CURSO RESPUESTA AL CAMBIO CLIMÁTICO PARA LA SALUD EN LATINOAMÉRICA

Mitigación del cambio climático, y co-beneficios para la salud
17 de mayo, 2022

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Objetivos de aprendizaje

- Proporcionar ejemplos de políticas sectoriales que puedan reducir las emisiones de gases de efecto invernadero y mejorar la salud.
- Aplicar los conceptos de mitigación y adaptación al sector de la salud pública y explorar ejemplos de cómo los sistemas de salud pueden ponerlos en práctica.

Votación en Zoom

A que nos referimos con mitigación del cambio climático?

- Reducir emisiones de gases de efecto invernadero
- Incremental el secuestro y absorción de gases de efecto invernadero
- Ambas respuestas

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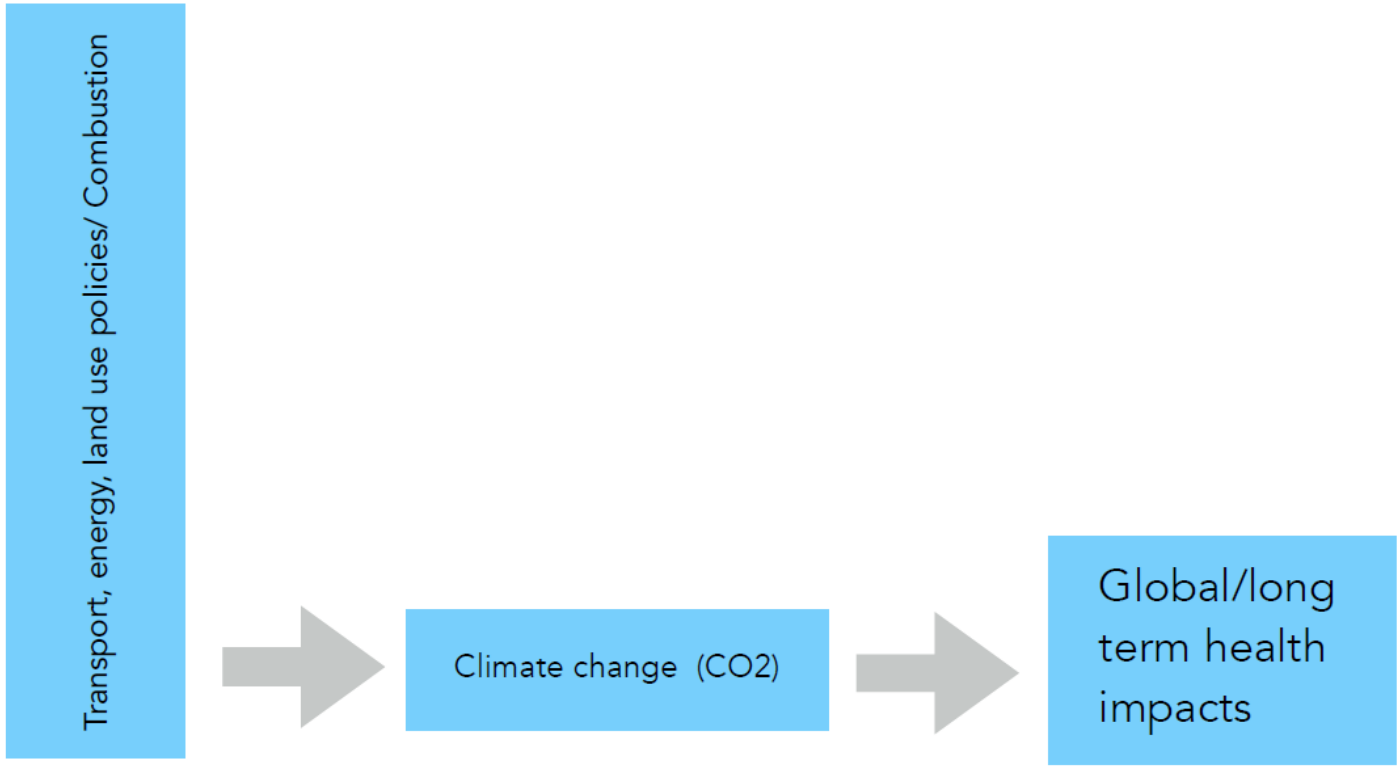
Health benefits from air pollution reductions



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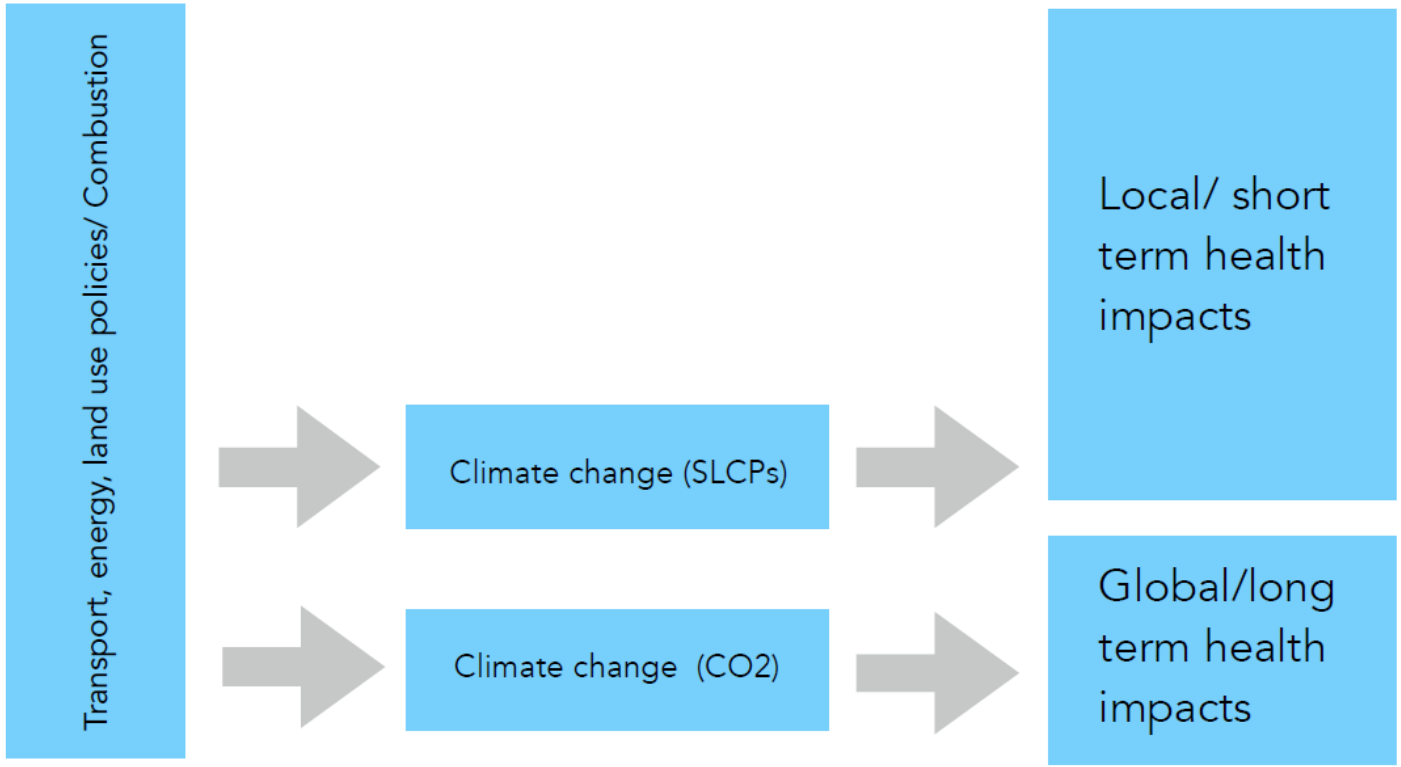

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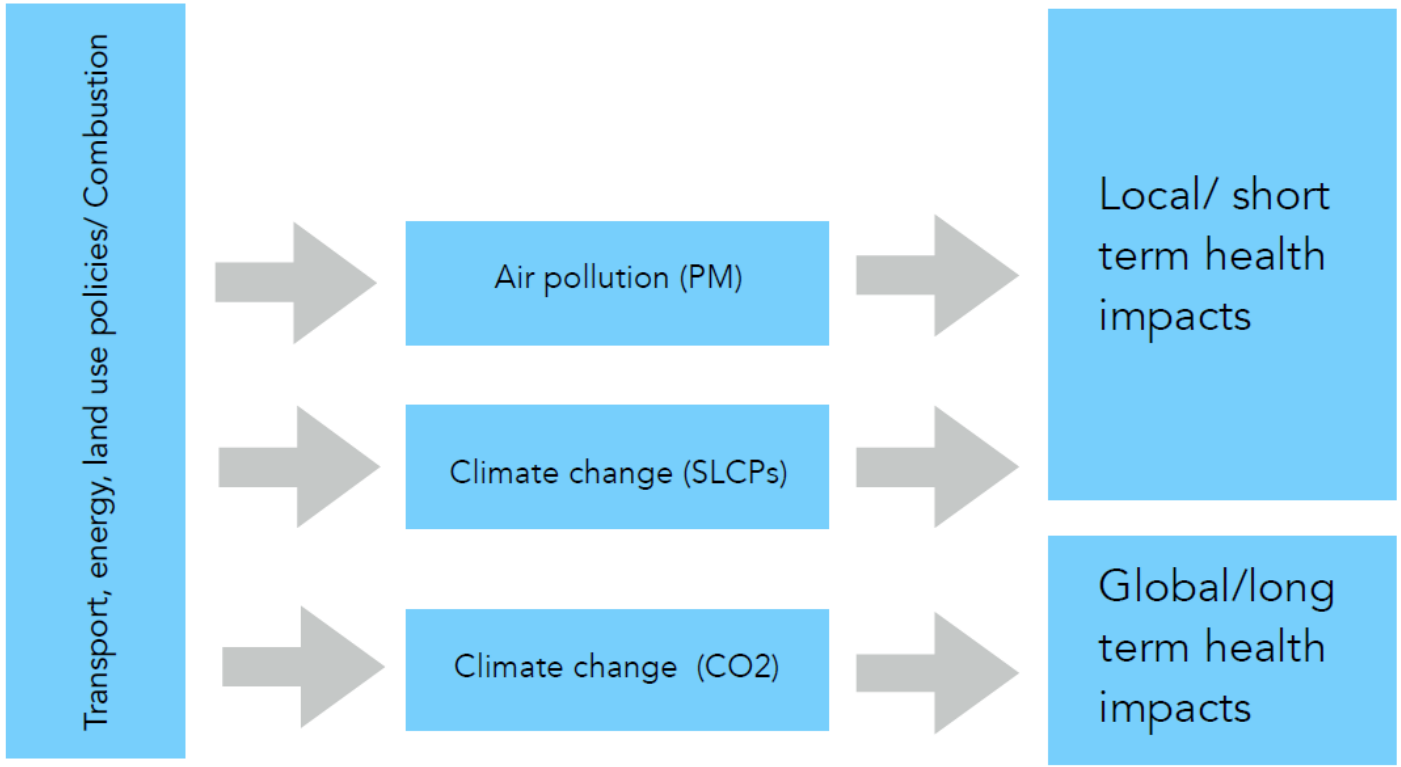
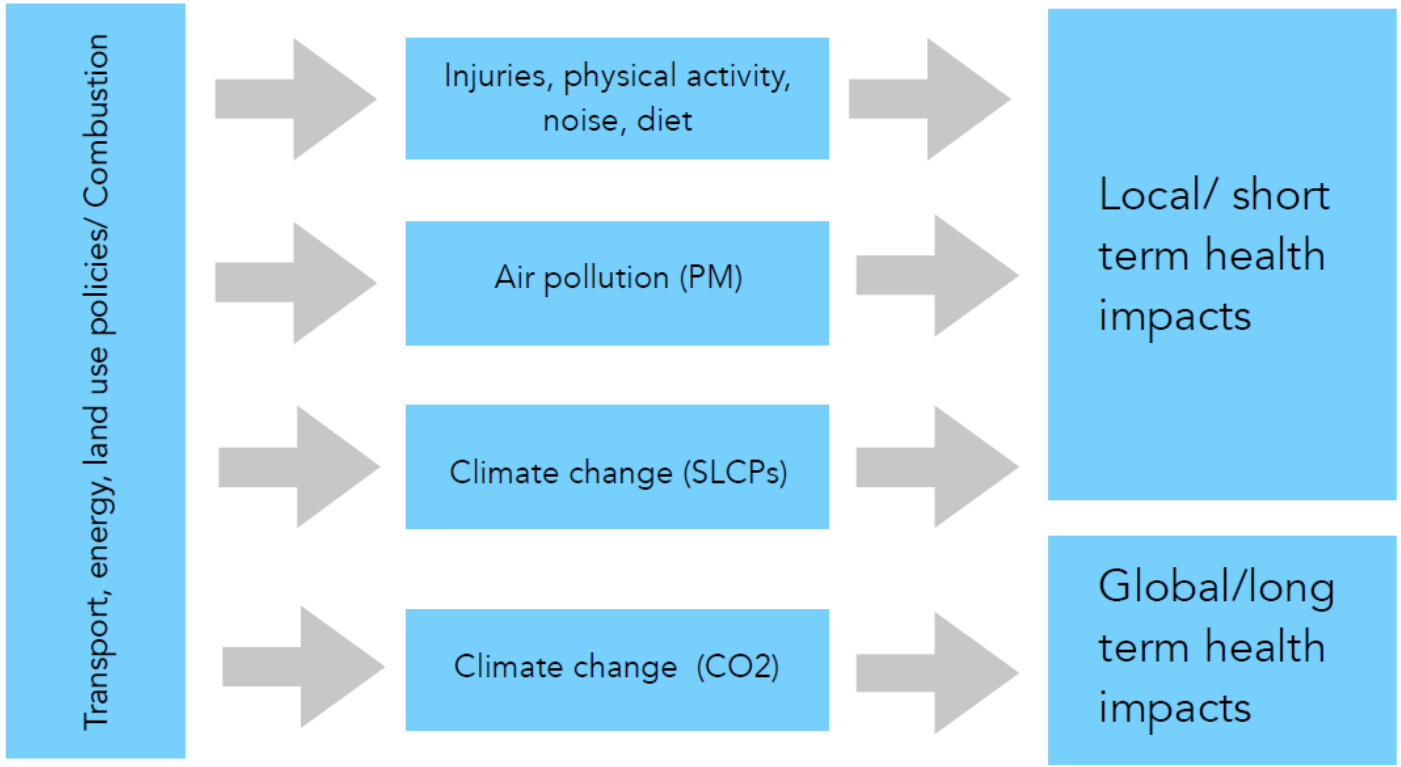
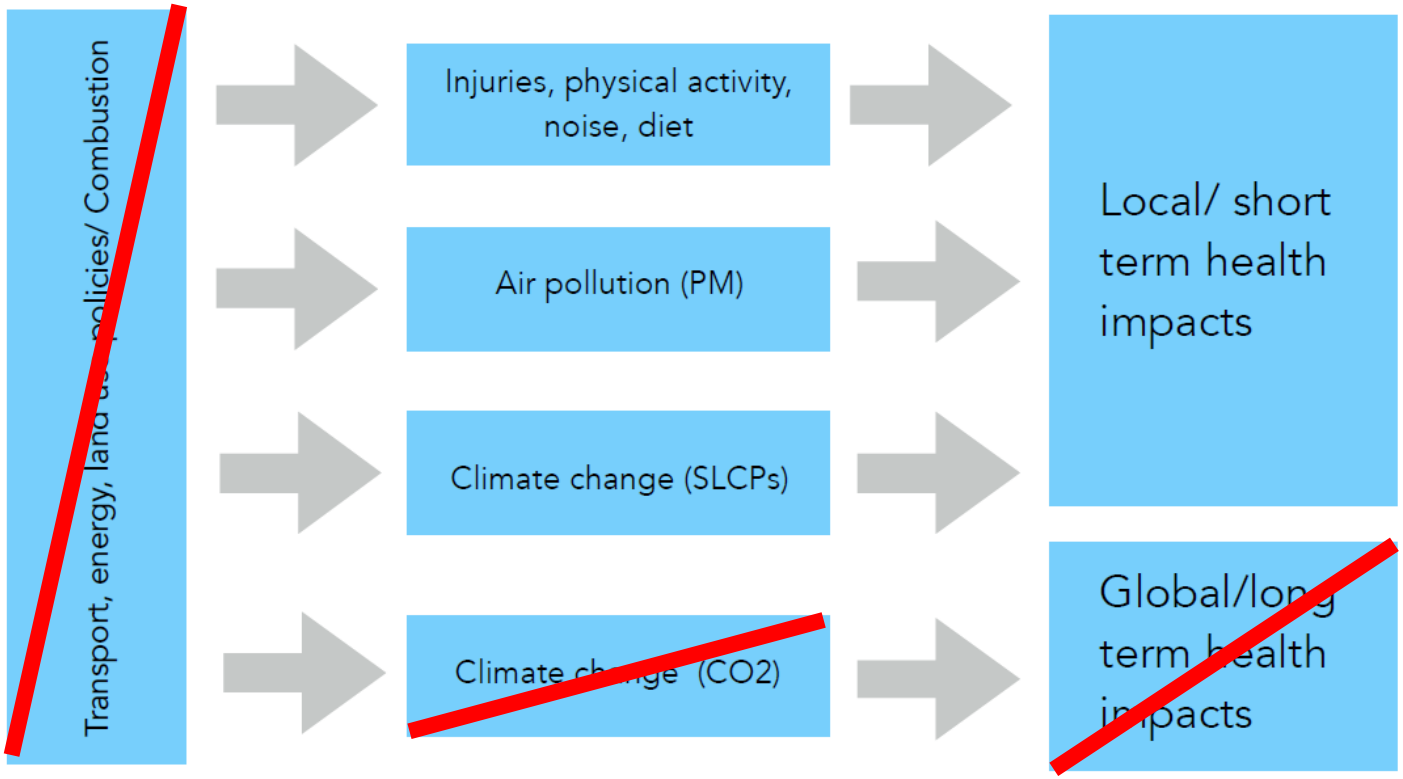


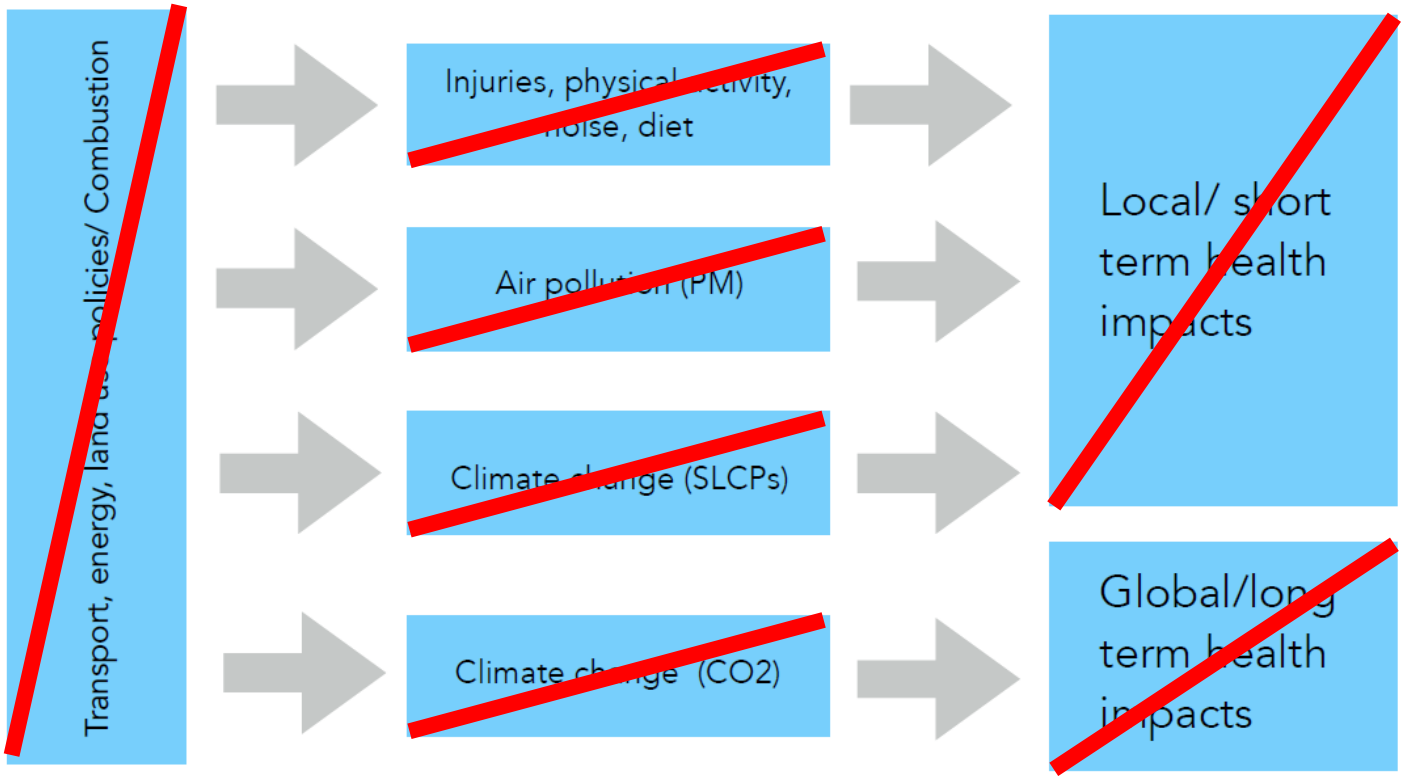
Health benefits from air pollution reductions



Health benefits from air pollution reductions



Health benefits from air pollution reductions



Votación en Zoom

Cual de los siguientes determinantes de la salud están relacionados con la mitigación del cambio climático?

- Contaminación del aire
- Ruido del trafico
- Áreas verdes y parques
- Seguridad vial
- Actividad física
- Dieta rica en frutas y verduras
- Todas las anteriores

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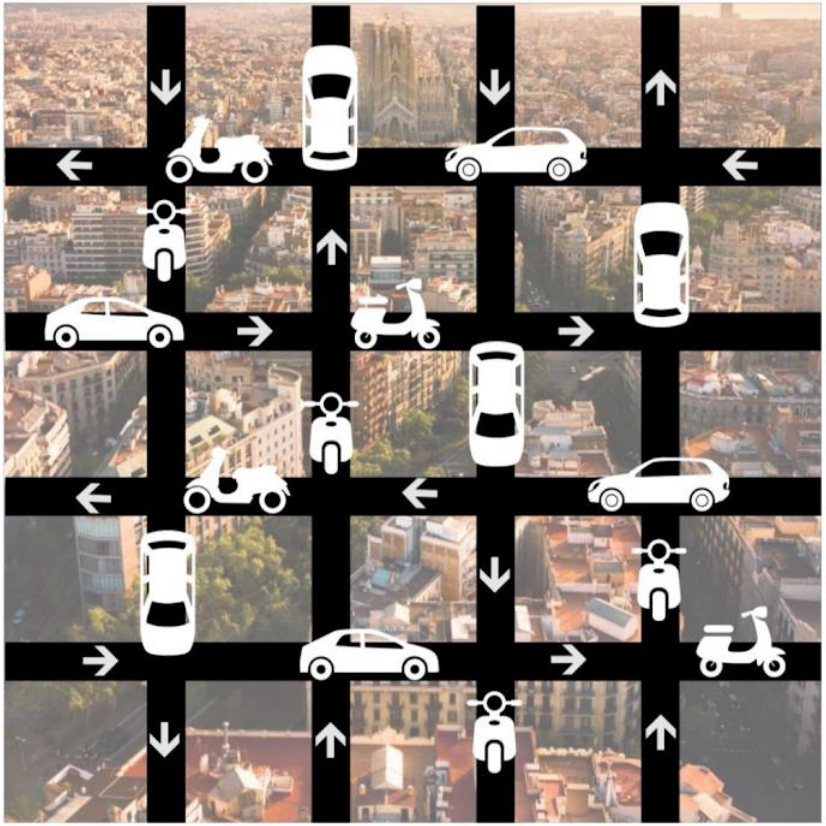
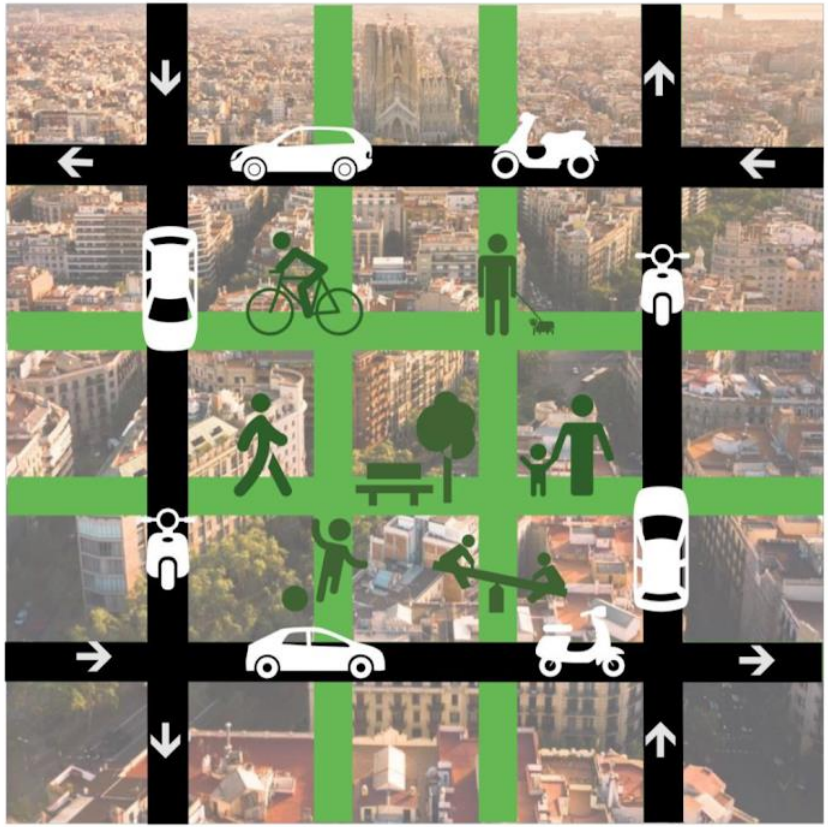


Baseline situation



Superblocks model

Barcelona Superblock San Antoni

Before

After

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sustainability

MDPI

Article

Study of Pedestrian Zone According to Superblock Criteria in the Casco Antiguo of Panama

Haydee Caballero [1,2,†], Luis Hidalgo [1,2,†] and Jorge Quijada-Alarcon [1,*]

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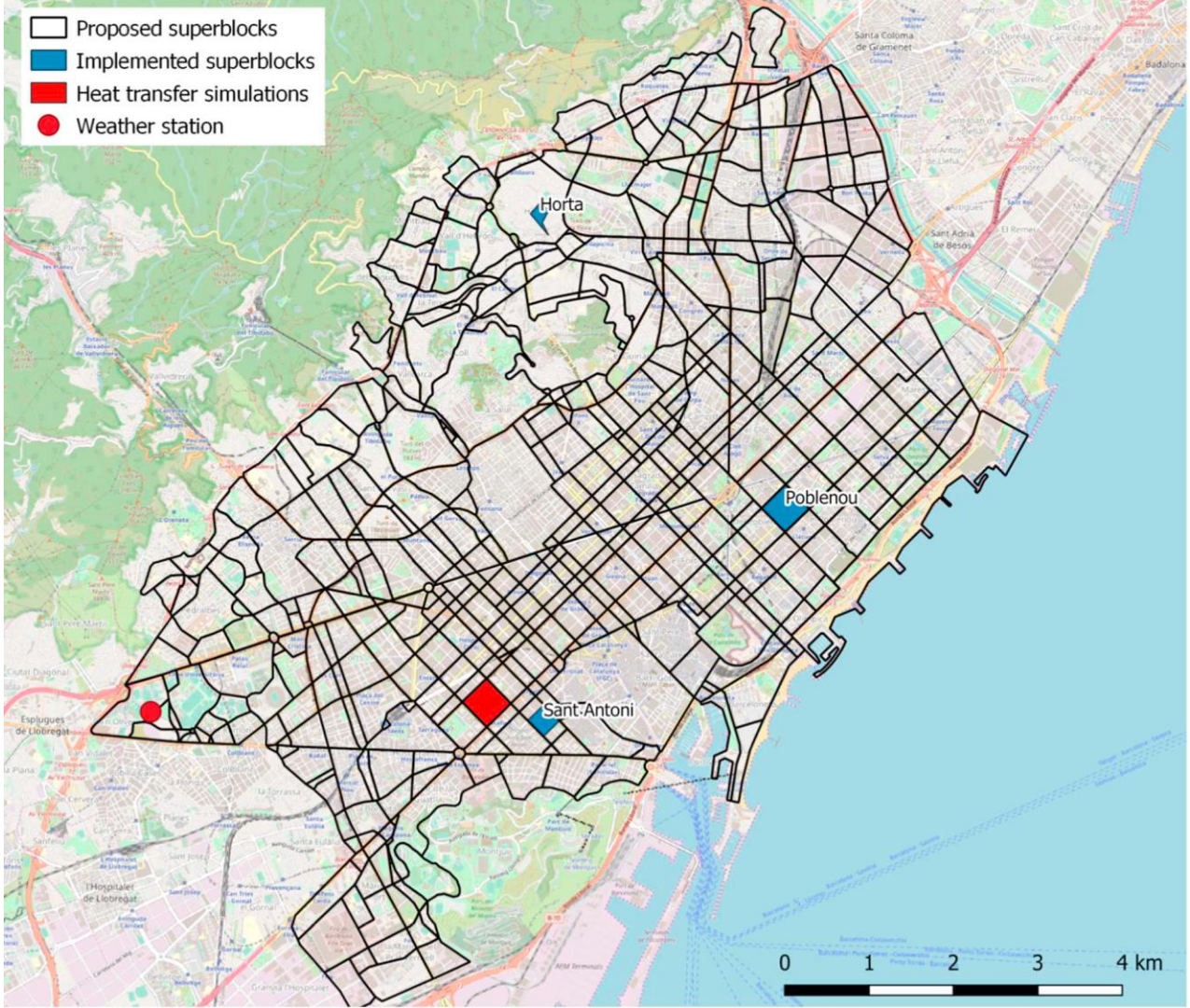
[2] Centro de Estudios Multidisciplinarios en Ciencias, Ingeniería y Tecnología AIP (CEMCIT AIP), Apdo 0819-07289, Panama

* Correspondence: jorge.quijada@utp.ac.pa

† These authors contributed equally to this work.



503 Superblocks Barcelona

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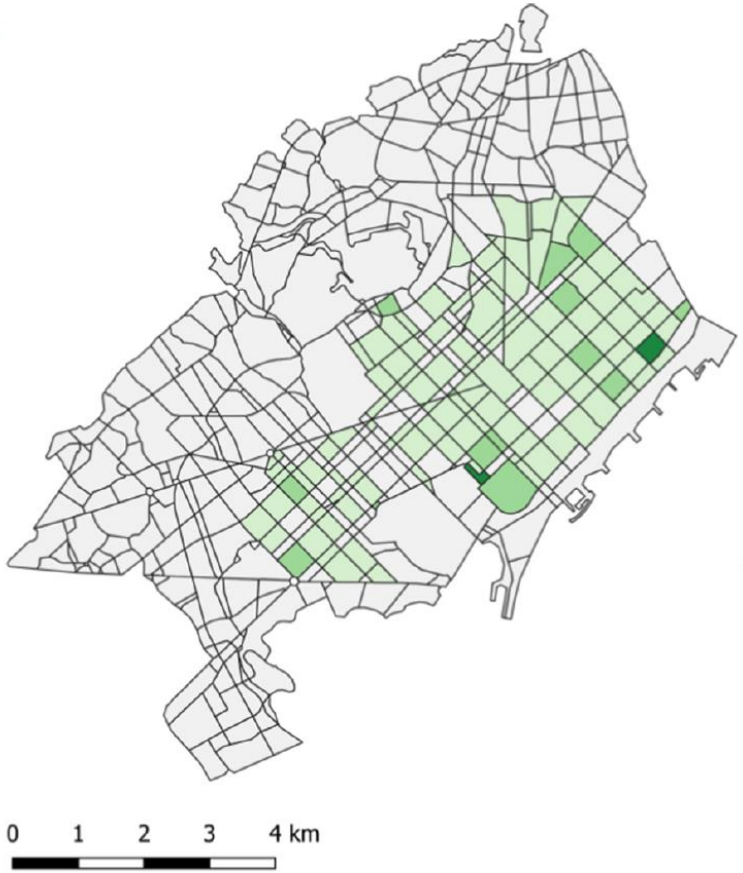
Green space (%)

A



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Green space (%)


A
B
0 1 2 3 4 km
Green space (%)
NA
<20
20-40
40-60
60-80
80-100
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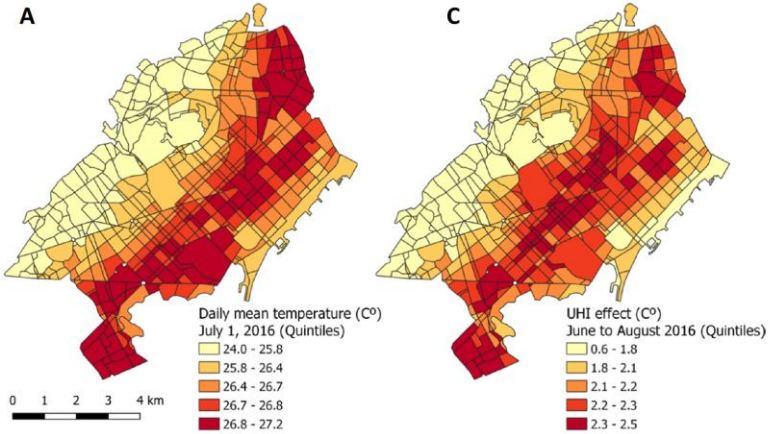
Green space (%)

Temperature (ºC)



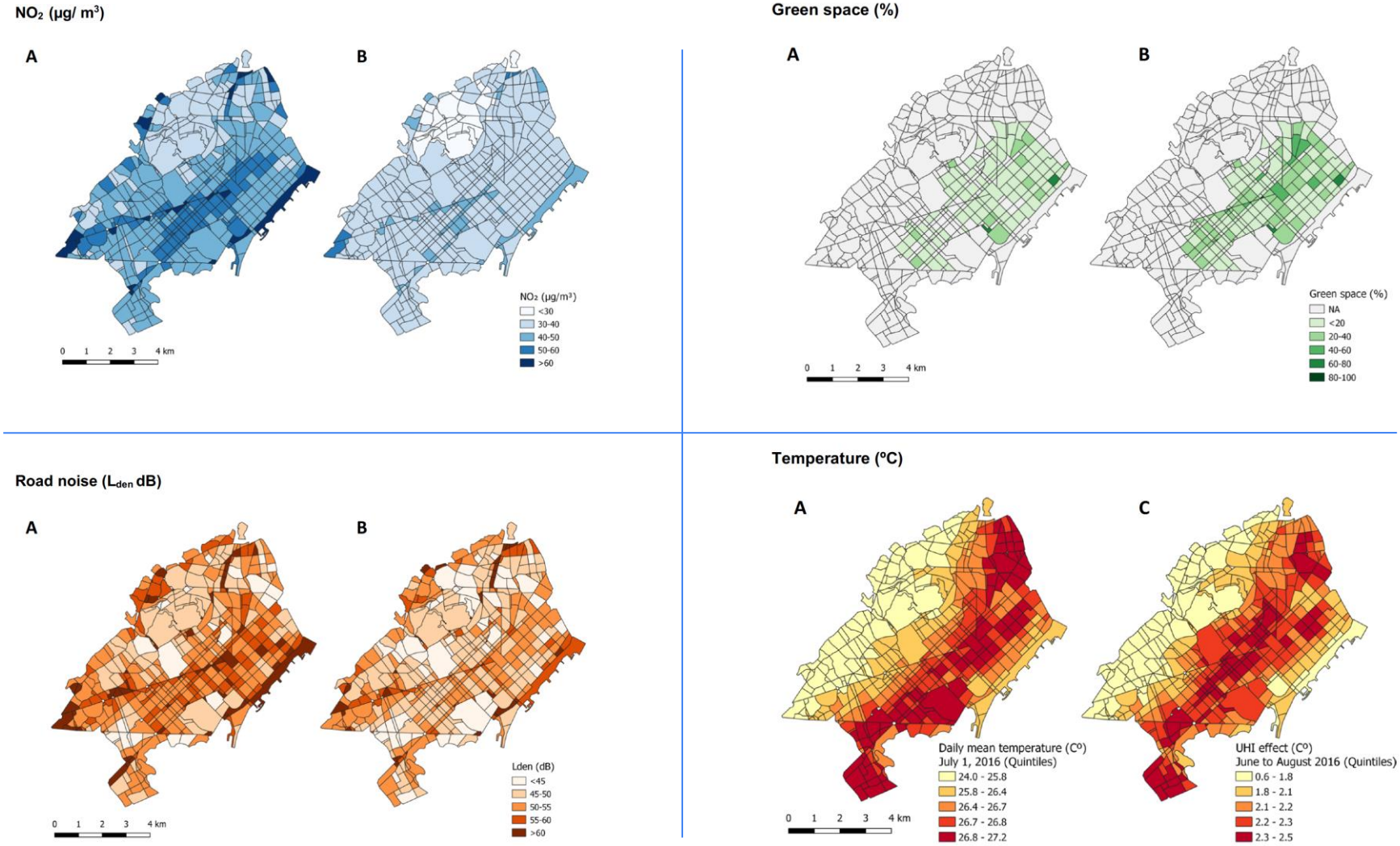
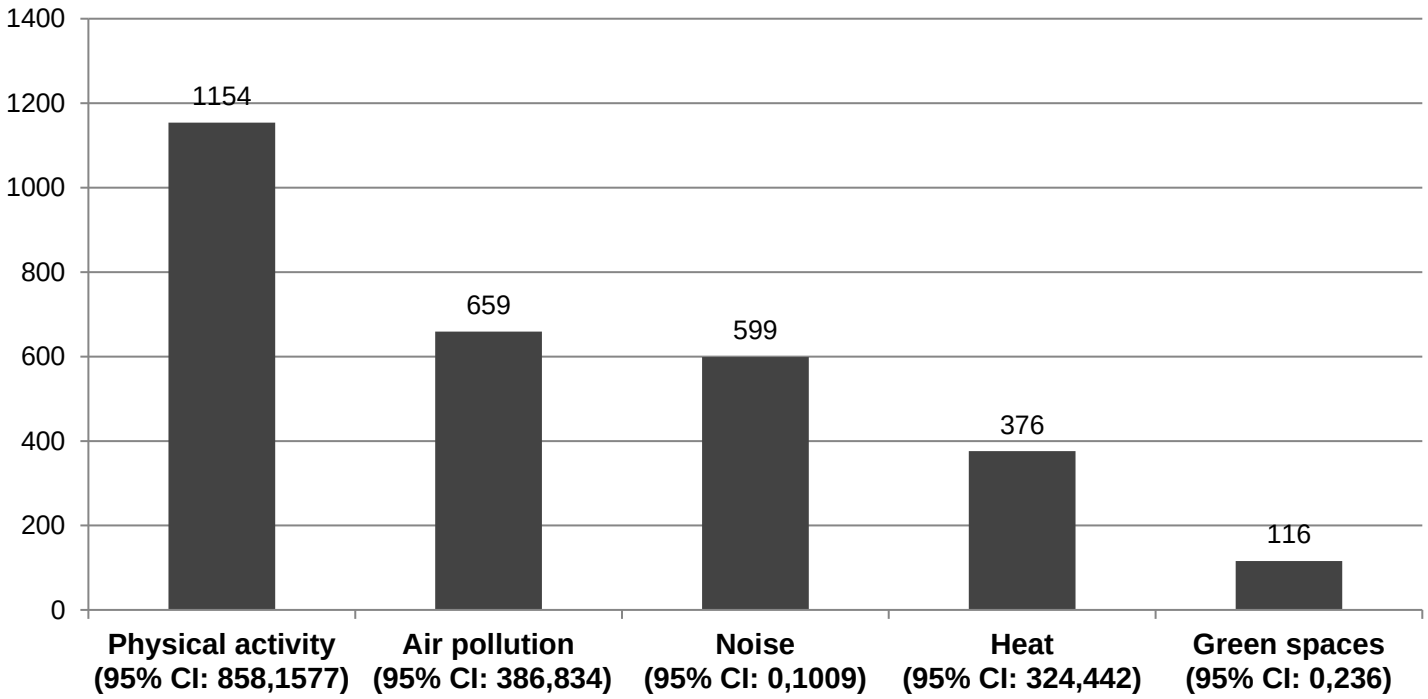


Fig. 5. Baseline and Superblocks environmental exposure levels.

DEATHS DUE TO POOR URBAN AND TRANSPORT PLANNING BARCELONA



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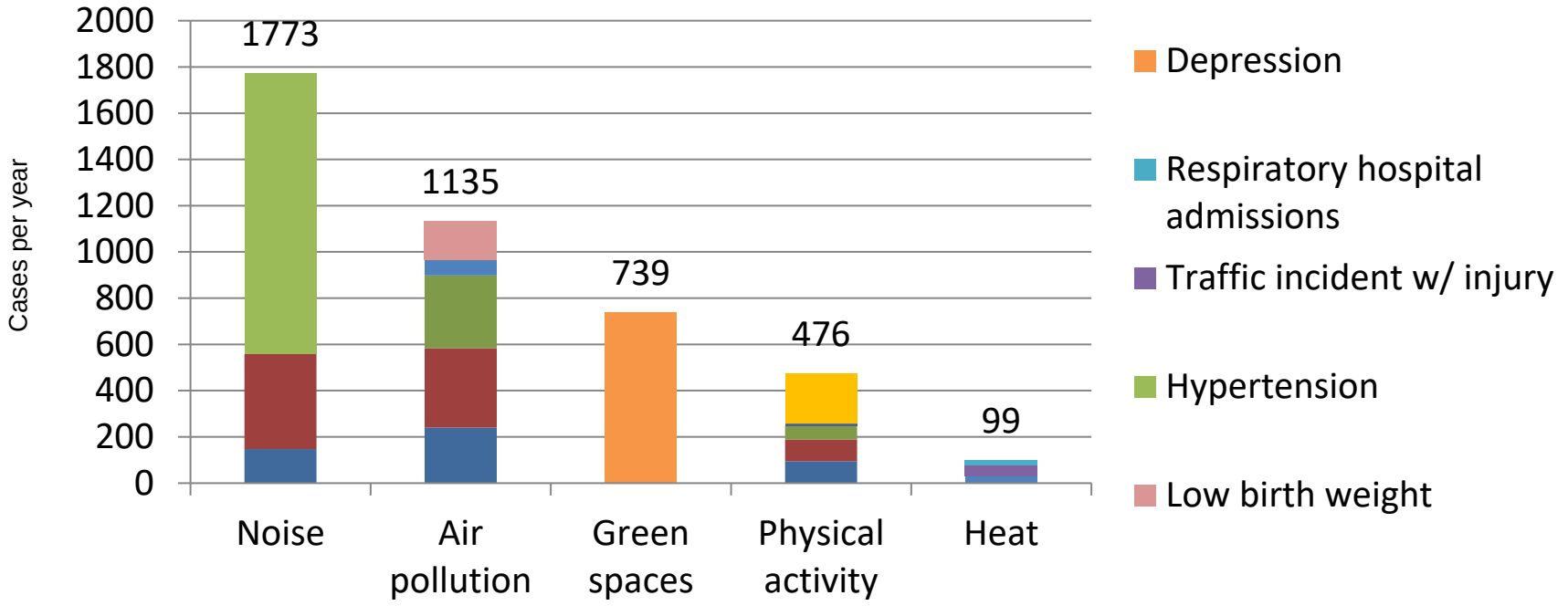
RESULTS – ANNUAL MORBIDITY



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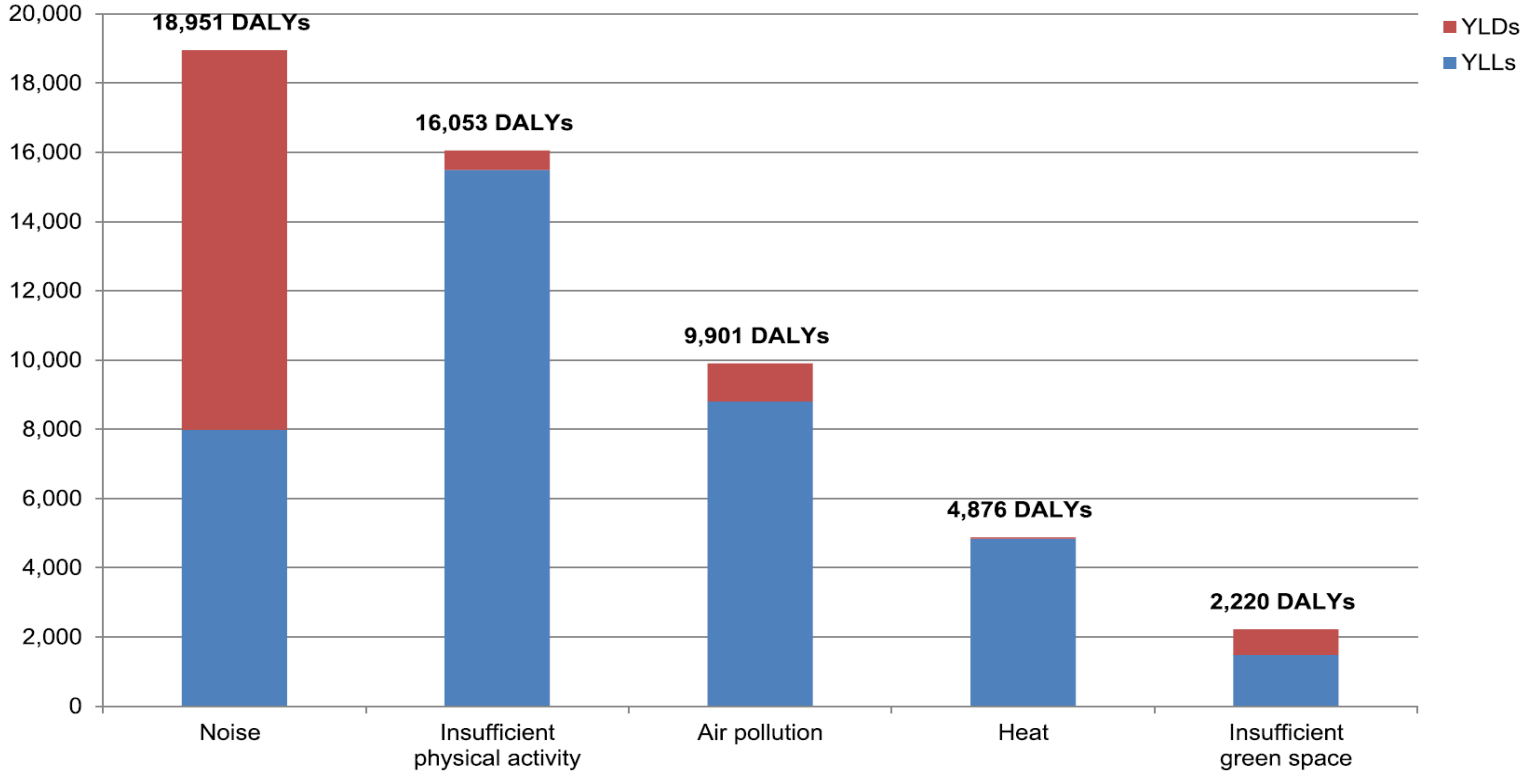
RESULTS – DALYS

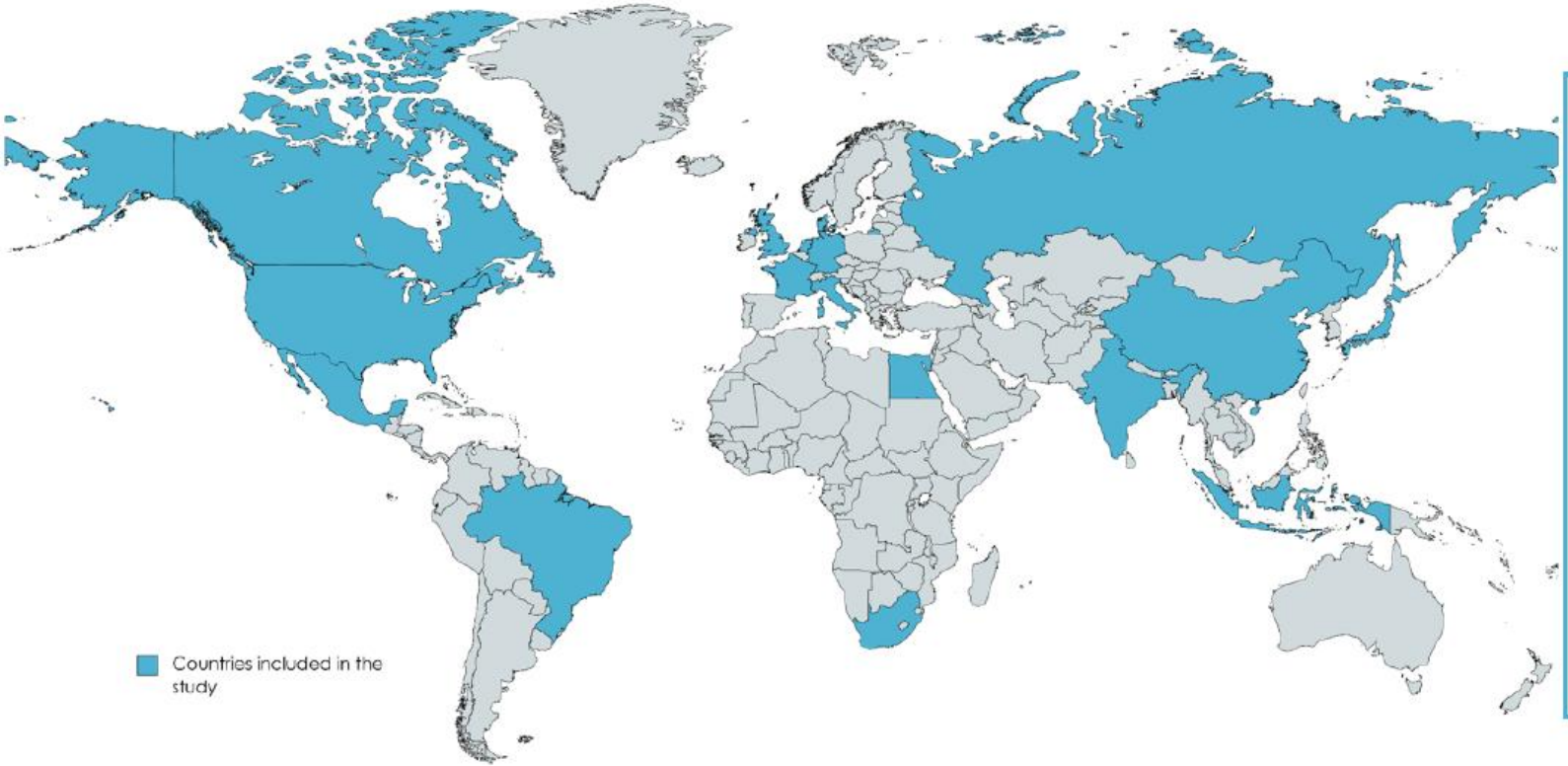


DALY=disability-adjusted life-years; YLDs =years lived with disability; YLLs=years of life lost;


INASAH
Rotoplas
CAP.2,000

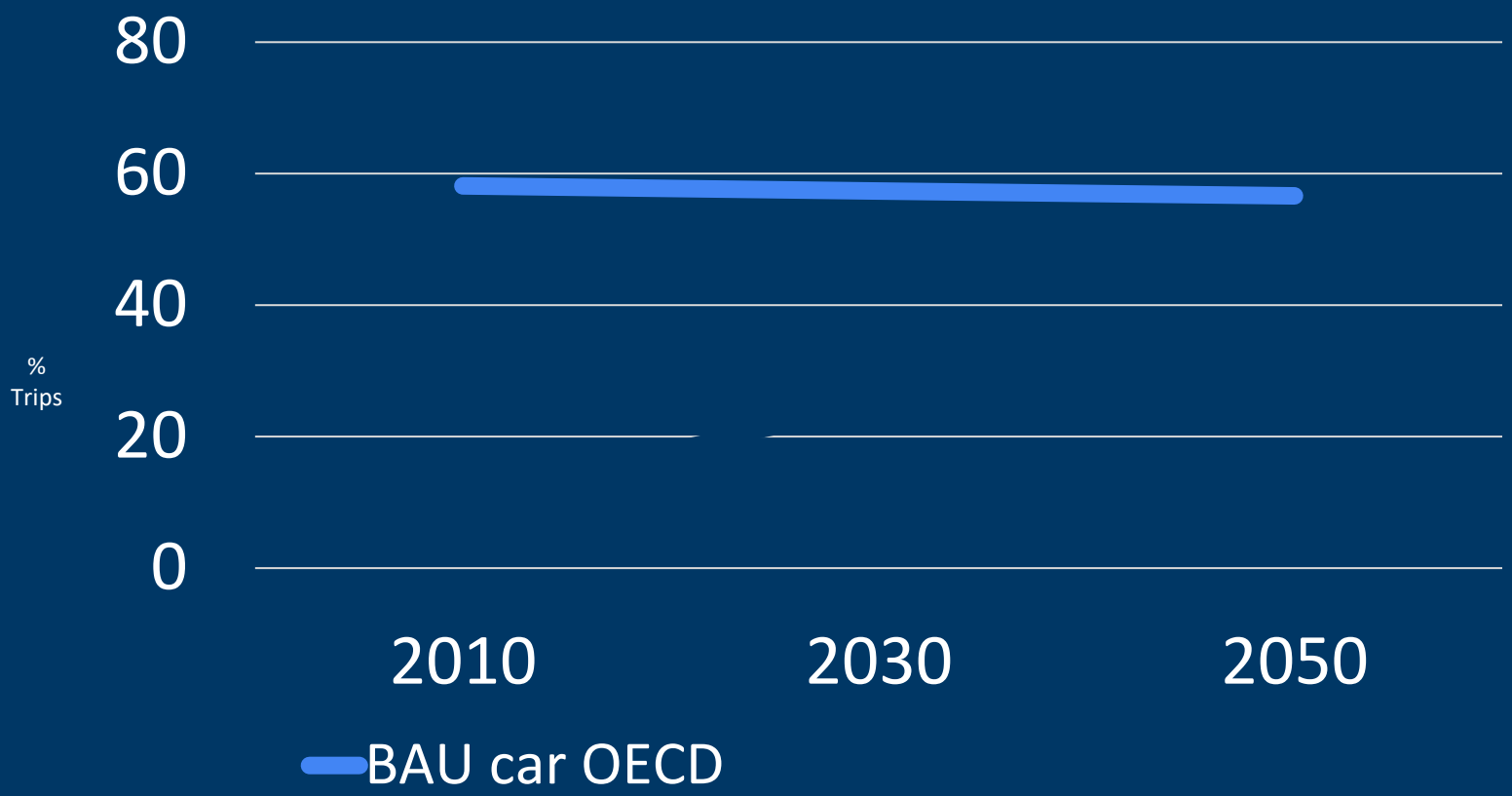
Global High Shift Cycling Scenario 2050

Urban adult population from 17 different countries



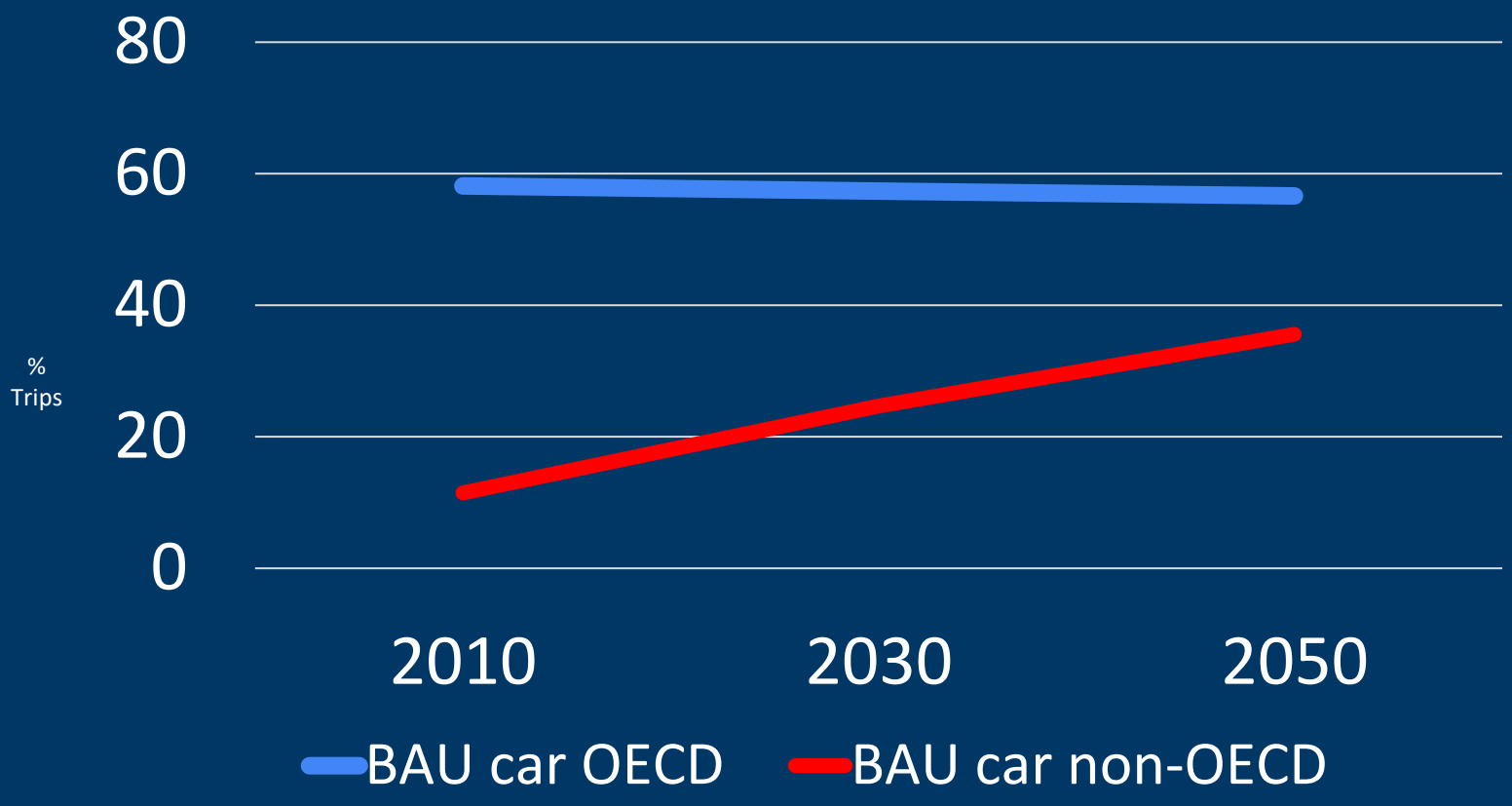
BRAZIL
CANADA
CHINA
DENMARK
EGYPT
FRANCE
GERMANY
INDIA
INDONESIA
ITALY
JAPAN
MEXICO
NETHERLANDS
RUSSIA
SOUTH AFRICA
UNITED KINGDOM
UNITED STATES OF AMERICA

CARS

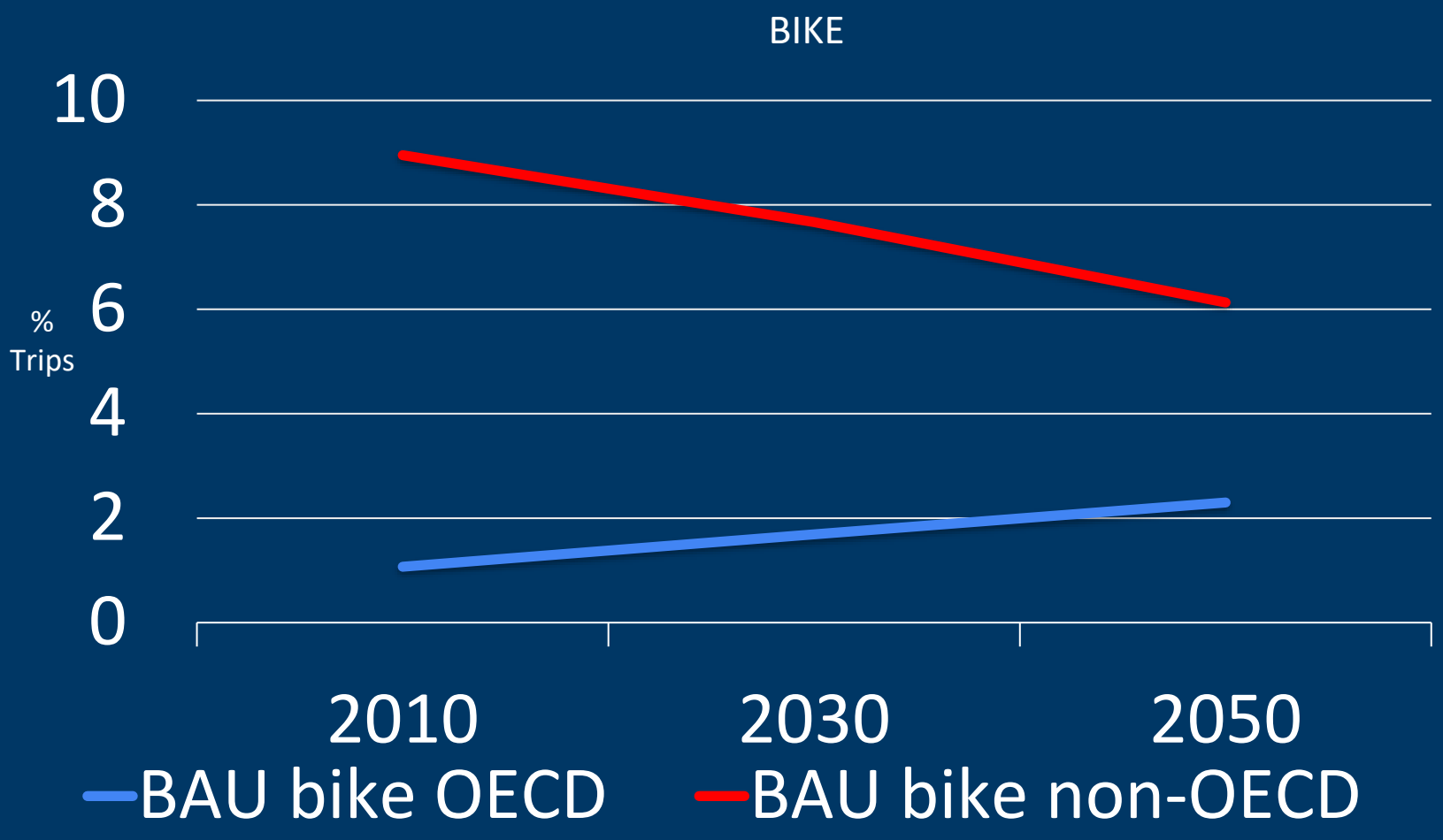


Organization for Economic Co-operation and Development

CARS



Organization for Economic Co-operation and Development



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Institute for Transportation & Development Policy

OECD
Organization for Economic Co-operation and Development

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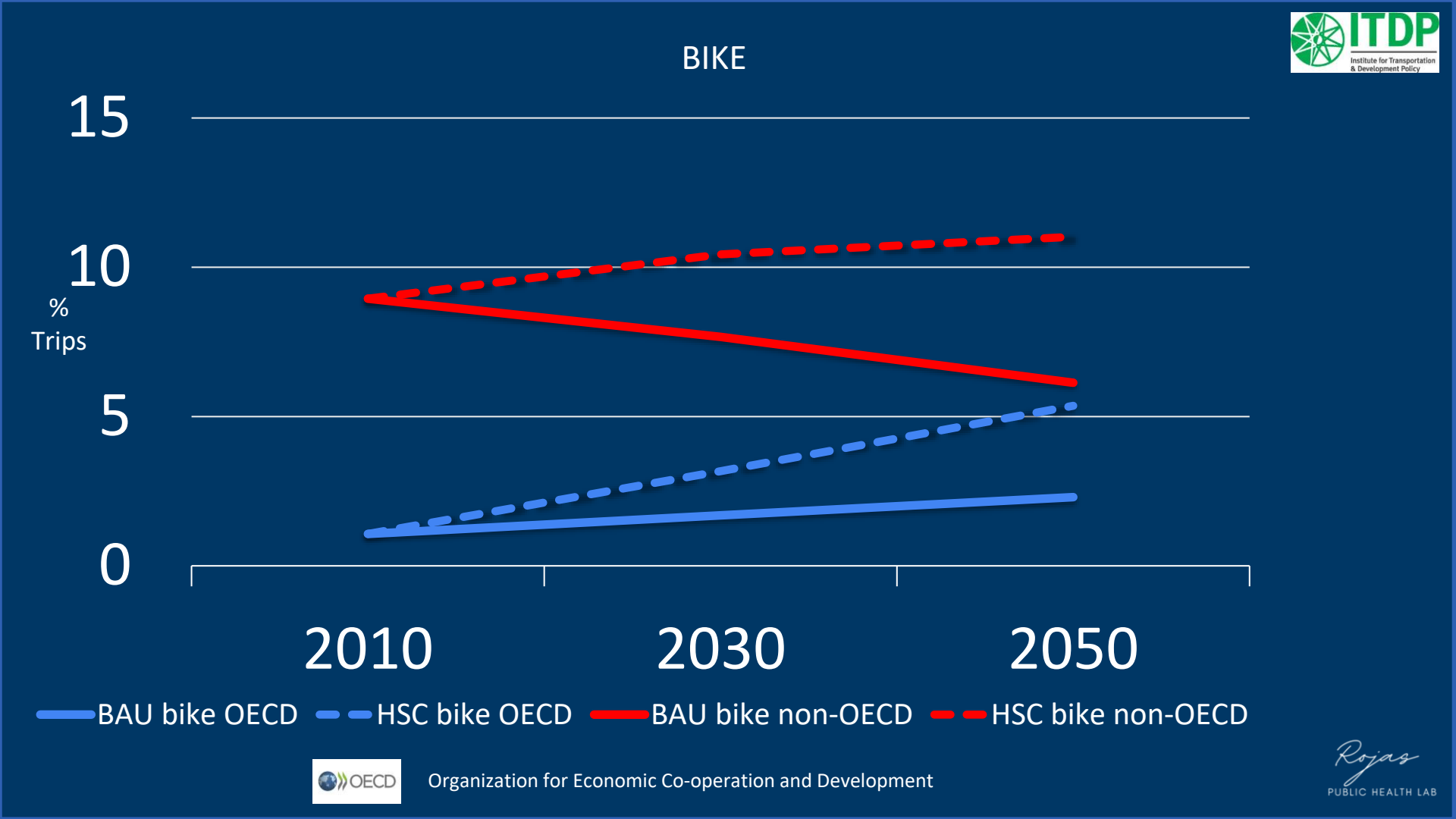
BIKE
15
10
5
0
% Trips
2010
2030
2050
BAU bike OECD
HSC bike OECD
BAU bike non-OECD
HSC bike non-OECD
OECD
Organization for Economic Co-operation and Development
ITDP
Institute for Transportation & Development Policy
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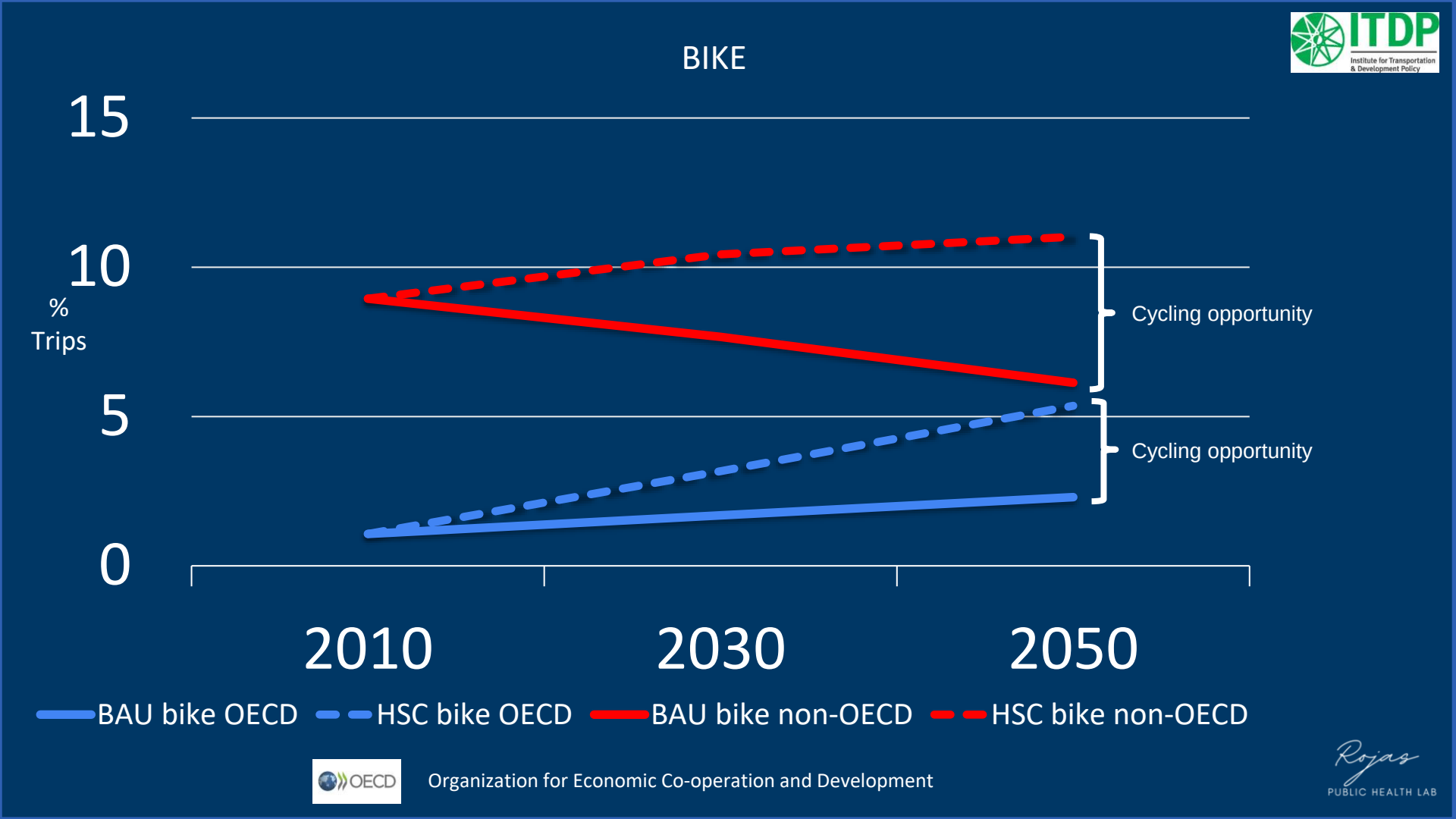
BIKE
15
10
5
0
% Trips
2010
2030
2050
Cycling opportunity
Cycling opportunity
BAU bike OECD
HSC bike OECD
BAU bike non-OECD
HSC bike non-OECD
ITDP
Institute for Transportation & Development Policy
OECD
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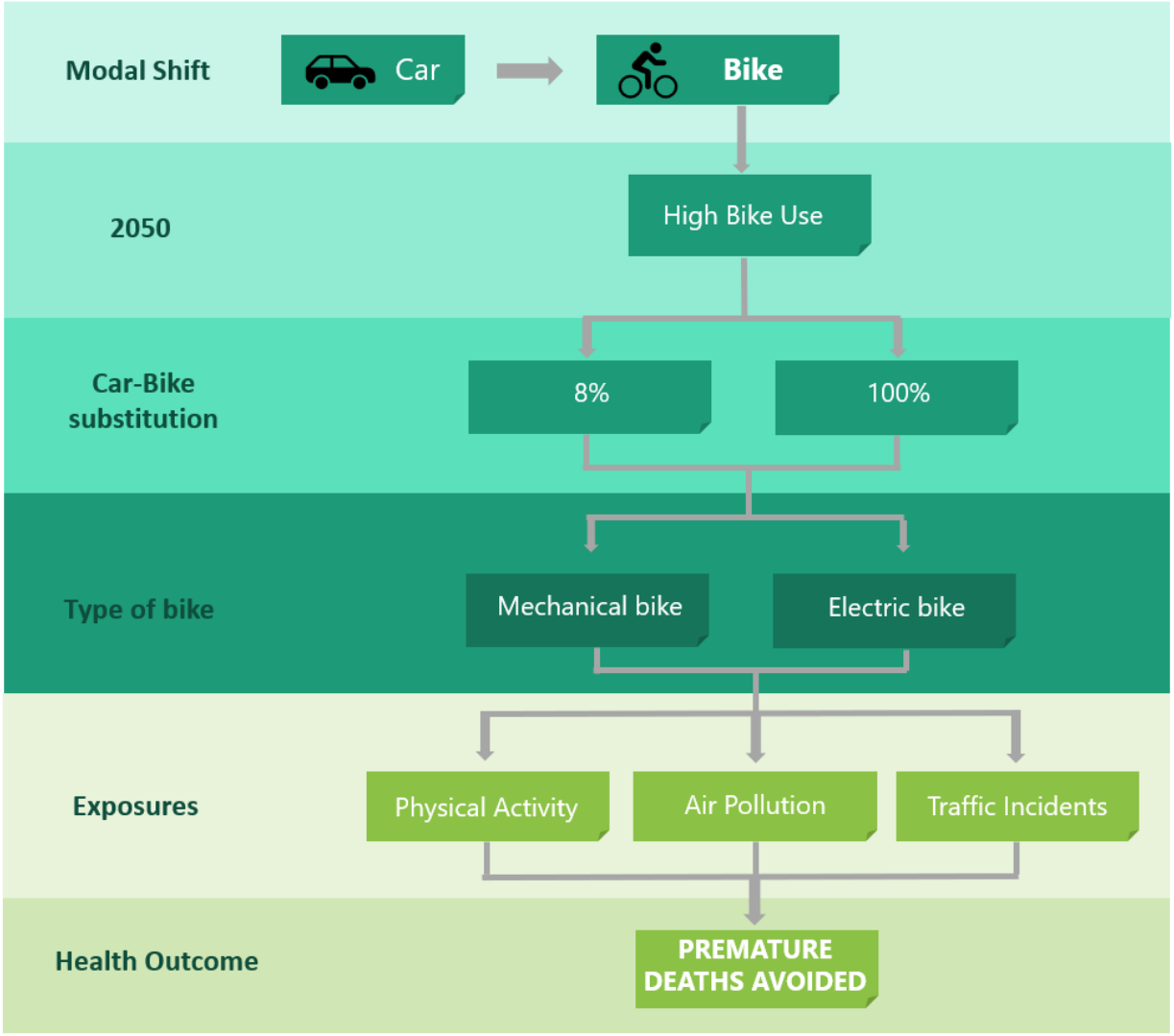
Modal Shift
Car
Bike
2050
High Bike Use
Car-Bike substitution
8%
100%
Type of bike
Mechanical bike
Electric bike
Exposures
Physical Activity
Air Pollution
Traffic Incidents
Health Outcome
PREMATURE DEATHS AVOIDED

RESULTS

	2050			
	Scenario - Ambitious high bike use (100% of all future bike trips will substitute car trips)			
Country	Annual premature deaths	LUI	UUI	Percentage of change between 2050 trends vs high bike use (%)
Brazil	-10,747	-4,732	-19,633	114%
Canada	-1,205	-807	-1,794	224%
China	-25,153	-15,209	-40,530	24%
Denmark	-144	-102	-214	17%
Egypt	-4,241	-1,796	-7,702	106%
France	-2,132	-1,452	-3,195	106%
Germany	-2,749	-1,941	-4,008	109%
India	-87,337	-54,350	-134,832	162%
Indonesia	-17,968	-9,211	-29,071	143%
Italy	-1,257	-788	-1814	101%
Japan	-2,271	-1,520	-3,435	113%
Mexico	-7,133	-2,554	-12,037	268%
Netherlands	-357	-247	-536	17%
Russia	-16,274	-11,246	-24,262	153%
South Africa	-8,839	-5,836	-13,058	117%
United Kingdom	-2,308	-1,602	-3,421	107%
United States of America	-15,309	-10,199	-23,308	218%
Total	-205,424	-123,592	-322,850	89%

CICLOVIAS RECREATIVAS
OPEN STREETS

Quito, Ecuador

Ciclovías Recreativas de las Américas

15 cities from

10 Latin America Countries

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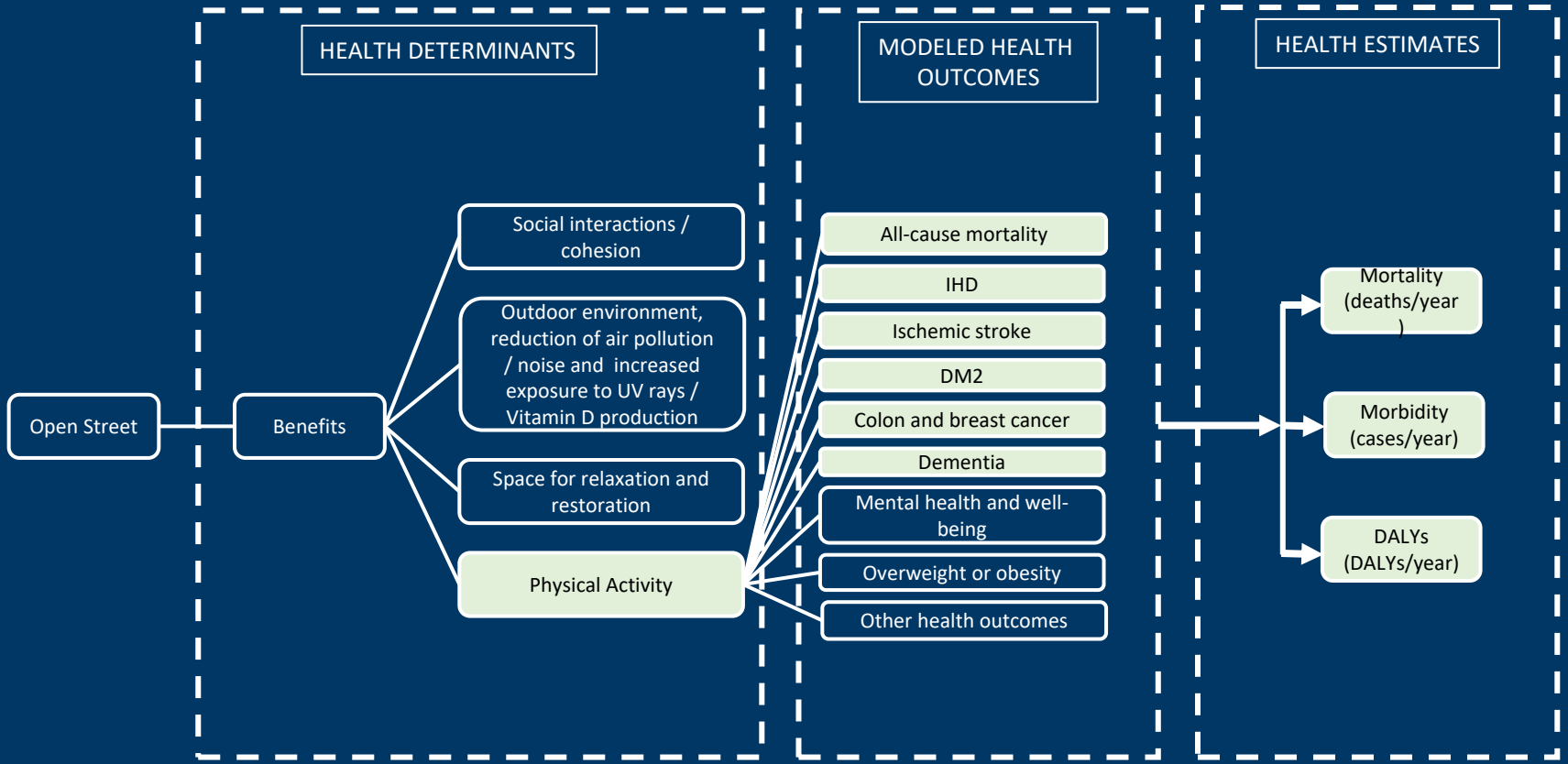
Methods



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Open streets Latin America

15 cities in 10 Latin-American countries

Country, City	Deaths	Ischemic Heart Disease	Stroke	Type 2 Diabetes Mellitus	Colon Cancer	Breast cancer	Dementia	DALYs	Economic value related to mortality in million USD$
Total (15 cities)	**-1 101**	**-105**	**-20**	**-49**	**-4**	**-2**	**-155**	-3 070	**-1 574**

DALYs: disability-adjusted life years

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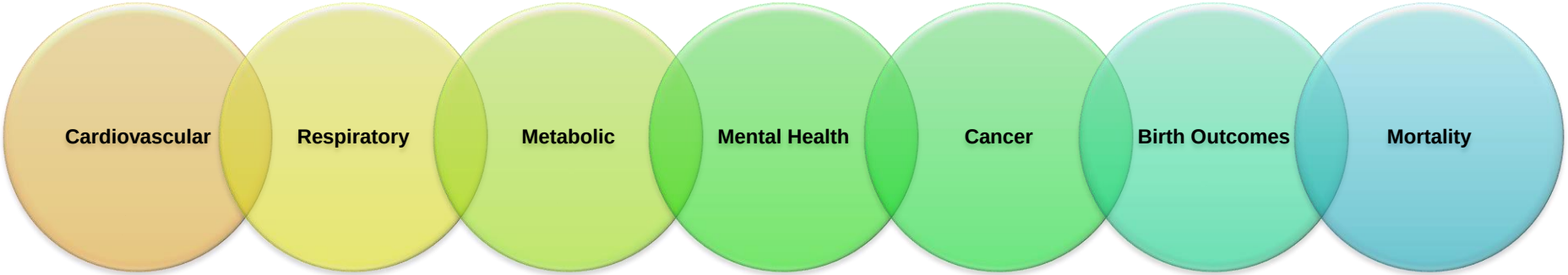
NATURALEZA


Temperature
Ultraviolet Radiation
Air Pollution
Noise
Physical Activity
Social Interaction
Calming Environments
Urban Renewal/ Degradation
Gentrification
Jobs
Floods / Droughts
Food
Biodiversity
Nature

Frequent HEALTH OUTCOMES associated to green spaces



City of Philadelphia
LIFE • LIBERTY • AND YOU™

Tree canopy 2025

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE
USDA

Table 3. Annual preventable premature adult deaths (years 2016-2025) by count and percent, and economic impacts

	Preventable Premature Adult deaths				Economic value[1,2]	
	Count	**95% Interval**	**Percent**	**95% Interval**	**Value in millions**	**95% Interval**
SCENARIO 1: 5% increase tree coverage						
Total Mortality						
City-wide	265	(156, 320)	1·9%	(1·1%, 2·3%)	$2,543	($1502, $3075)

Table 3. Annual preventable premature adult deaths (years 2016-2025) by count and percent, and economic impacts

	Preventable Premature Adult deaths				Economic value[1,2]	
	Count	**95% Interval**	**Percent**	**95% Interval**	**Value in millions**	**95% Interval**
SCENARIO 1: 5% increase tree coverage						
Total Mortality						
City-wide	265	(156, 320)	1·9%	(1·1%, 2·3%)	$2,543	($1502, $3075)
SCENARIO 2: 10% increase tree coverage						
Total Mortality						
City-wide	526	(309, 638)	3·8%	(2·2%, 4·6%)	$5,052	($2970, $6125)
SCENARIO 3: 30% tree coverage						
Total Mortality						
City-wide	718	(414, 877)	5·2%	(3·0%, 6·4%)	$6,890	($3981, $8425)

Votación en Zoom

Que políticas de mitigación del cambio climático tendrán co-beneficios en la salud?

- Incrementar el uso de bicicletas
- Incrementar áreas verdes y parques
- Promover el transporte publico
- Promover consumo de frutas y verduras
- Reducir el uso de vehículos motorizados
- Incrementar la densidad urbana
- Uso mixto de suelo
- Todas las anteriores

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Referencias

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