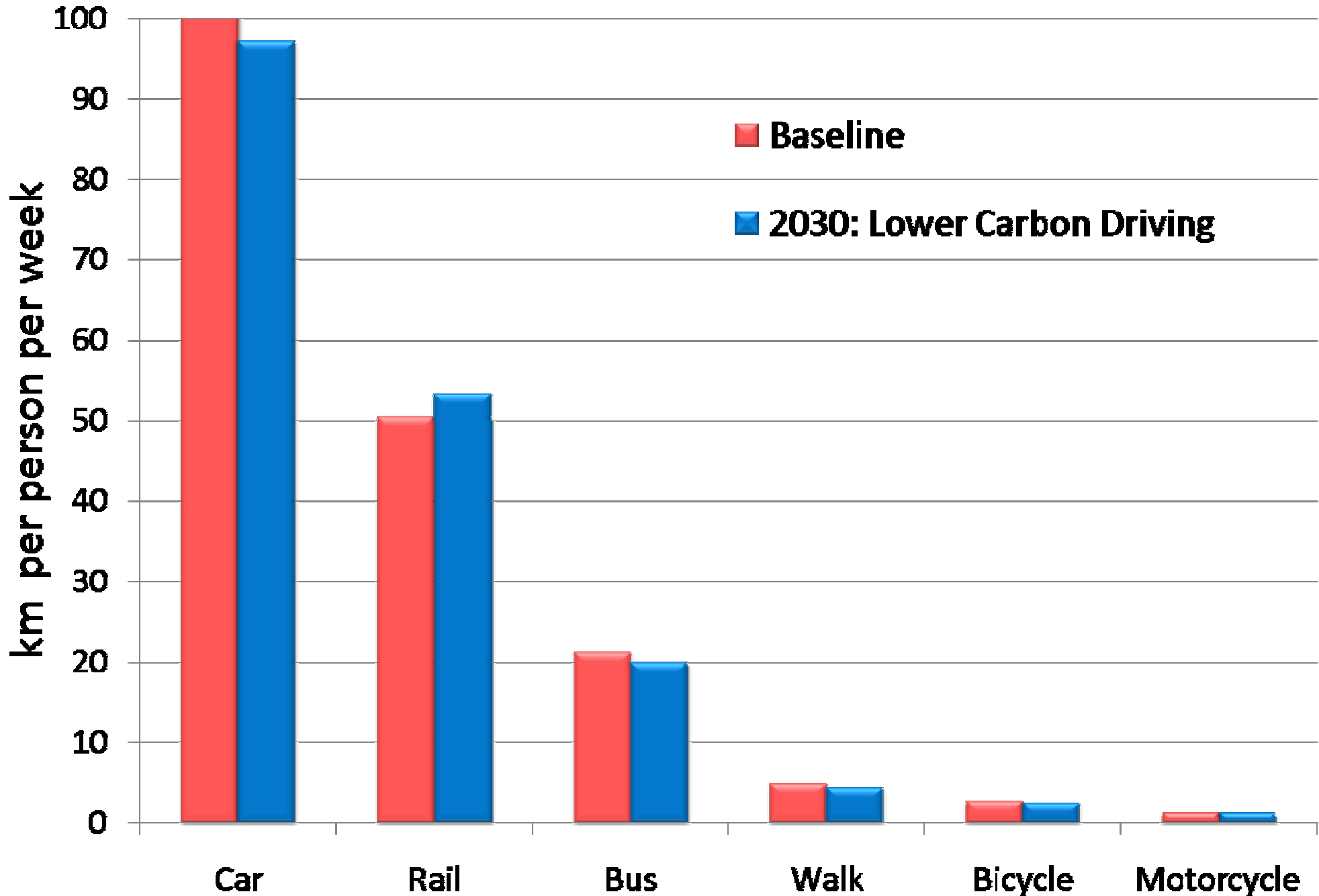
L O N D O N



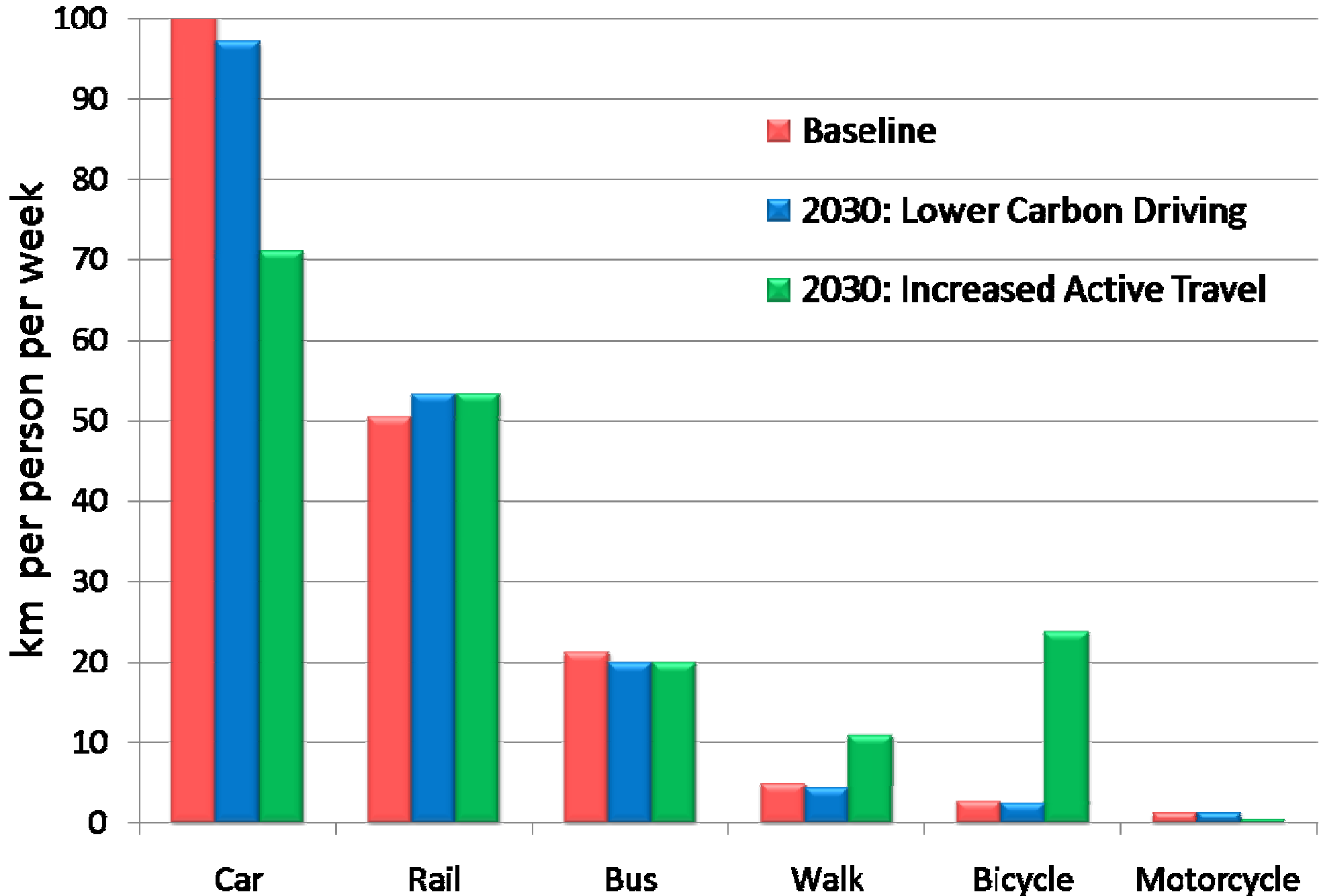
London travel patterns



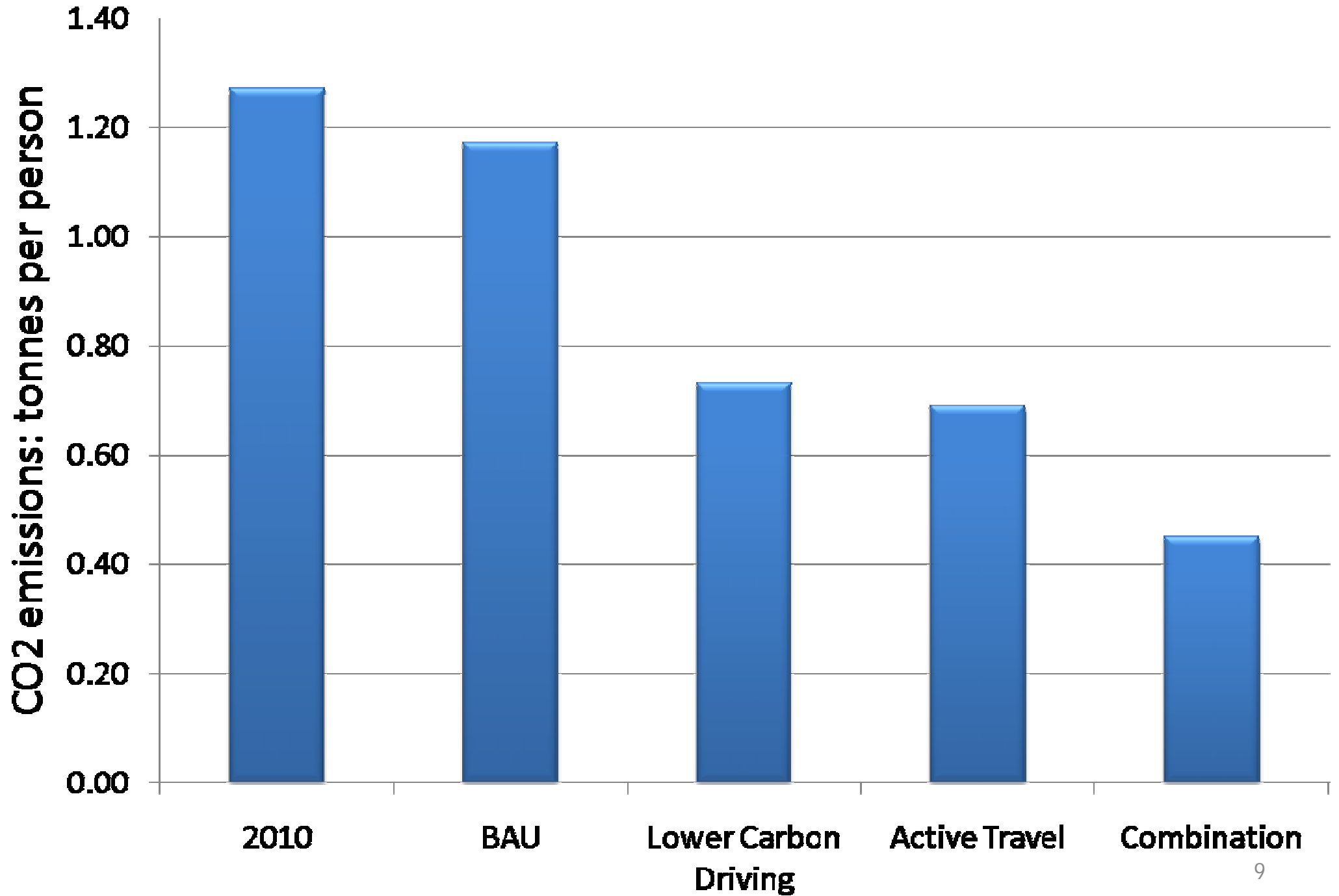
London travel patterns



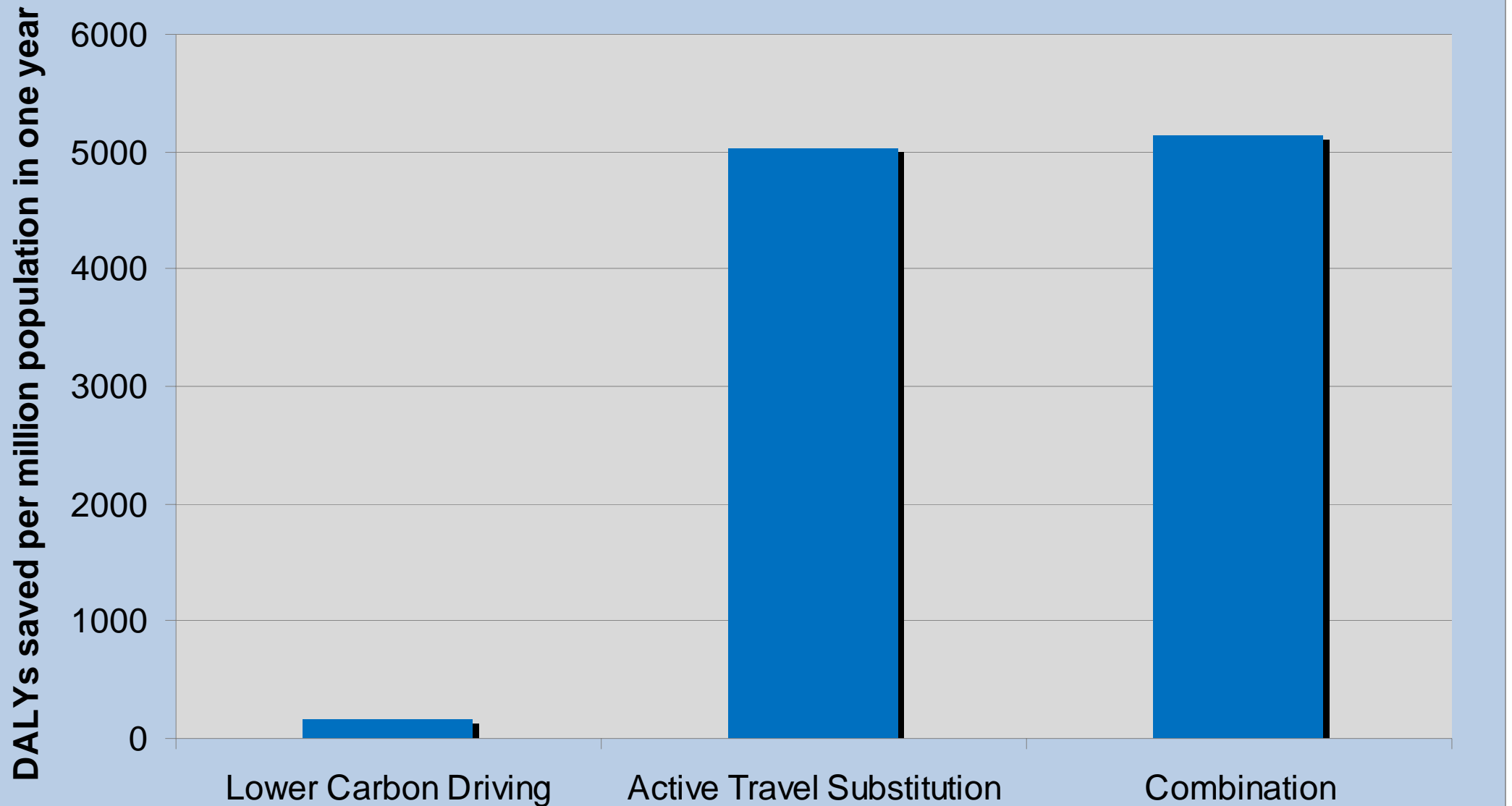
London travel patterns



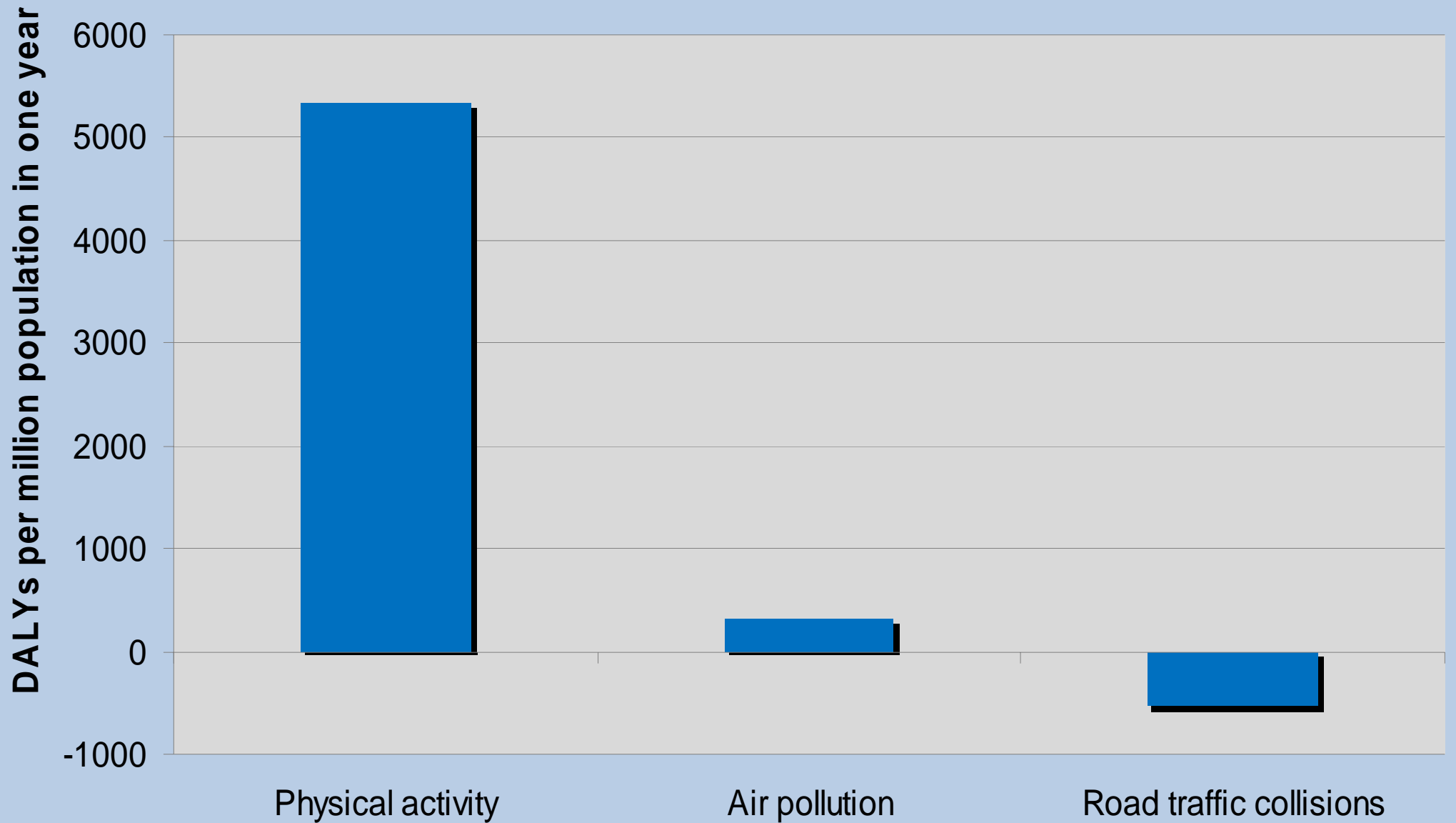
London: CO2 emissions transport



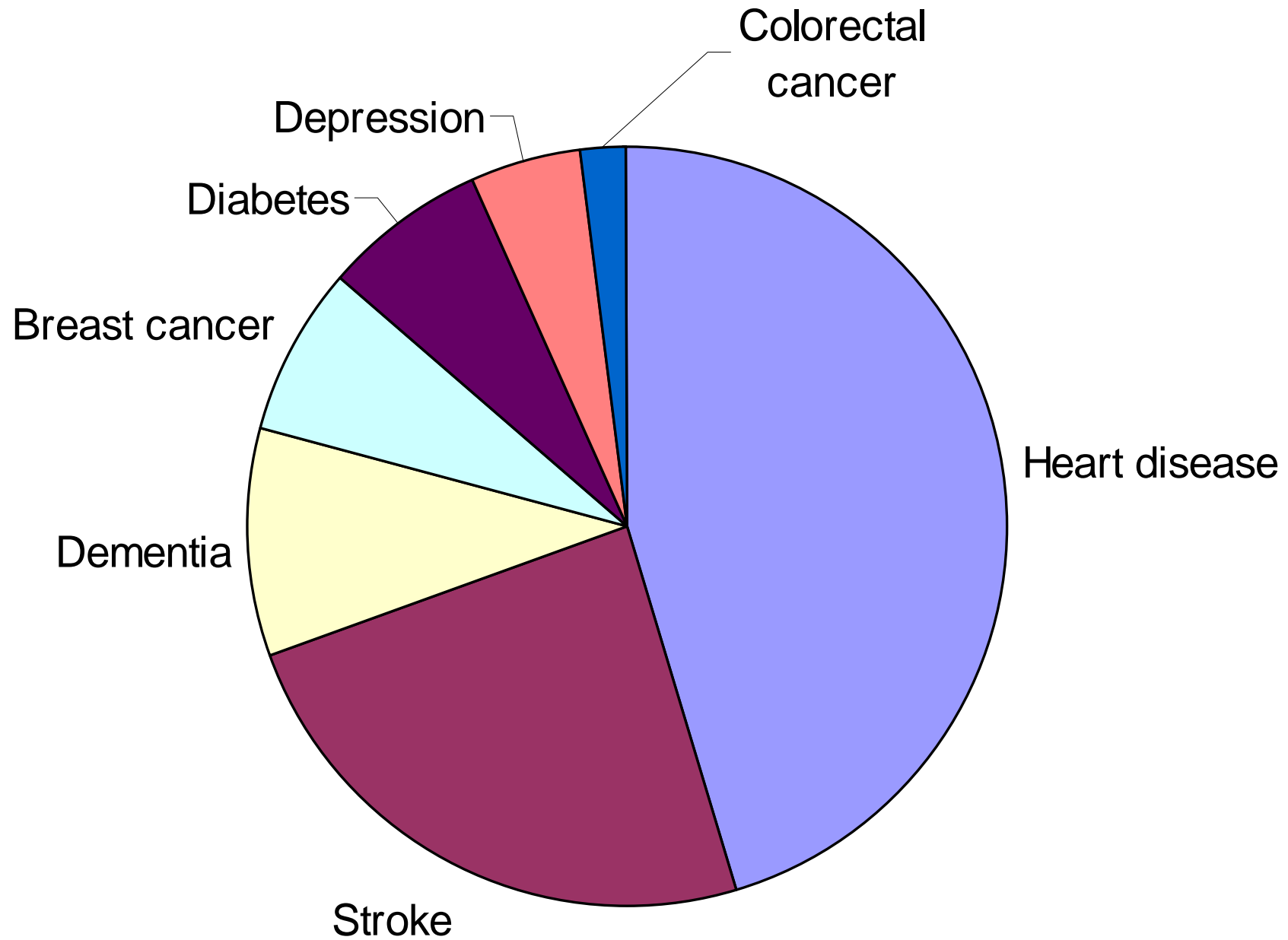
London: Alternative scenarios



London: by pathway



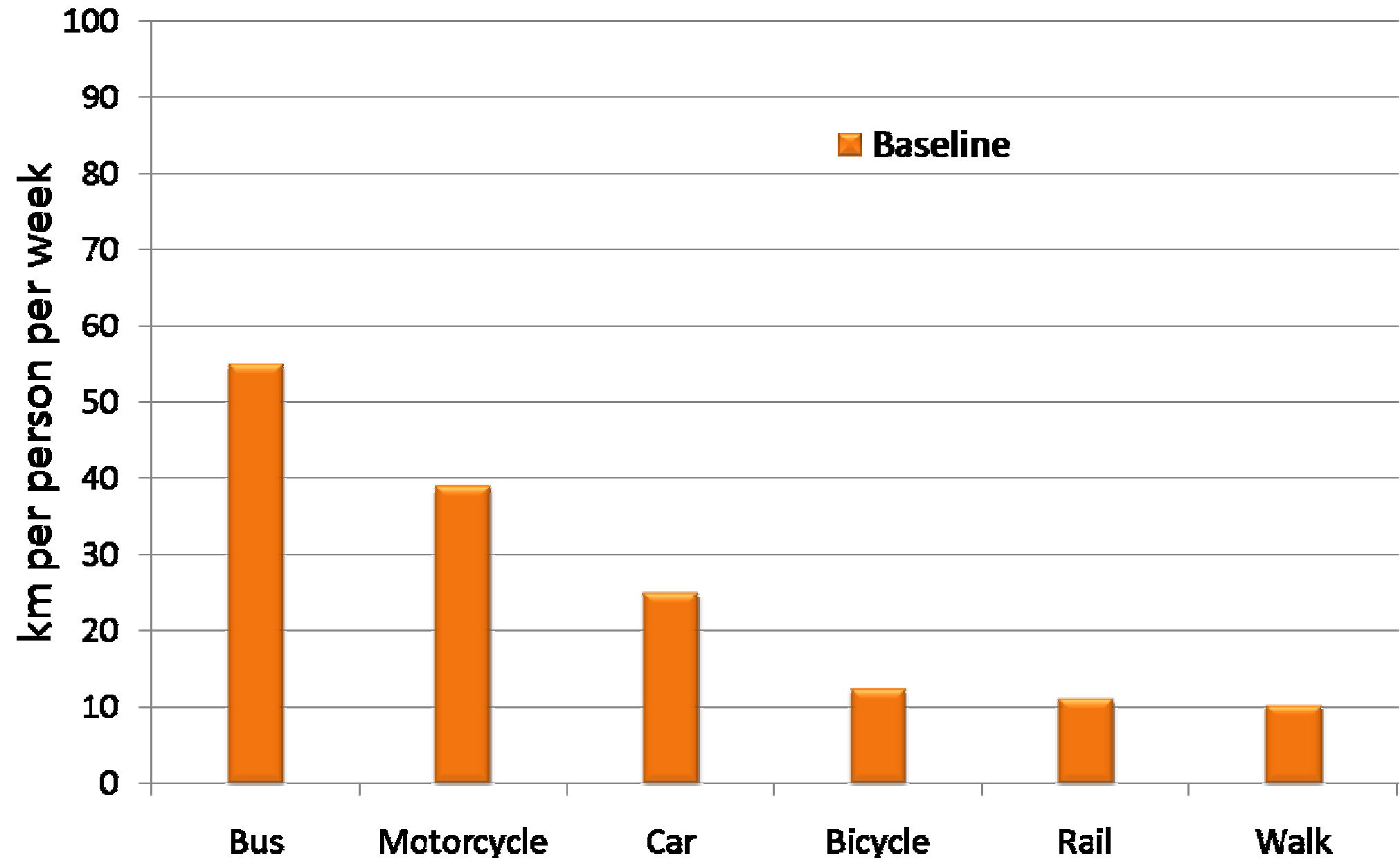
Physical activity gains: by disease



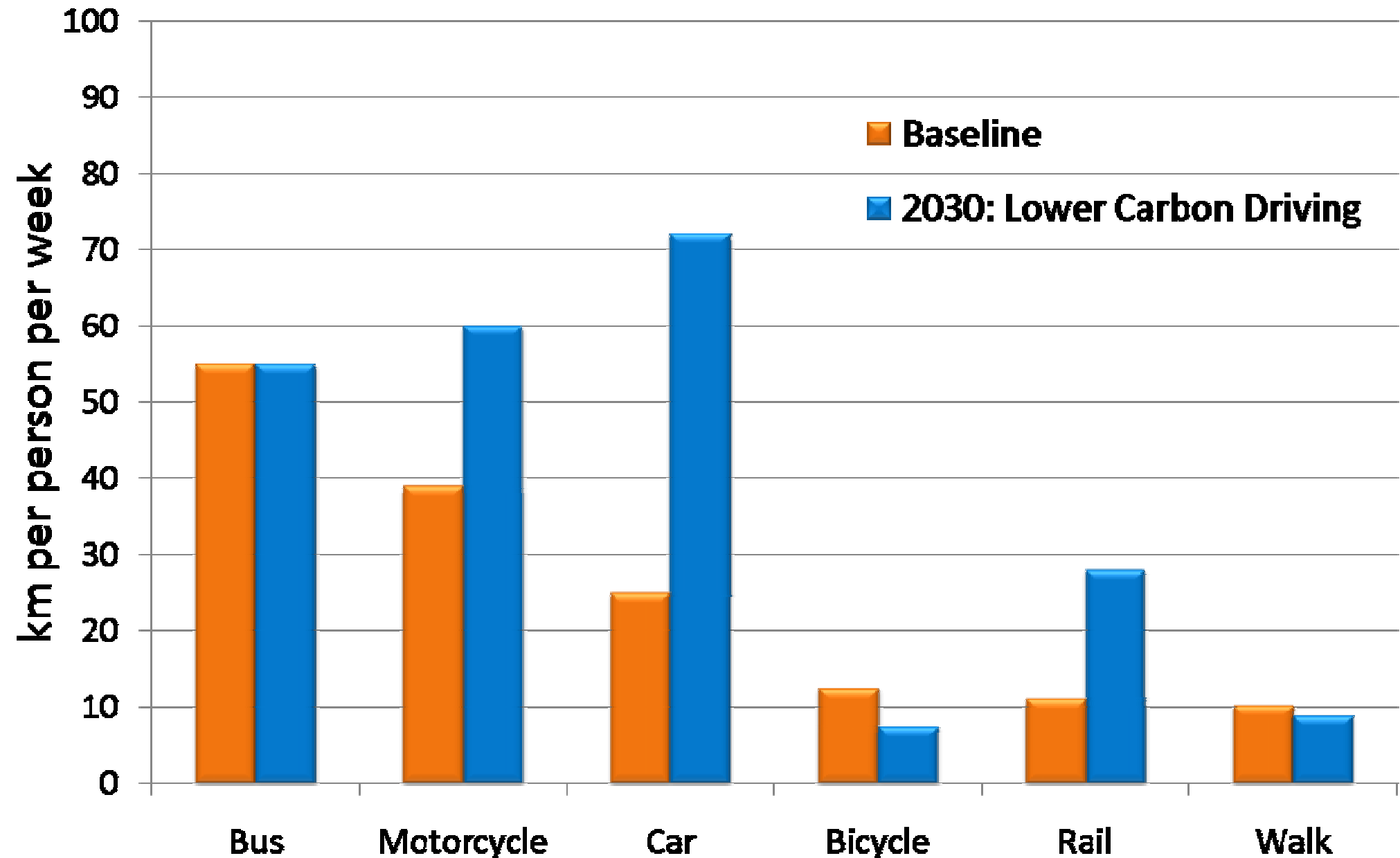


D E L H I

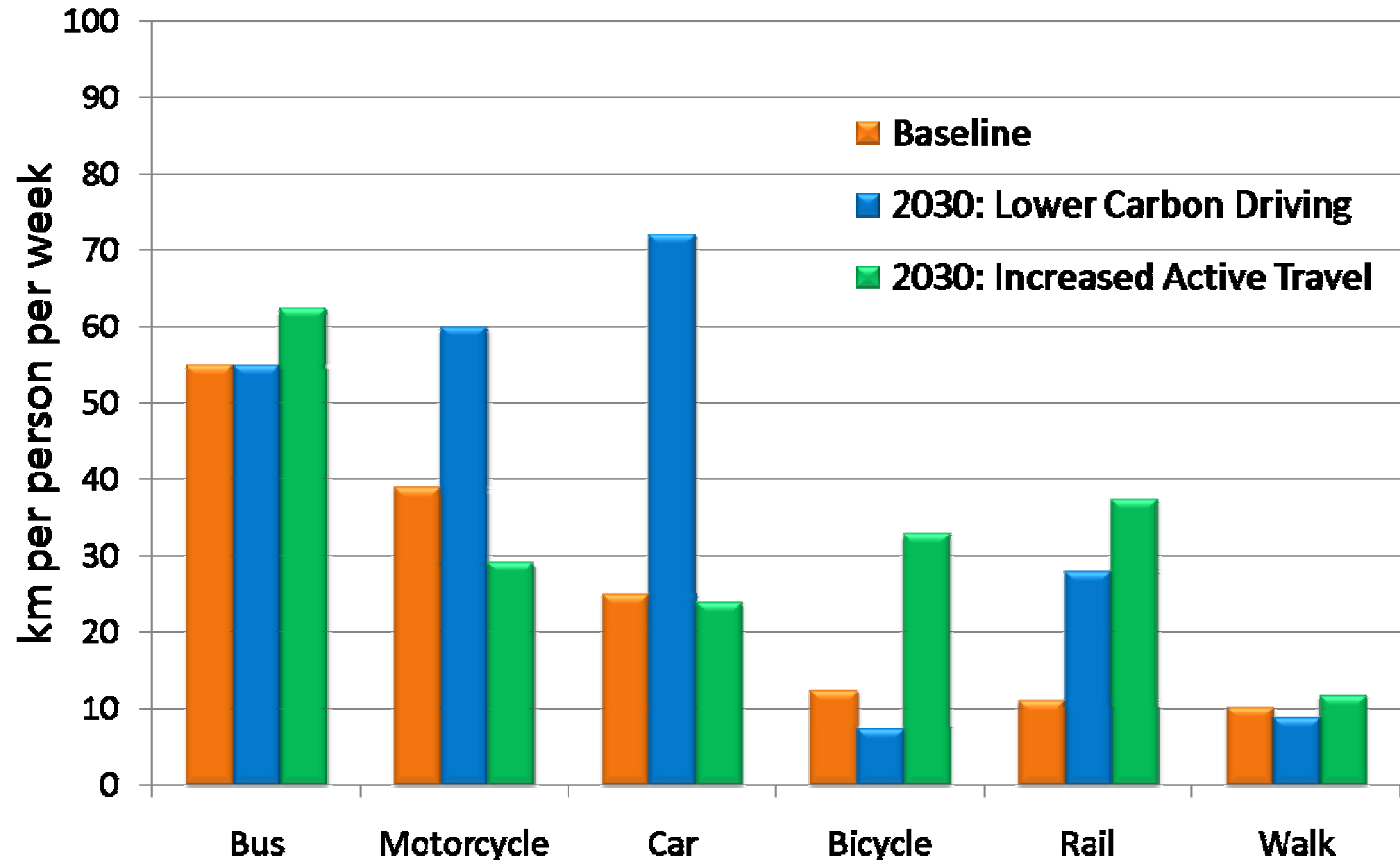
Delhi travel patterns



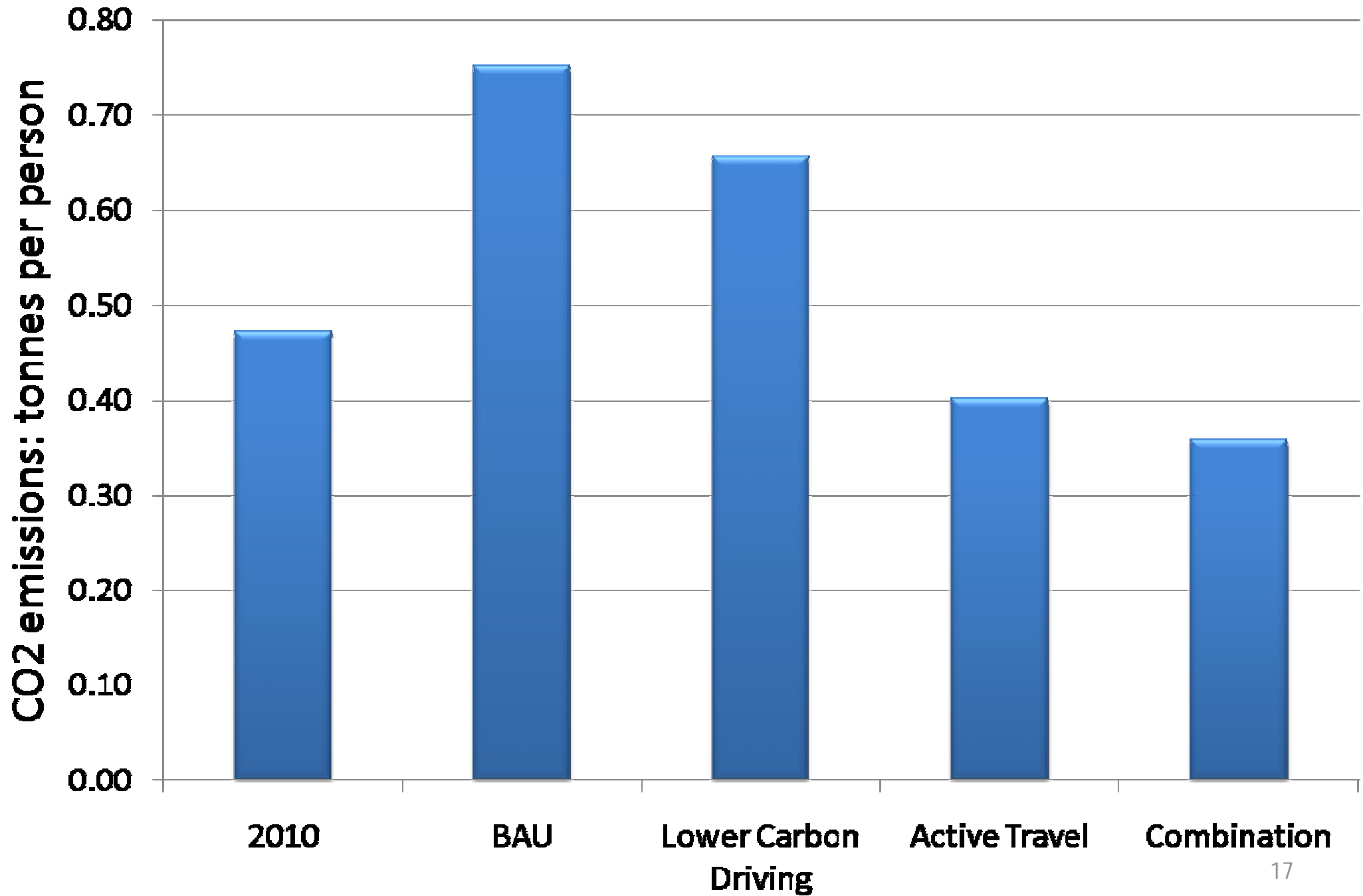
Delhi travel patterns



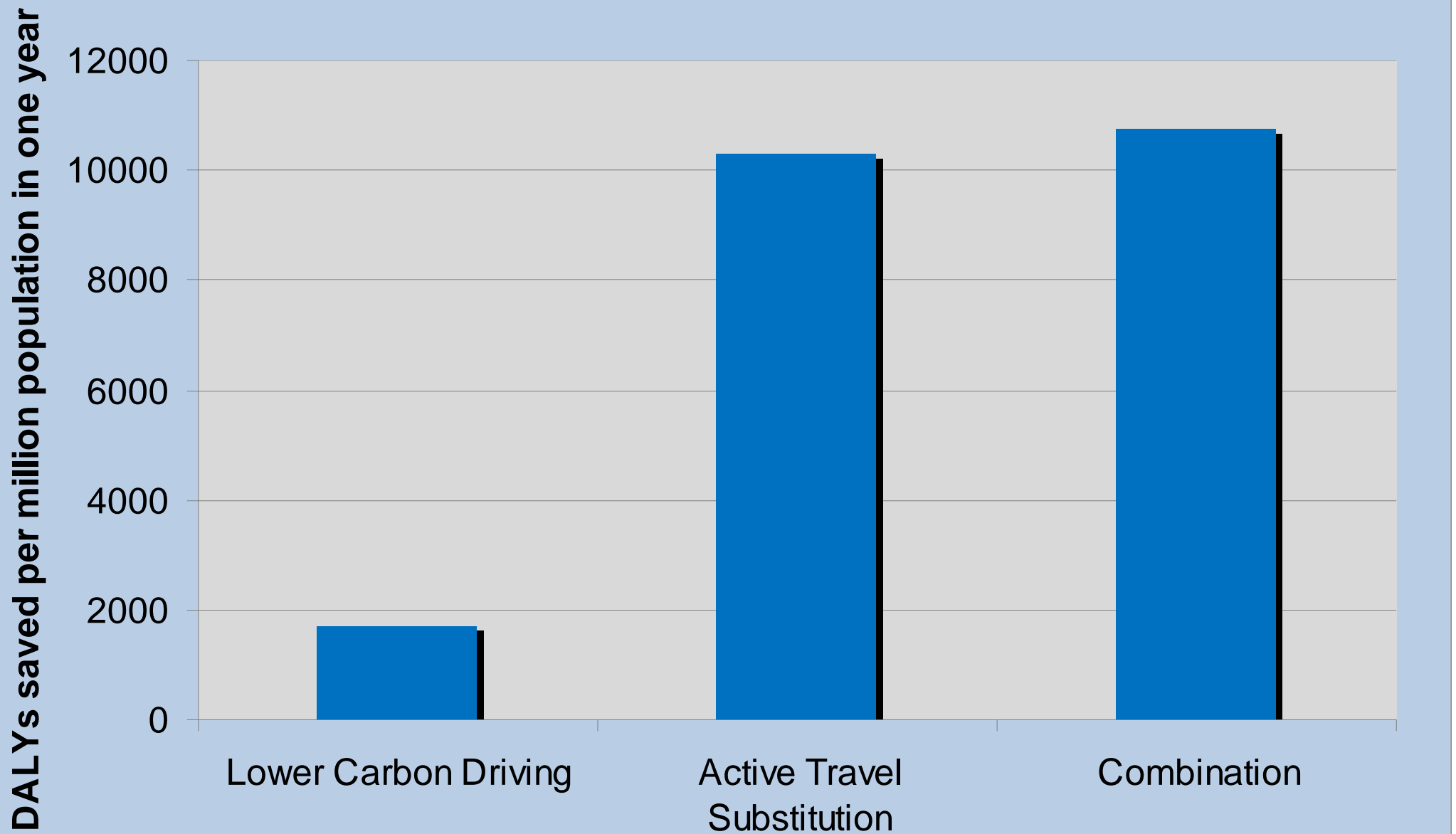
Delhi travel patterns



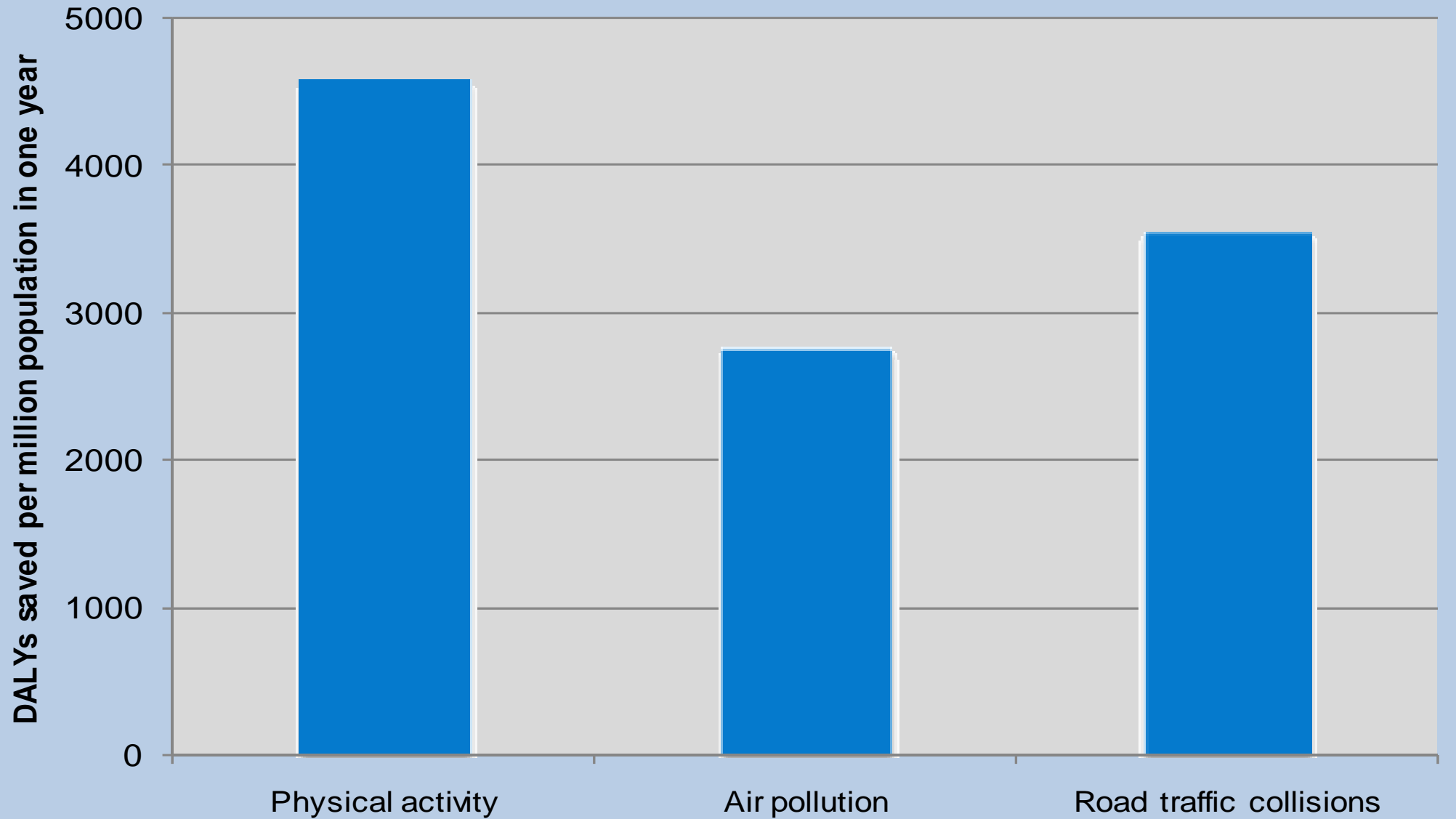
Delhi CO2 emissions transport



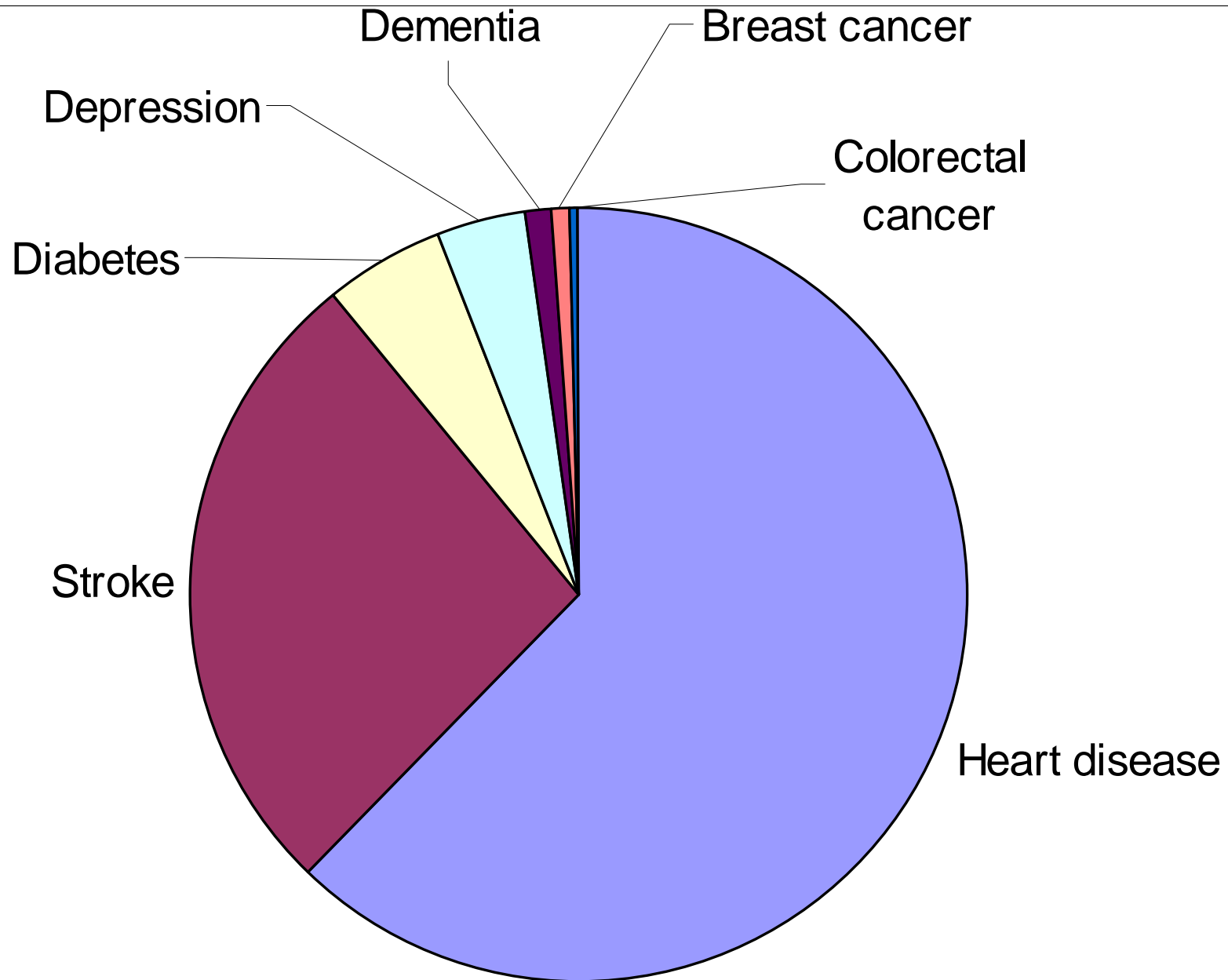
Delhi: Alternative scenarios



Delhi: by pathway



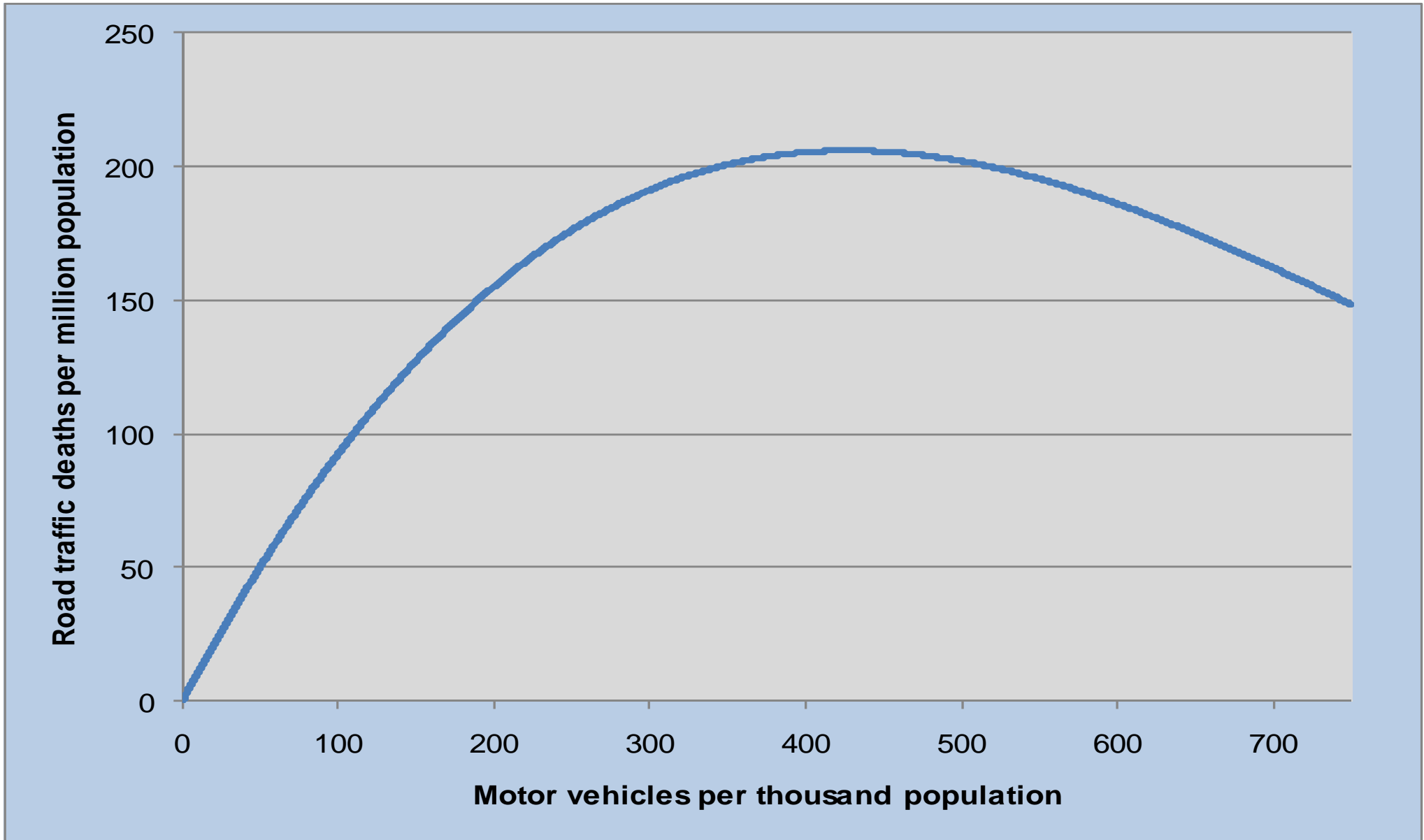
Physical activity gains: by disease



Summary

- Climate change mitigation in transport win-win for health and environment
- Modal shift achieves bigger health benefits than lower carbon driving
- But injuries might go up in some settings

Cross sectional national data



Few cyclists: high danger but few casualties

































More cyclists: less danger but more casualties?



Many cyclists: low danger and few casualties



Road traffic injury model

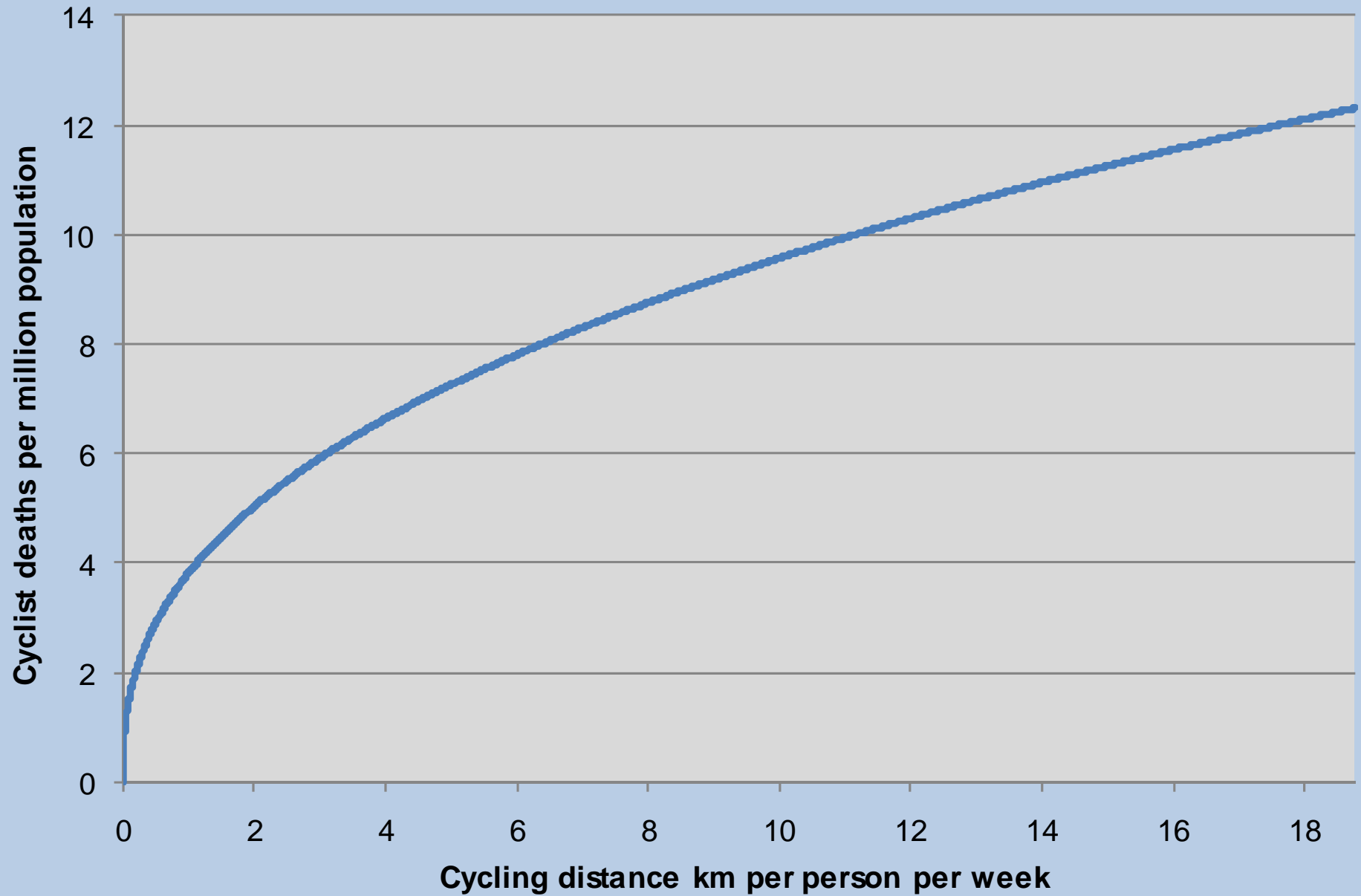
	Stage 1		Stage 2		Stage 3			Stage 5		Stage 6	
		0		0		0			0		0
		0		1R		0			0		0
		0		1R		2R			0		0
		0		1R		2R			0		0
		0		1R		2R			0		0
		0		1R		2R			5R		0
Total injuries		0		5		8			5		0



Safety in numbers?

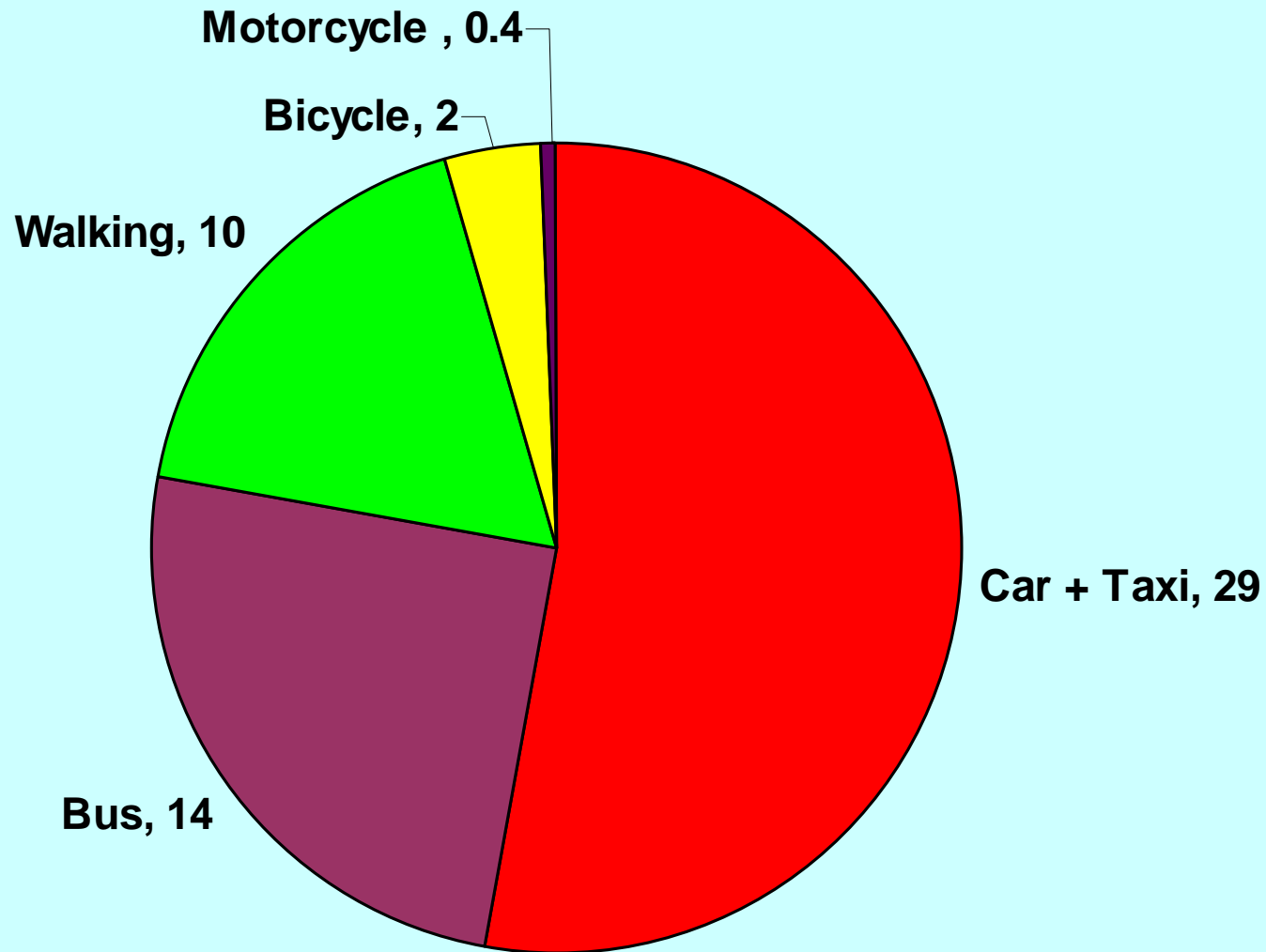


Jacobsen 2003

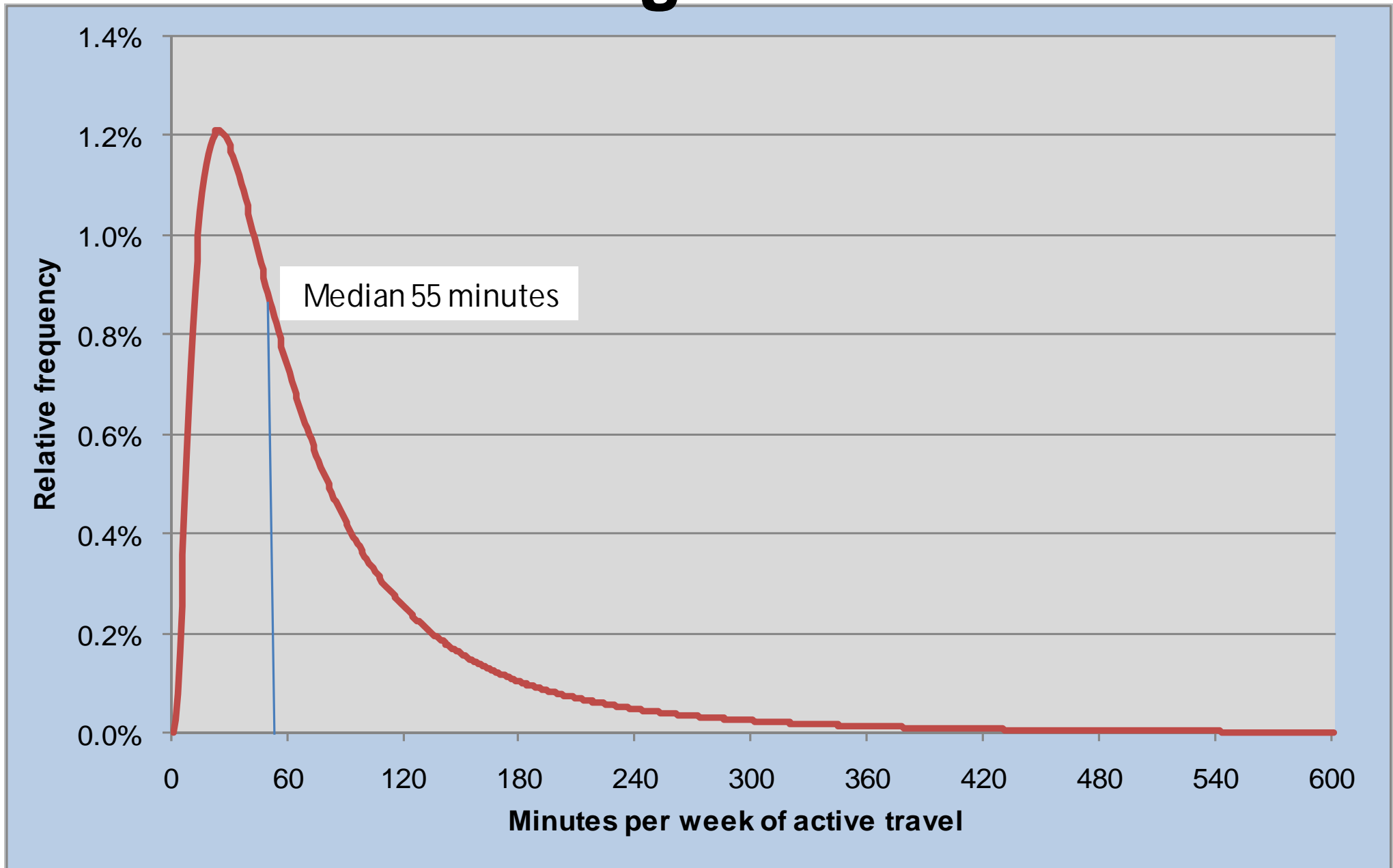




London: Minutes per day by mode



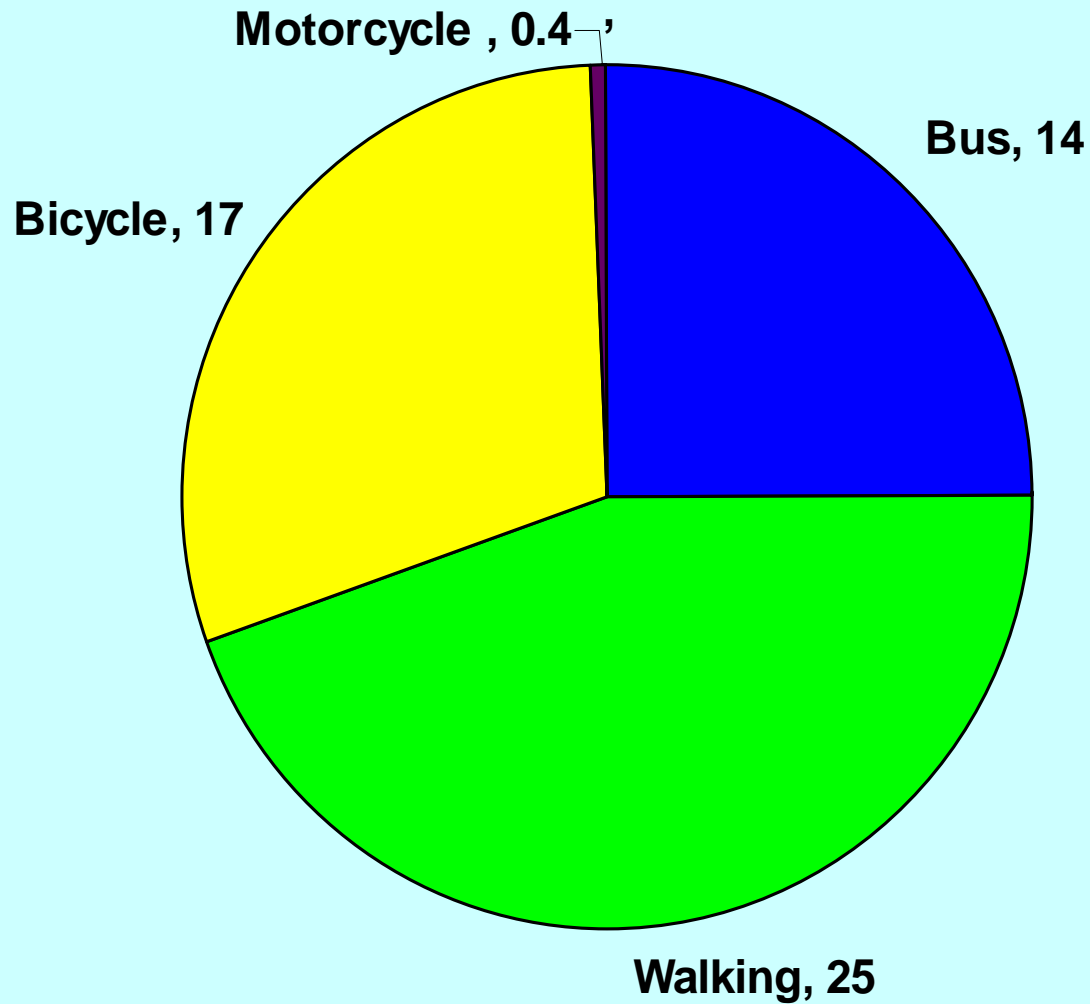
Active travel (minutes per week): Men aged 45-59



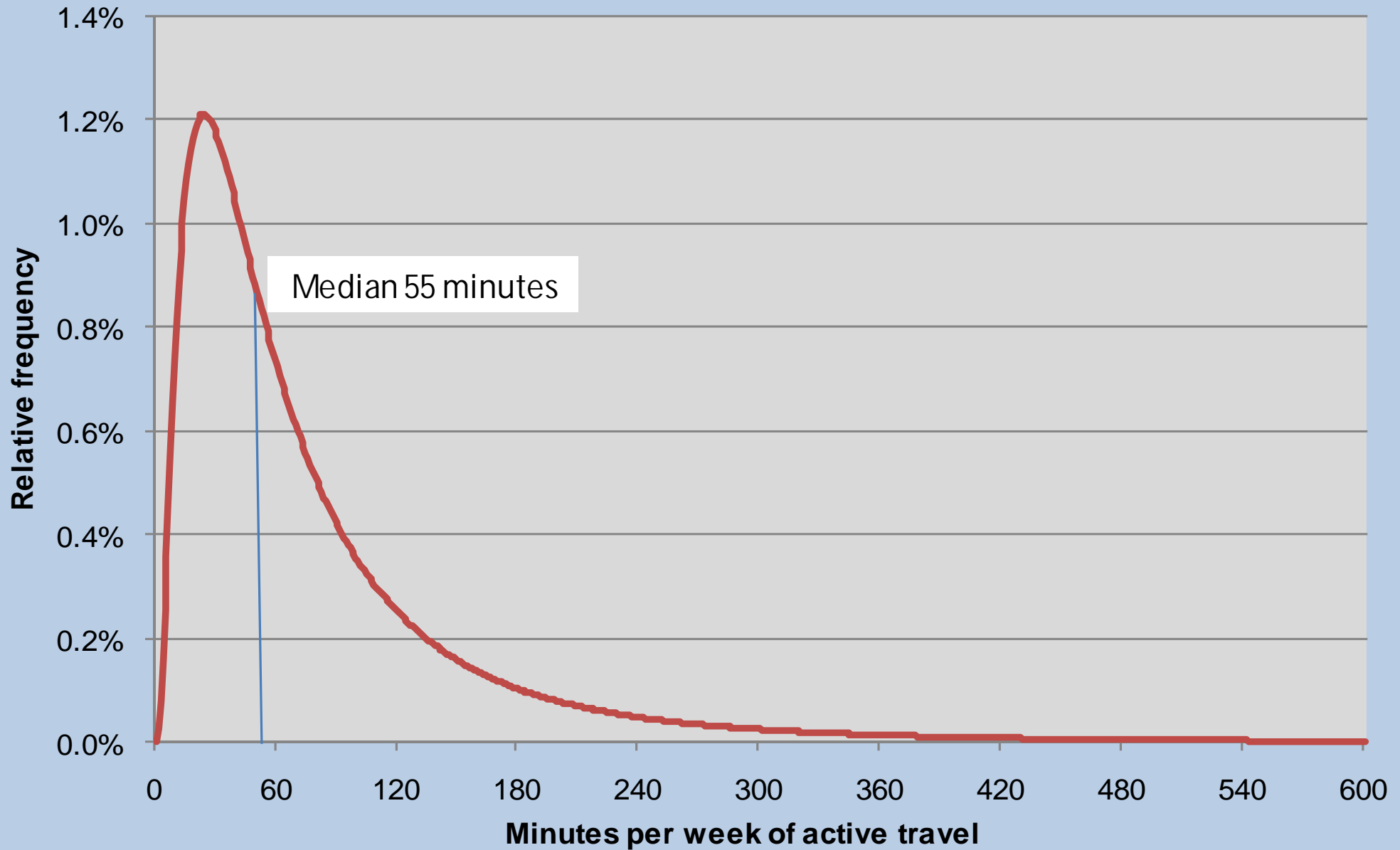


Car free

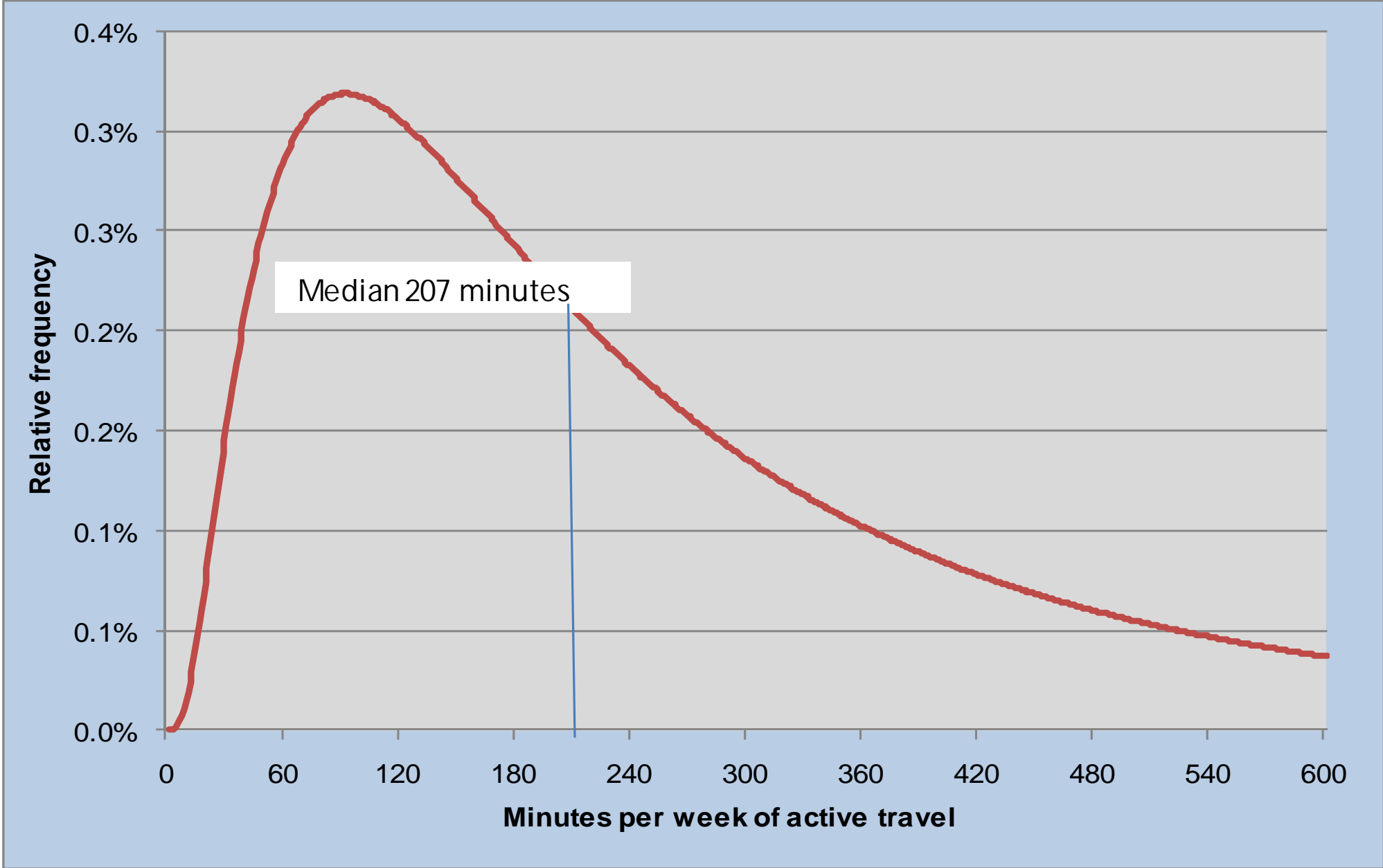
Minutes per day by mode



Baseline: Active travel (minutes per week)

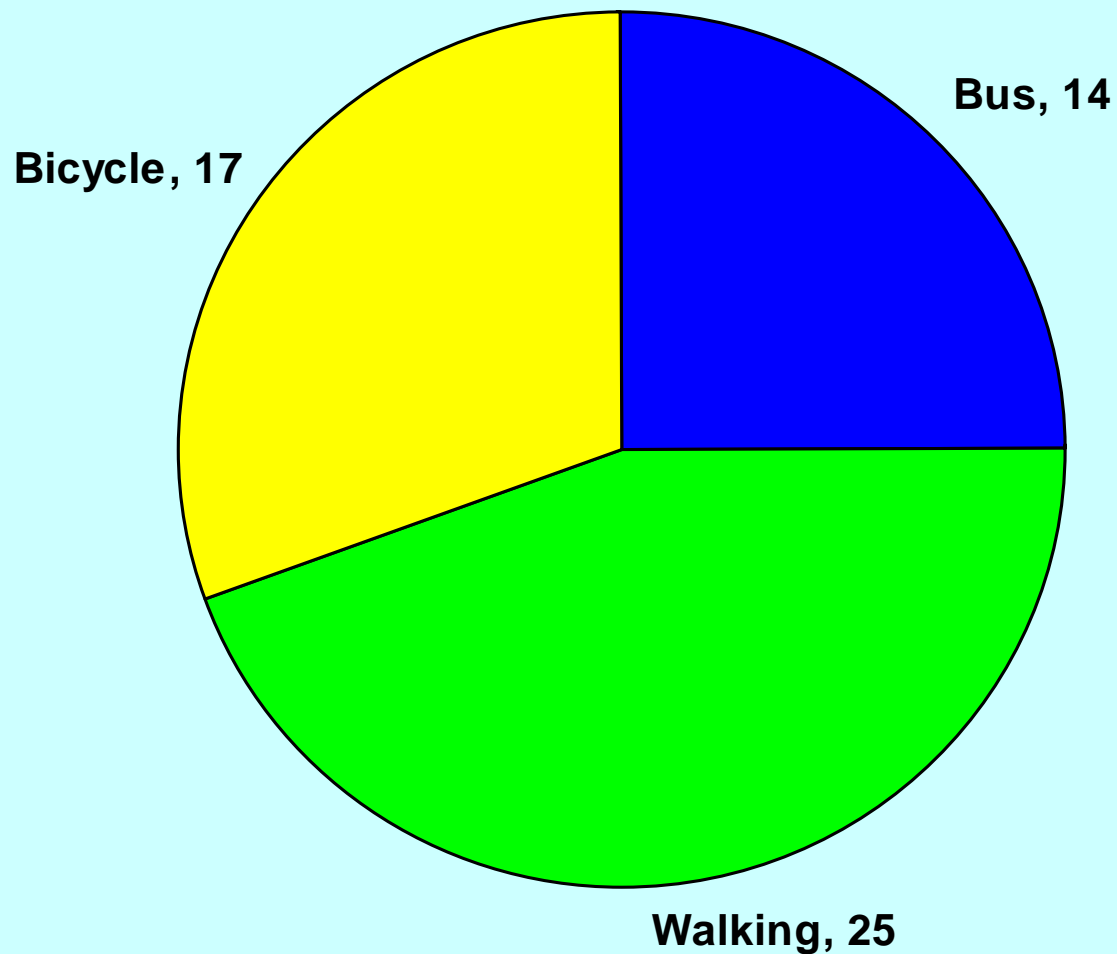


Car free to walking and cycling:

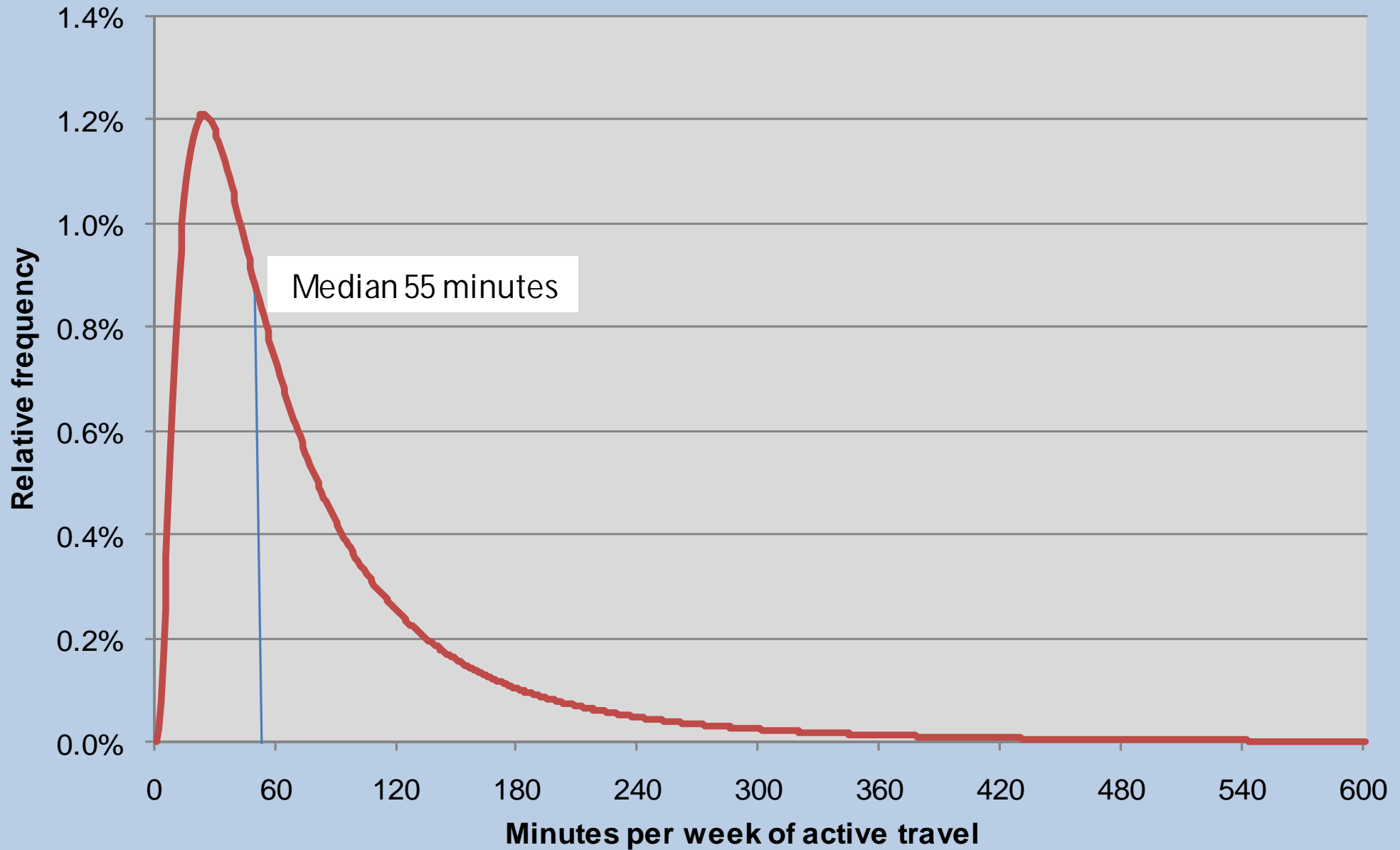


Car & motorbike free

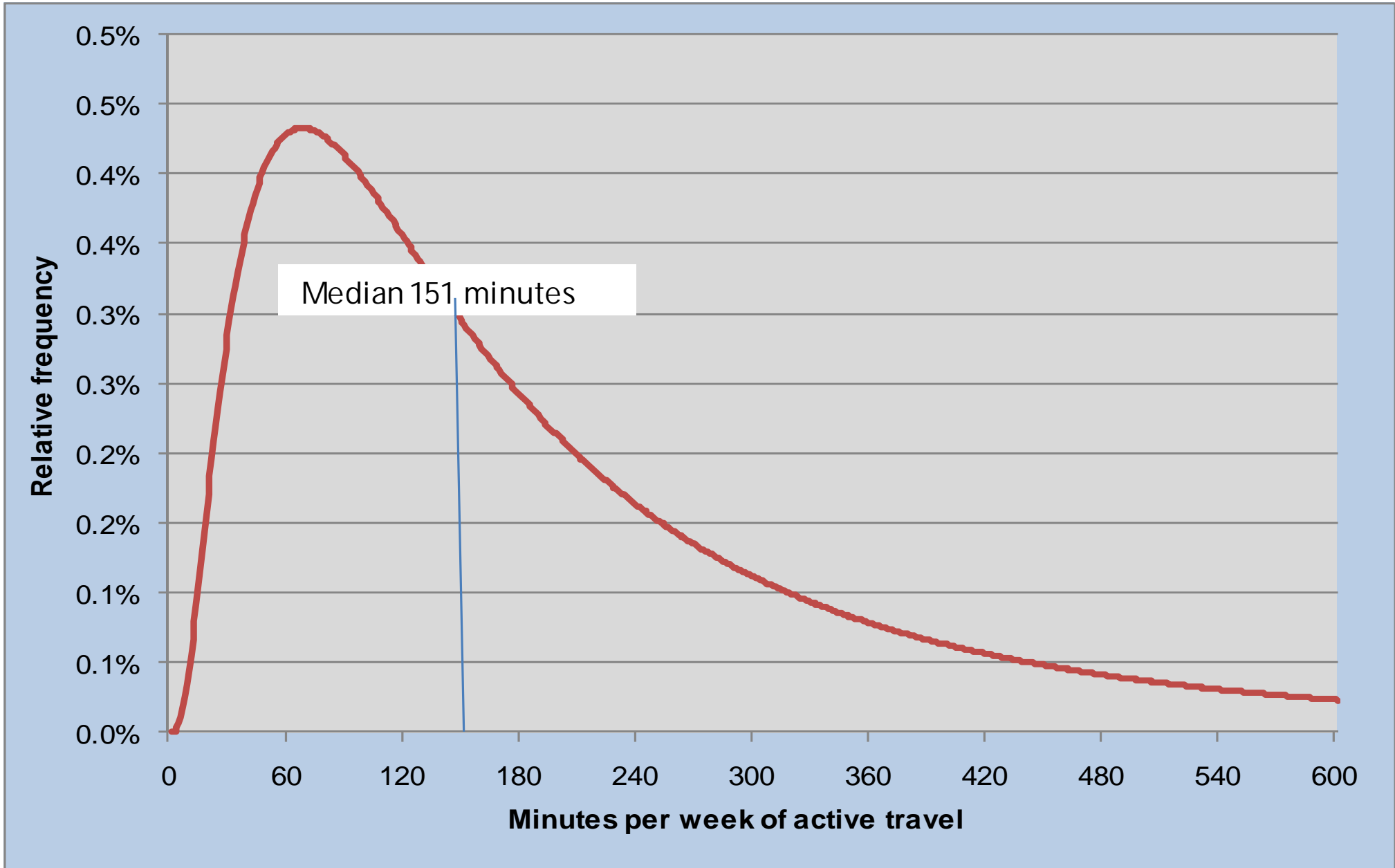
Minutes per day by mode



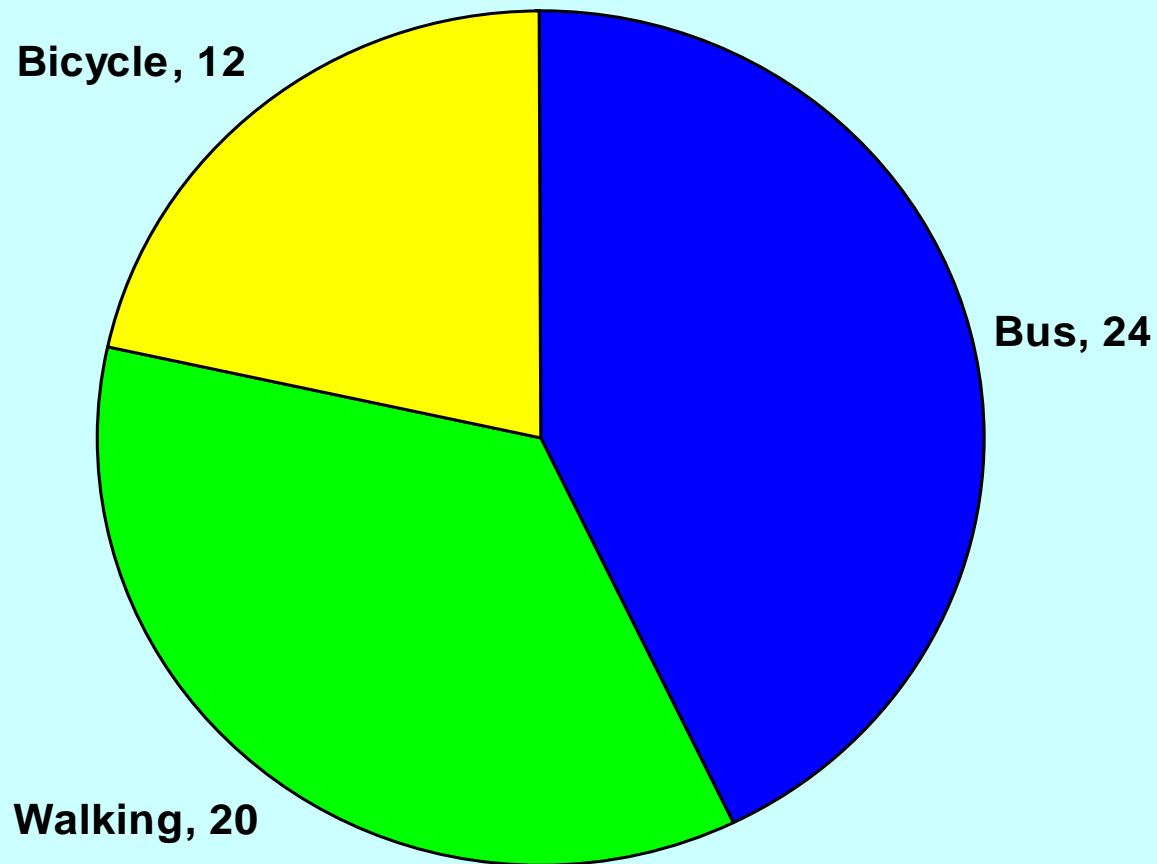
Baseline: Active travel (minutes per week)



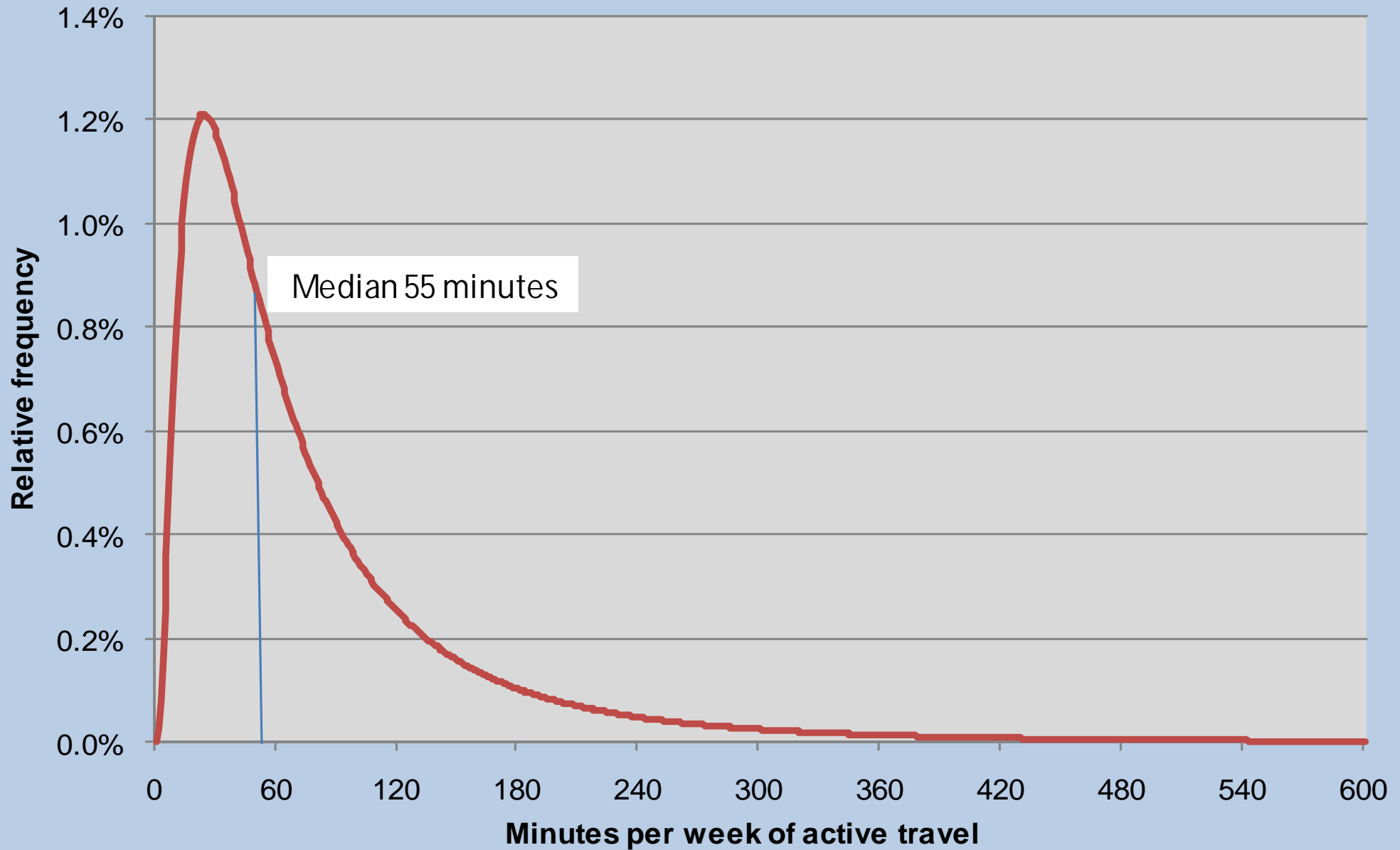
Car free to buses, walking, and cycling



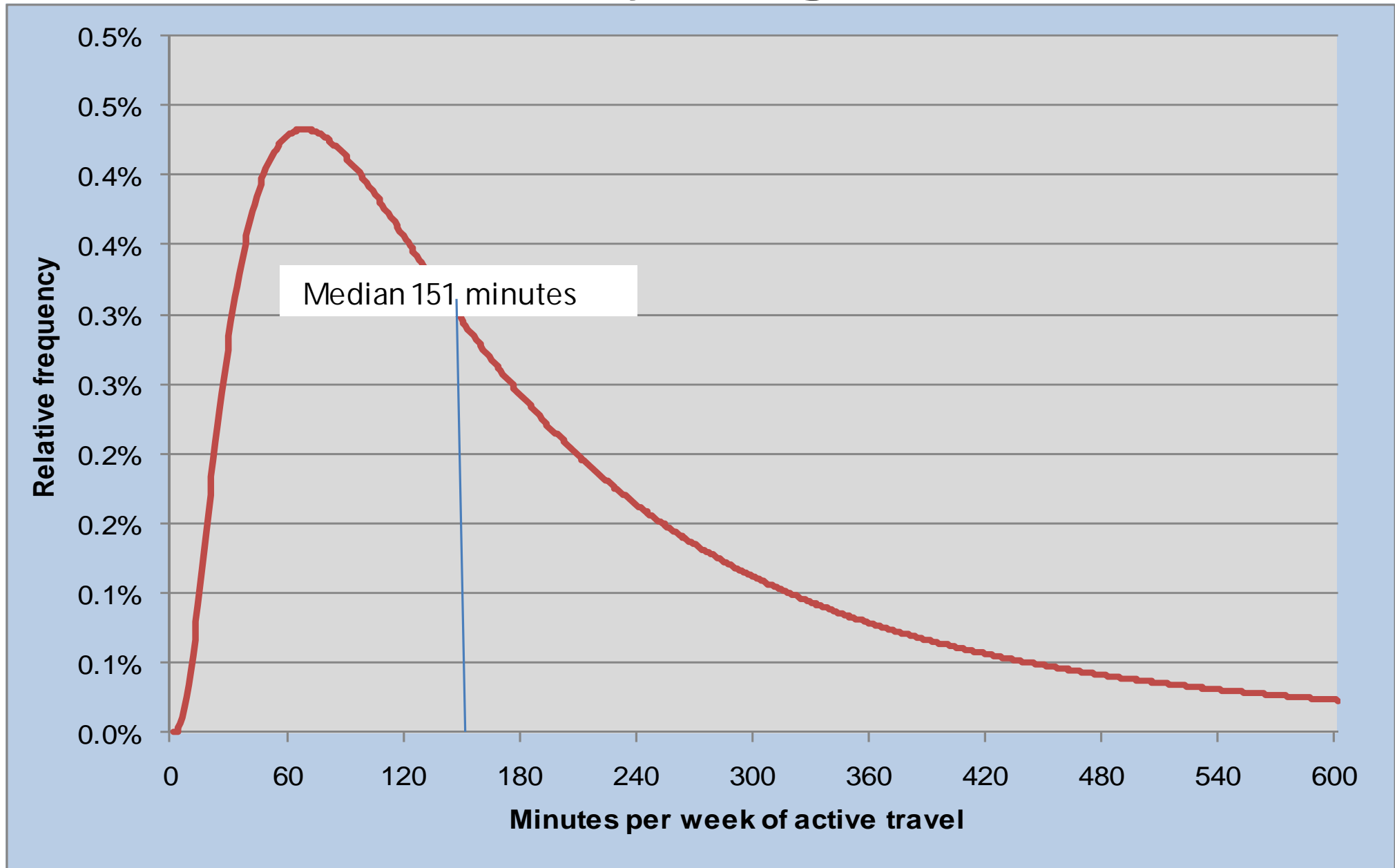
Buses, walking, and cycling



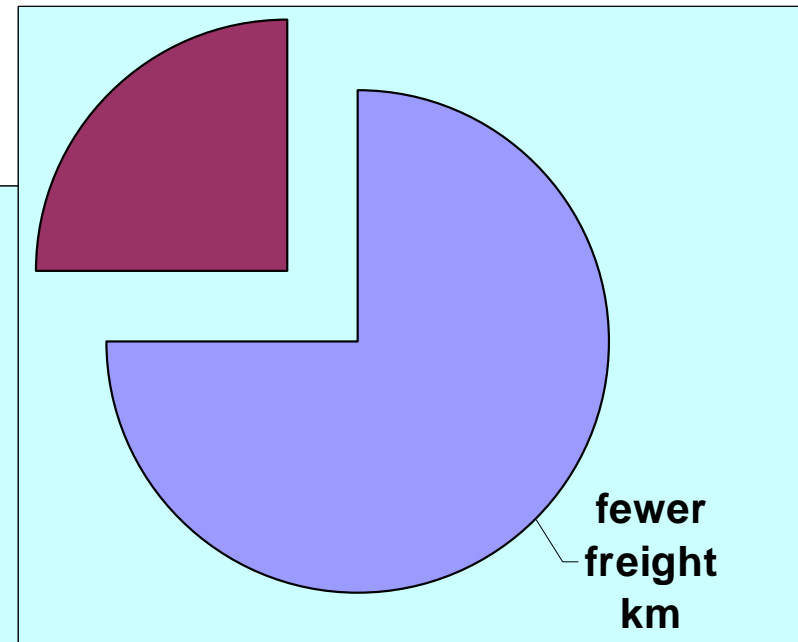
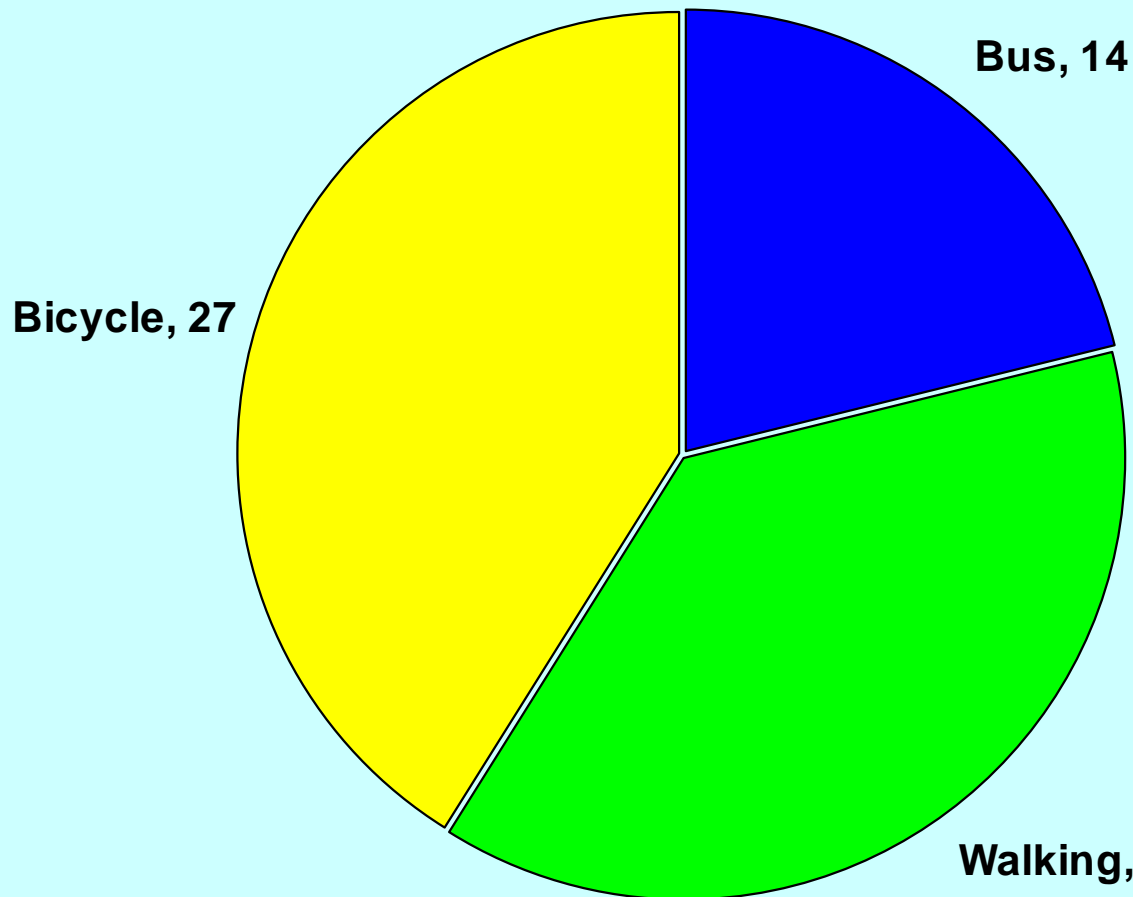
Baseline: Active travel (minutes per week)



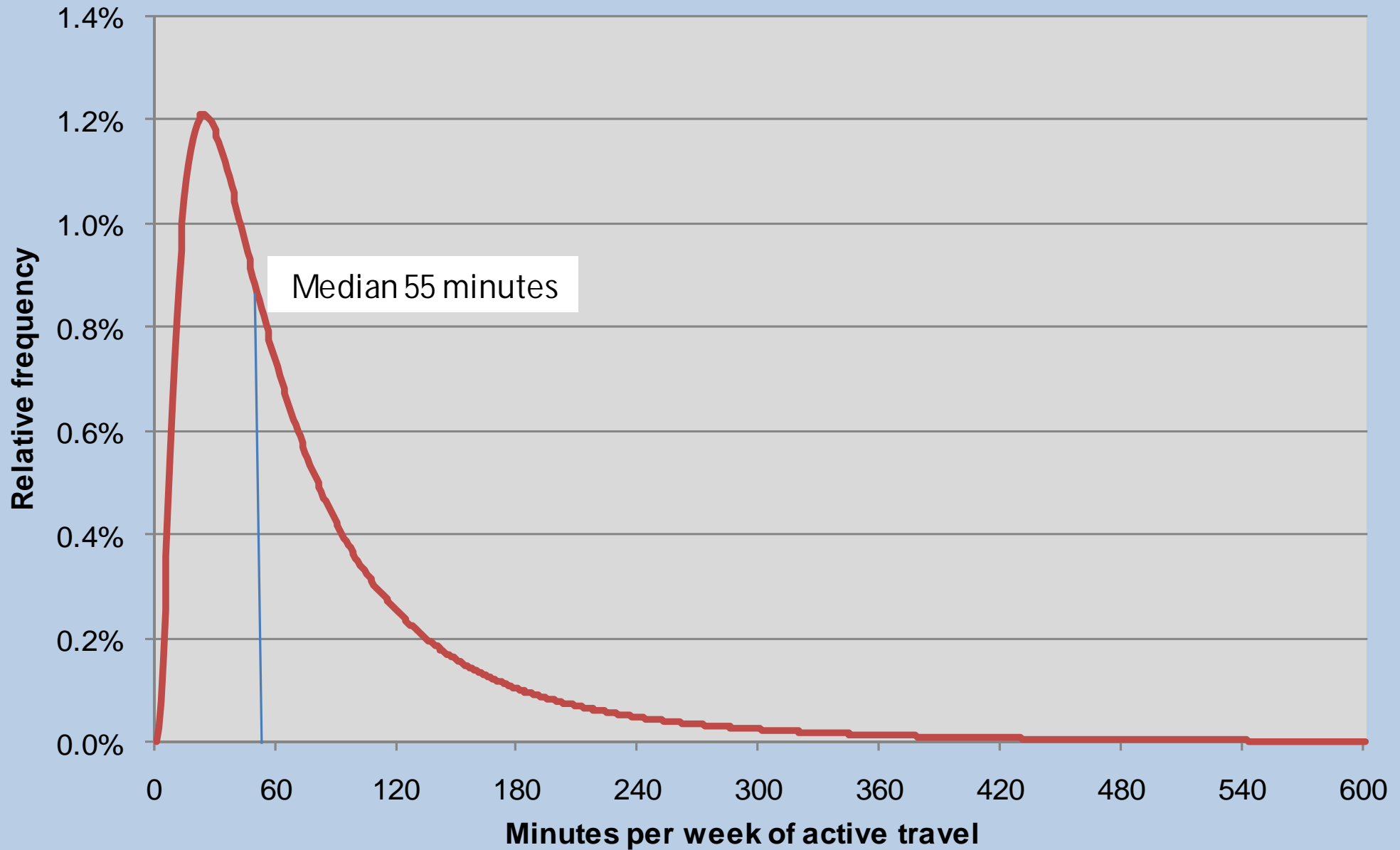
Car free to buses, walking, and cycling



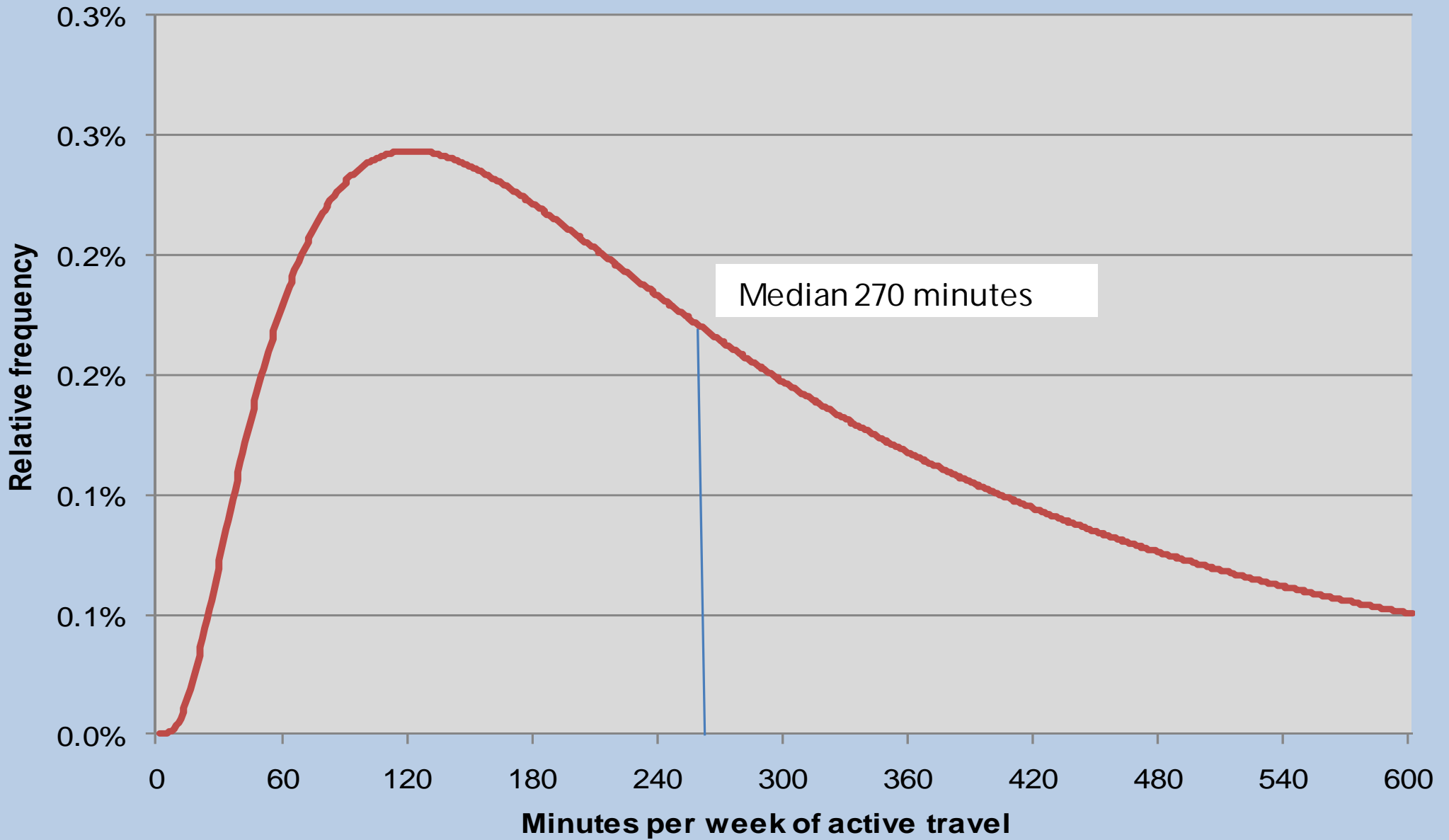
Towards motor vehicle free: Minutes & freight

































Baseline: Active travel (minutes per week)



Car free: some cycle freight

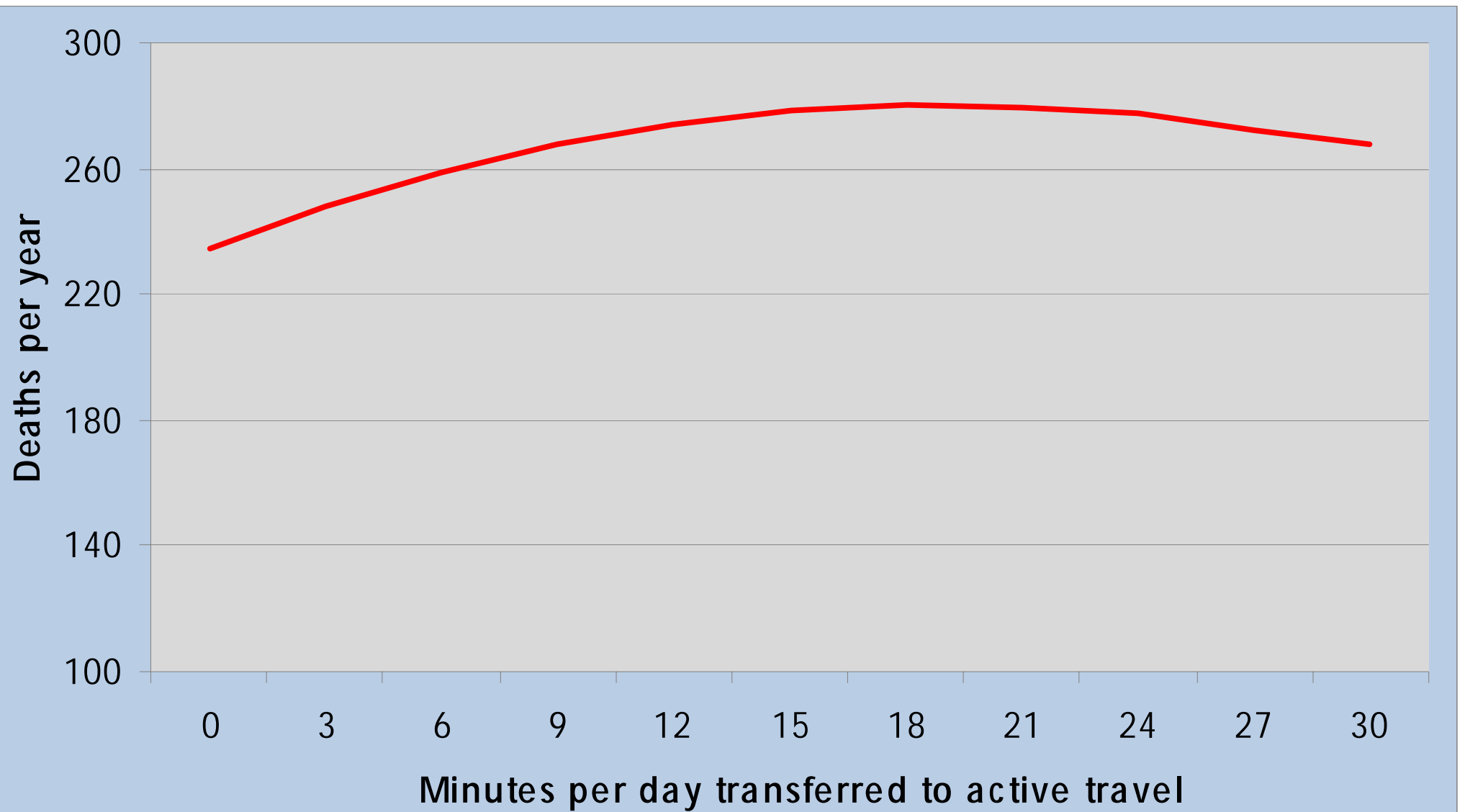


Road traffic injury model results?

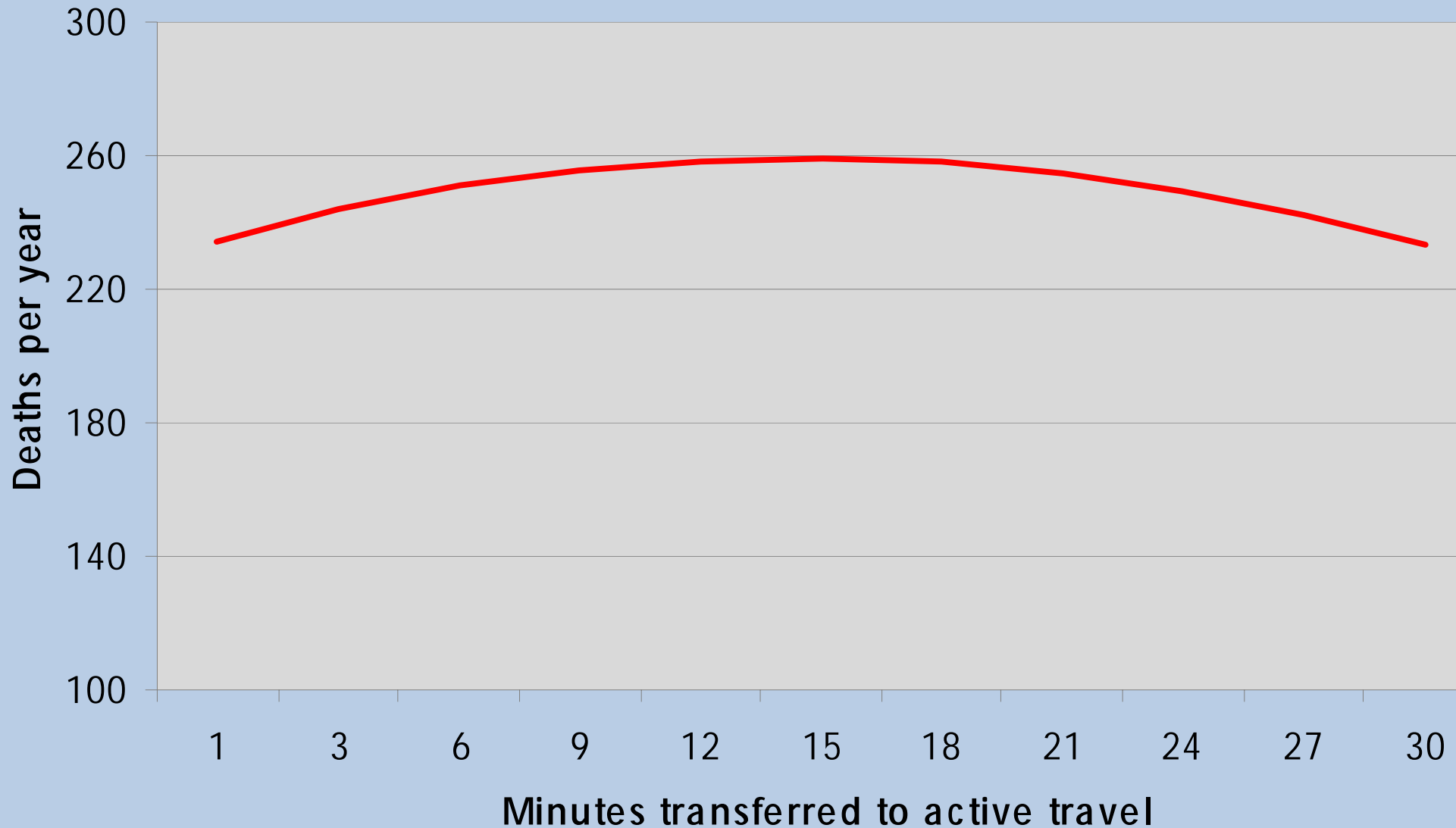
	Stage 1		Stage 2		Stage 3			Stage 5		Stage 6	
		0		0		0			0		0
		0		1R		0			0		0
		0		1R		2R			0		0
		0		1R		2R			0		0
		0		1R		2R			0		0
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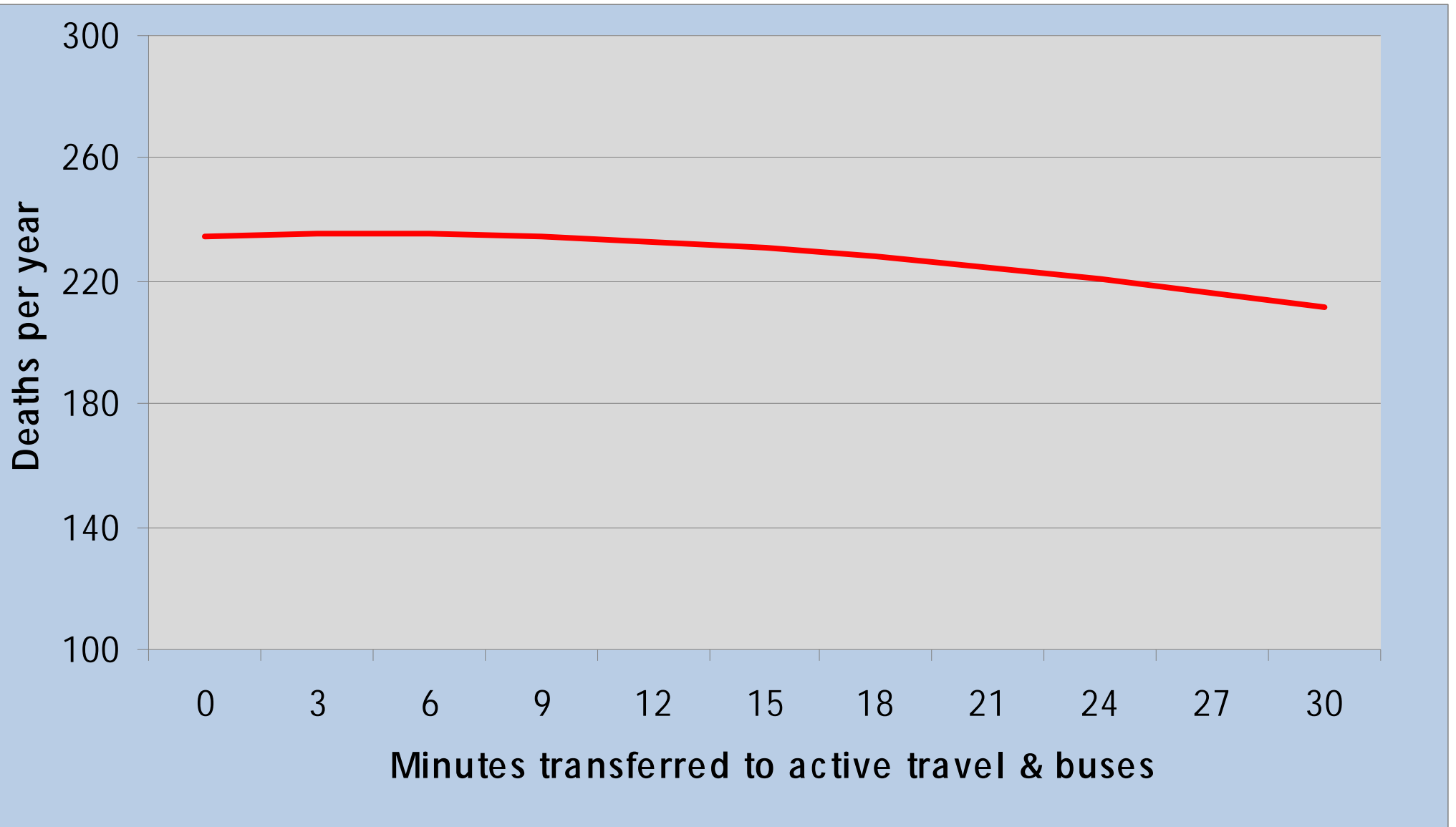
Road traffic deaths: Car time to walking & cycling



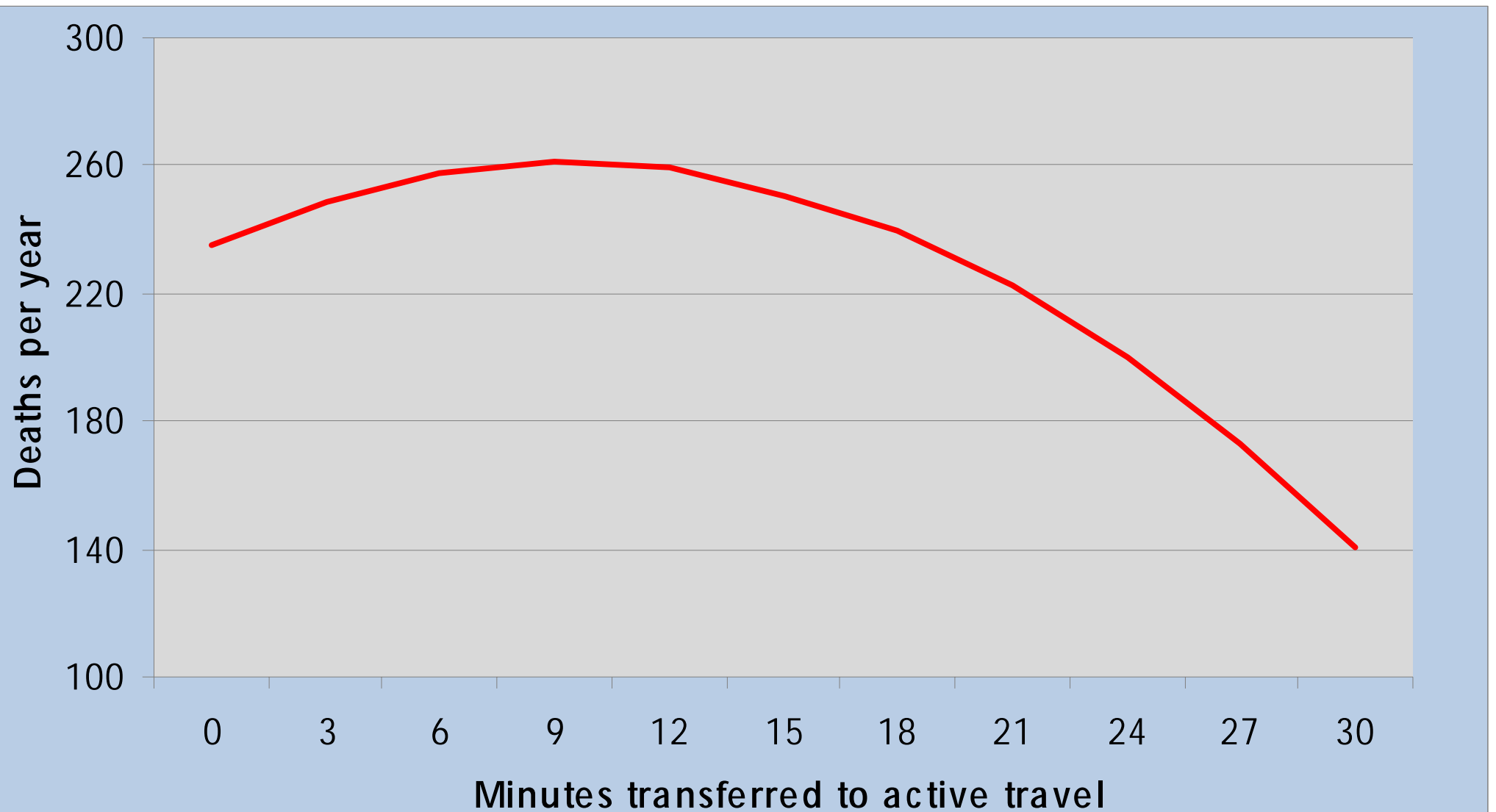
Car & motorbike time to walking & cycling



Car & motorbike time to walking, cycling & buses



Cutting down on trucks too



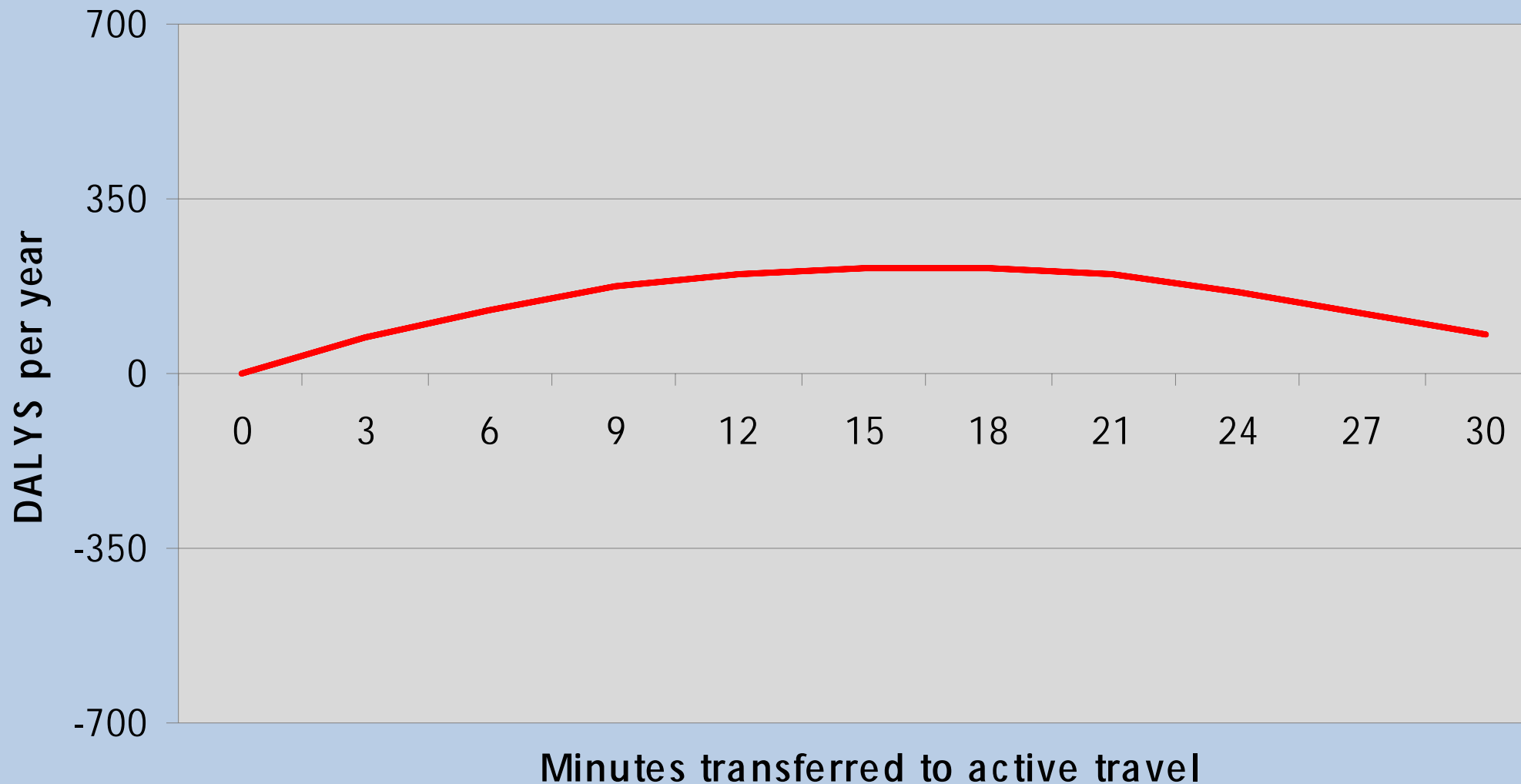








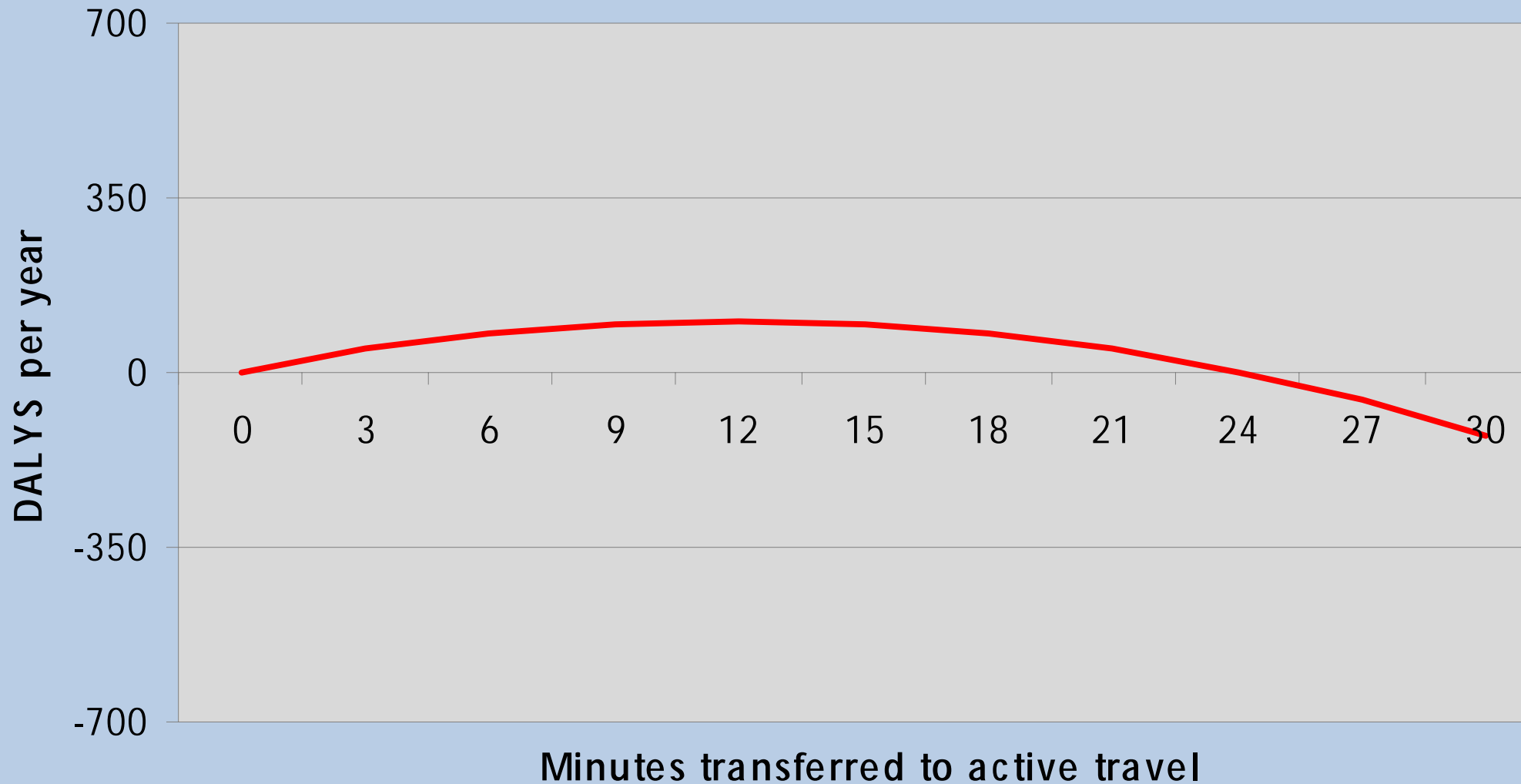
Road traffic injury burden: Car time to walking & cycling



Phy Activity & Injuries: Car time to walking & cycling



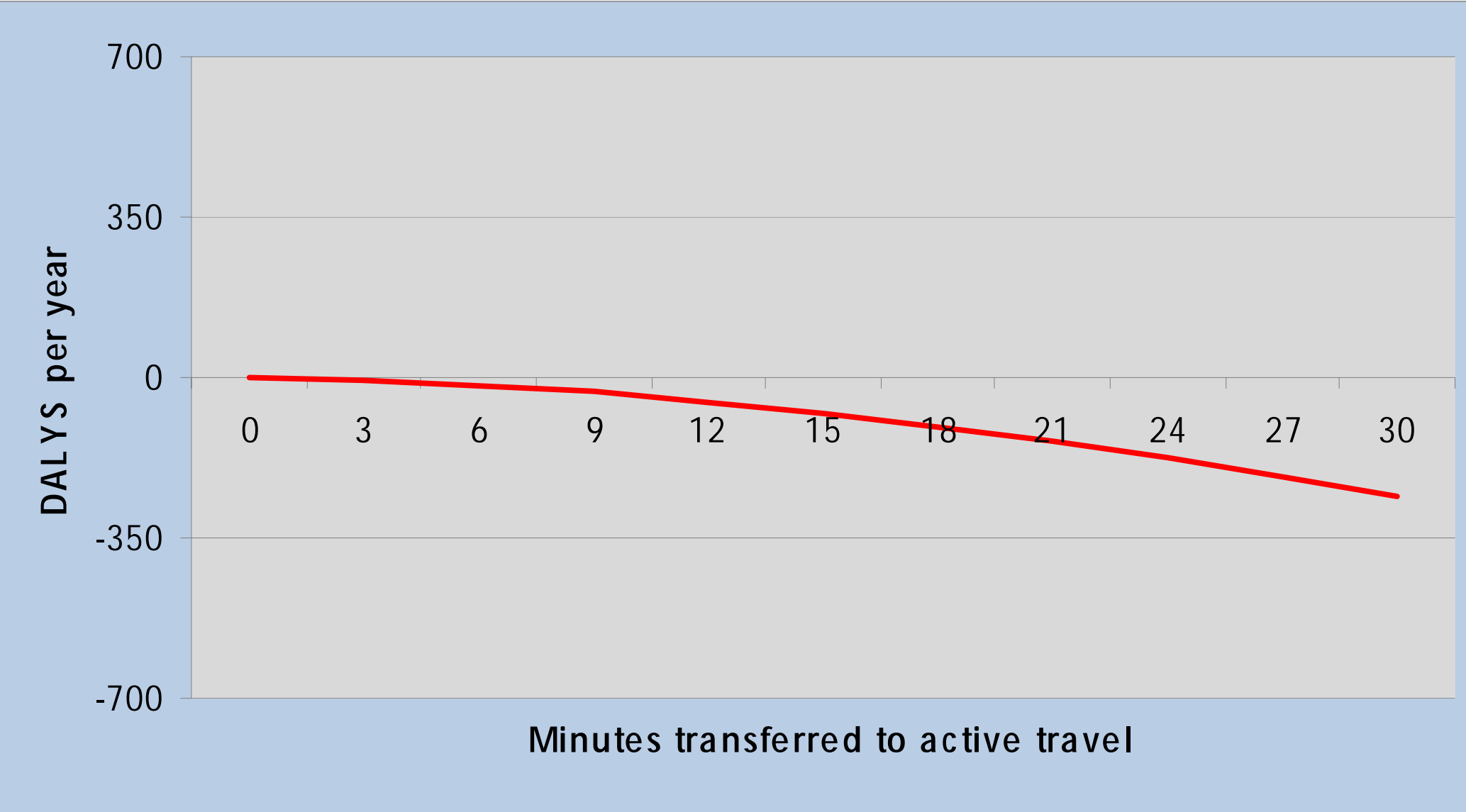
Car & motorbike time to walking & cycling



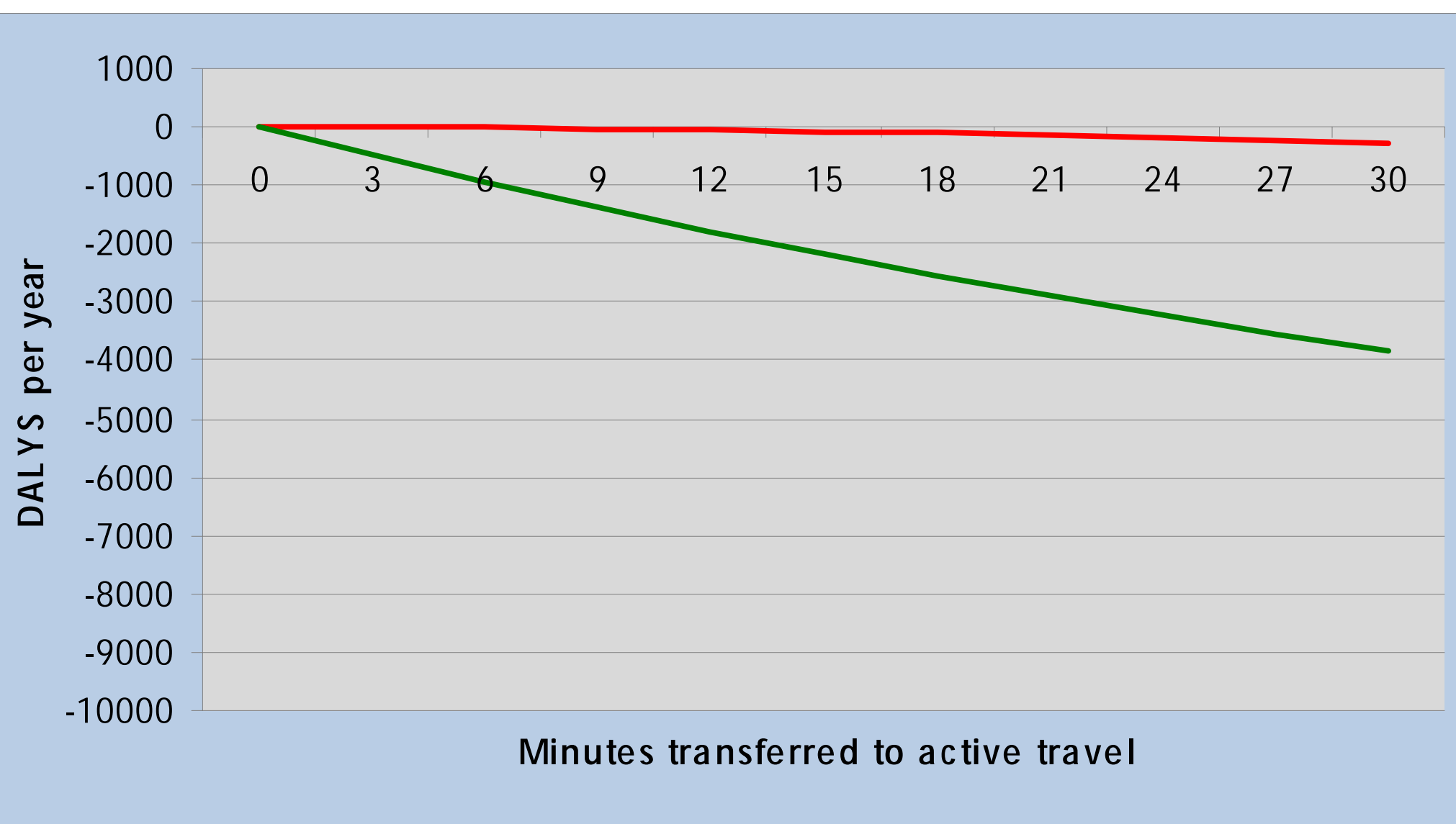
Car & motorbike time to walking & cycling



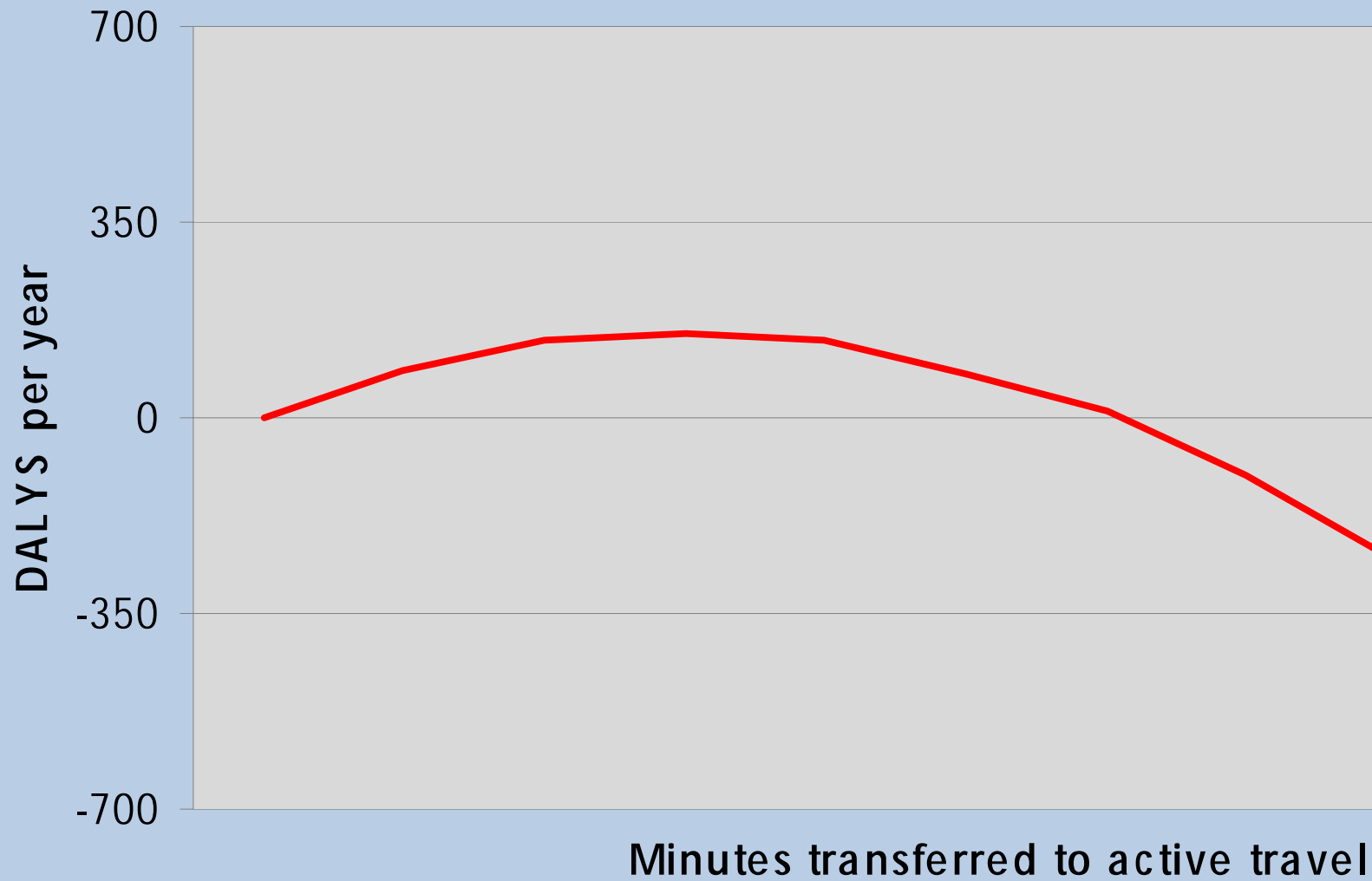
Car & motorbike time to walking, cycling & buses



Car & motorbike time to walking, cycling & buses



Cutting down on trucks too



Cutting down on trucks too





Collaborators

LSHTM

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University of San Diego

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