

**Making the case for climate change**

C40 and Novo Nordisk are working with mayors to support healthier, more liveable cities.

From rising wealth and increasing consumption, to more sedentary lifestyles and inequality of access to healthcare and healthy environments, urban living presents a major challenge to health and climate.

Our work supports cities to not only tackle urban health and climate change challenges, but more importantly realise the vast potential

of doing so. The benefits of climate action – from green jobs and growth, to active, happier lives and cleaner air and water – have an immediate, tangible impact on people’s lives.

This research enables cities to evidence the benefits of climate action as efficiently, effectively and expeditiously as possible. By making a stronger case for climate and health policies and projects, cities can unlock the much greater speed and scale of action that is required.

**WHY CITIES?**

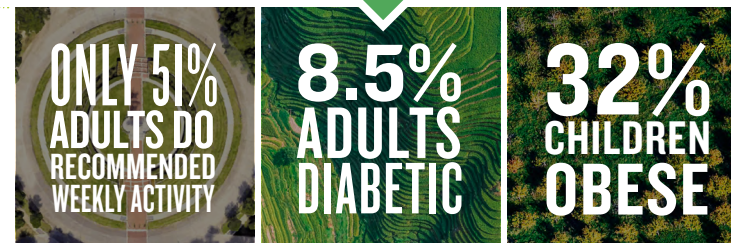
More than half the world’s population live in cities, about 3.7bn people  
Cities generate 70% of global CO<sub>2</sub> emissions

Non-communicable diseases are emerging as the new urban epidemic – 39.5M people die every year from NCDs  
2/3 of adults with diabetes live in cities

THE HEALTH CHALLENGE		THE CLIMATE CHALLENGE	THE OPPORTUNITY	
<b>INACTIVITY 4TH BIGGEST KILLER</b>	<b>415 MILLION ADULTS WITH DIABETES</b>	<b>14 THOUSAND ACTIONS BY 2020</b>	<b>HEALTH BENEFITS OFF-SET MITIGATION POLICY COSTS UP TO TEN TIMES</b>	
<b>WORLDWIDE OBESITY TRIPLED</b>	<b>12% WORLDWIDE HEALTH COSTS</b>	<b>49 GIGATONNES OF CO<sub>2</sub> PER YEAR</b>	<b>38 BILLION EUROS IN BENEFITS</b>	<b>20 MONTH INCREASE LIFE EXPECTANCY</b>
Inactivity is the 4th biggest global killer, responsible for around 3.2M deaths every year  Worldwide obesity has nearly tripled since 1975, over 1.9Bn adults are overweight and of these over 650M are obese  Over 415M adults are living with diabetes worldwide  Diabetes healthcare costs US\$673Bn, 12% total global health care costs	The time for urgent action is now – C40 Cities must deliver 14,000 actions by 2020 in order to reach net zero emissions by 2050 and achieve the Paris Agreement’s aspiration for a 1.5 degree world  Total anthropogenic GHG emissions were the highest in human history from 2000 to 2010 and reached 49 Gigatonnes CO <sub>2</sub> equivalent per year in 2010	In the US the health benefits are estimated to off-set the cost of mitigation policies by up to ten times  In China climate action could lead to an estimated 20 month increase in life expectancy through reducing air pollution  In Europe reducing air pollution and mortality through climate mitigation could deliver €38Bn worth of benefits		

**HOUSTON CASE STUDY**

**DRIVERS FOR ACTION**



Only 51.1% of adults in Houston currently get the recommended amount of weekly aerobic physical activity

28.7% adults are obese, 8.5% are diabetic, and 29.8% have high blood pressure

32% of children in Houston are obese, a leading indicator of future health issues

**HOUSTON BIKE PLAN**



The Houston Bike Plan was launched in 2017 to improve safety, access, ridership and facilities

Plans to increase existing 270 miles of high comfort cycle facilities to 872 miles across the city

Goal to increase cycling from 0.5% to over 1.8% mode share

**WHITE OAK BAYOU GREENWAY**

THIS RESEARCH DEMONSTRATES BENEFITS FROM THE 17 MILE WHITE OAK TRAIL, ONE OF THE FIRST SECTIONS OF THE GREENWAY 2020 – ILLUSTRATING THE HUGE POTENTIAL OF THE CITY-WIDE BIKE PLAN



The White Oak Bayou Greenway is a 17-mile green landscaped and off-street hike and bike trail used for over 250,000 trips by an estimated 1,282 regular riders per year

HEALTH BENEFITS		ENVIRONMENTAL BENEFITS		ECONOMIC BENEFITS		SCALING-UP TO CITY-WIDE	
12% reduction in type 2 diabetes risk, an average additional 8 months of healthy, diabetes-free life	<b>12% DIABETES REDUCTION</b>	<b>117,000 CAR TRIPS AVOIDED</b>		12 full-time maintenance jobs created each year for 25 years		TO ILLUSTRATE THE POTENTIAL BENEFITS FROM HOUSTON'S CITY-WIDE BIKE PLAN THE HEALTH IMPACTS FROM ACHIEVING A 2% CYCLING MODE SHARE WERE ESTIMATED	
<b>20% HEART DISEASE REDUCTION</b>			In 2016 alone, nearly 117,000 car trips, over 4,000 bus rides and nearly 2,500 taxi rides were avoided as a result of cyclists on the White Oak Trail ...	<b>12 JOBS CREATED EACH YEAR</b>	The value of emissions saved in 2016 was estimated at \$24,300		
20% reduction in heart disease and stroke risk			... offsetting the release of approximately 350,000 kg of CO <sub>2</sub> , 270 kg of NO <sub>x</sub> , 10 kg of SO <sub>2</sub> , 23 kg of PM <sub>10</sub> and 10 kg of PM <sub>2.5</sub>		<b>\$24,300 OF EMISSIONS SAVED</b>		Potential benefits of over \$80M per year, representing a 2.64 return on investment
			<b>REDUCED AIR POLLUTION</b>				<b>\$80+ MILLION ANNUAL BENEFITS</b>
	Improved mental health and wellbeing, 12% reduced risk of depression and 9% reduced risk of dementia		<b>350 TONNES OF CO<sub>2</sub> SAVED</b>		The benefits of reduced mortality of \$2M per year, exceeding the costs of the scheme by 2.38 times		
125 minutes of physical activity per cyclist per week, over 80% of WHO's recommended weekly exercise	<b>12% REDUCED RISK OF DEPRESSION</b>			<b>\$2 MILLION ANNUAL SAVINGS</b>		<b>328 JOBS CREATED DURING CONSTRUCTION</b>	
<b>125 ACTIVE MINUTES PER WEEK</b>			<b>2,500 TAXI RIDES AVOIDED</b>			200 direct jobs and 128 indirect jobs were created during the construction period	<b>12 PREMATURE DEATHS AVOIDED</b>
							Over 12 premature deaths avoided per year