The sustainable mobility sector highlights how cities are putting people before cars. Prioritising public transport, cycling, and walking, and redesigning cities to be bicycle- and people-centric are some of the steps cities are taking towards a low-carbon future.
As part of Stockholm’s plan to be fossil fuel-free by 2040, the city decided to tackle the notoriously difficult heavy motor vehicle-related carbon emissions. Through these inter-business collaborations, greater energy efficiency and lower production cost practices were devised, streamlining their business operations to become more economically and environmentally sustainable, as well as more competitive for the post-carbon future. This reduction of both the number of vehicles and journeys has reduced the city’s air and noise pollution, on top of the reduction in transport-related CO₂ emissions.}

Trust has been an important element in this process as many logistics operators would likely not be willing to let another company deliver parcels to their customers, which is why Bring’s cooperation with Ragn-Sells is impressive. Such has been the success of the project that the area covered in Stockholm has been ever-increasing.

What has the city achieved?

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What are the co-benefits?

Social:
Less congested city streets can lead to more community activities in public spheres.

Health:
A reduction in local air and noise pollution improves the local citizens’ health.

Economic:
Public spaces that are more attractive will likely result in greater foot traffic, meaning increased economic activity on the high street.

Environmental:
This project has led to a 74% reduction in CO₂ emissions.
The energy use of this waste collection is only a third of ordinary waste collections’ energy use.

Stockholm’s Beloved City collaboration has led to the replacement of six regular diesel-run trucks by a single silent electric vehicle.

What can other cities learn?

City council can play a key role in facilitation:
The city played a central role in facilitating proceedings and aiding successful business partnerships. Over the course of the five years of the project, only 1-2 full-time civil servant coordinators’ salaries have been funded by the city. All other investments have been made by the businesses, with the enterprises being commercially viable since the project’s start.

Share widely, and inspire other cities to follow suit:
This solution is eminently scaleable to other cities, which is why Stockholm has been sharing Beloved City so widely. Following the city’s successful scaling-up, other cities have taken note. In April 2019, Oslo inaugurated its own version of this project, with Malmö – Sweden’s third-largest city – scheduled to roll out its own project later in 2019.
The need to significantly overhaul NYC’s transport system had become increasingly clear, explaining why such a wide variety of policy initiatives were implemented. The speed limit has been lowered to 40 km per hour and critical street space has been shifted away from low-density motor vehicles. Pedestrian spaces have been expanded and buses, cyclists, and pedestrians all now have greater priority. An additional 132 km of segregated bicycle lanes have been built, with the bike network now totalling 772 km and less-polluting personal vehicles have been promoted. An ever-increasing city-wide speed camera programme has been deployed with speeding down by 85% at camera locations, while targeted interventions have been introduced in specific areas that have suffered disproportionately from serious crashes.

Since entering New York City’s Mayor’s office in 2014, Bill de Blasio’s administration’s holistic, integrated, and data-driven Vision Zero strategy to boost greater safety, equitability, and sustainability in urban mobility is proving to be a notable success.

**Increasing active transportation is a crucial component** to Vision Zero, with daily cycling trips now exceeding 490,000 – a 29% increase since 2013. Meanwhile, whilst traffic fatalities in the USA are up 15% since 2013, in NYC they are down 32%. This effective strategy has become a global model for urban traffic safety, with NYC also hoping to soon become the USA’s cleanest big city.

**What has the city achieved?**

The need to significantly overhaul NYC’s transport system had become increasingly clear, explaining why such a wide variety of policy initiatives were implemented. The speed limit has been lowered to 40 km per hour and critical street space has been shifted away from low-density motor vehicles. Pedestrian spaces have been expanded and buses, cyclists, and pedestrians all now have greater priority. An additional 132 km of segregated bicycle lanes have been built, with the bike network now totalling 772 km and less-polluting personal vehicles have been promoted. An ever-increasing city-wide speed camera programme has been deployed with speeding down by 85% at camera locations, while targeted interventions have been introduced in specific areas that have suffered disproportionately from serious crashes.

These far-reaching measures have led to a safety-in-numbers effect to emerge with a greater share of New Yorkers making trips on foot, by bicycle, and by public transport. These developments have led to more liveable streets, which in turn has led to higher retail receipts and sales tax revenues. These efficient, cheaper, and more convenient transport methods also increase the connectivity of the whole city, thereby linking those living in less-affluent neighbourhoods to jobs, an essential component for more equitable economic development.
What can other cities learn?

A holistic approach proves more effective:

In addition to framing the urban mobility transformation with an environmental lens, city officials believe Vision Zero has been an even greater success by framing it around the issues of equity, justice, and public health. These concerns have proved to be more pressing to citizens, allowing for more socially and environmentally just solutions, demonstrating that the former’s importance ought not be underestimated.

The bicycle is at the heart of sustainable urban mobility planning:

Cycling has been a crucial aspect of Vision Zero as, by 2050, NYC hopes to boost its modal share to 10%. Schemes like “Prescribe a Bike” have enabled low-income citizens to have access to NYC’s sharing Citi Bikes. In the past decade, bicycle trips have increased by 134%, which means that approximately 2.6 million car trips are now avoided annually. Pedal-assisted electric bicycles will now be introduced into the bike-sharing system, which in itself will grow from 12,000 to 40,000 over the next few years.
KOLKATA: Electrifying buses and ferries

With the ambitious aim of retaining its public transport’s impressive 88% modal share, Kolkata has decided to invest and improve the city’s public transport options. By 2030, the city plans to have inducted 5,000 electric buses, as well as fully electrifying the ferries that run across the Ganges River.

On top of its narrow street layout, only 7% of Kolkata’s land area is dedicated to roads, meaning that effective and coordinated public policy is crucial to minimise and help solve urban congestion issues as this city continues to grow.

What has the city achieved?

Kolkata’s air pollution levels are a cause for concern, this was a key reason behind the West Bengal State Government’s decision to transition the city’s entire bus and ferry fleets to electric models over the next 11 years.

The shift makes financial sense, too. From a 10 year perspective, 125 kWh and 180 kWh battery buses are much cheaper to run, having only a third of the operational costs of a diesel bus.

With citizens in mind, a common mobility card was introduced in 2017 to facilitate transfers between different modes of travel. In addition to keeping costs and travel times down for users, providing a more seamless commuting experience is important to the West Bengal Transport Corporation, the city’s state-owned public transport provider.

As of 2019, 80 electric buses have been introduced to the city, with another 100 planned for 2020. These 180 electric buses will lead to an annual reduction of 14,086 tonnes of CO₂ emissions.
What are the co-benefits?

Social:
Effective policies to maintain public transport’s impressive modal share are crucial to ensure that urban mobility options are more equitable, sustainable, and inclusive to all citizens.

Health:
These developments will mean that the insidious health risks associated with direct exposure to particulate matter and poor air quality will be substantially mitigated for regional citizens.

Economic:
The electrification of 5,000 buses will save 11 million litres of diesel fuel, meaning the city will see net savings of $98 million per year by 2030.

Environmental:
By 2030, the electric buses will reduce CO₂ emissions by 782,560 tonnes, NOx emissions by 1.3 million tonnes, and carbon monoxide emissions by 1.7 million tonnes each year.

What can other cities learn?

Adopt helpful national policies:
The Indian government’s national policy of Faster Adoption and Manufacturing of Electric vehicles (FAME) and state decision to link technology to mobility is what enabled this ambitious plan to get off the ground. The national government’s FAME scheme provided 60% of the funds for the initial 80 electric bus procurement. FAME is also partly subsidising the installation of charging infrastructure.

Effective public partnership enable rapid transitions:
The national and state-level long-term vision has enabled Kolkata to be first Indian megacity to transition its entire bus and ferry fleets to electric models. The West Bengal State Government has come up with the remaining funds for the buses and charging stations, as well as the last infrastructure costs. The West Bengal Transport Corporation – the state-owned enterprise that runs Kolkata’s public transport system – is responsible for the implementation of this city-wide project.

KOLKATA

↓783K TONNES OF CO₂ EMISSIONS are expected to be reduced per year by 2030 once Kolkata’s ferries and buses are electrified.

The introduction of 5,000 electric buses by 2030 will reduce CO₂ emissions by 782,560 tonnes every year.
Guangzhou has become one of China’s forerunners for sustainable urban mobility, racing alongside 30 Chinese cities aiming to have all their buses running on electricity by 2020. Despite each electric bus costing about $266,000, Guangzhou, alongside other Chinese cities, have not been put off by these large investments, as the country is home to around 99% of the electric buses currently in operation worldwide.

The city’s six million citizens were the ones who demanded the e-bus transition as the air and noise pollution of the previous fossil-fuelled buses had become a major irritant. This project had the goal of shifting the city to be more attractive, liveable, and user-friendly. For example, with bus stops now a more agreeable place to be, the city hopes for these spaces to become more social, as well as harbouring more small and medium enterprises. Guangzhou’s bus transition is only one aspect of its sustainable urban mobility plans. Within three years, the city hopes to realise the electrification of all taxis. Financial incentives have also been introduced to promote the private ownership of electric vehicles. This explains why the charging needs of these other types of EVs were planned for in the design of the city-wide bus network in order to maximise the opportunities for investment cost recovery via charging service fee income.

The year 2018 witnessed the rapid conversion of Guangzhou’s entire fleet of 11,220 buses to models run solely on electricity. This ambitious project, which also included the installation of 4,000 charging stations across the city, required an investment of $2.1 billion.

Given the necessity for a well-planned network of charging stations, extensive adjustment to the city grid, and the myriad green finance instruments involved, significant cooperation within the different hierarchies of the Chinese government was required to see this project to a successful completion.

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What are the co-benefits?

**Social:**
The work lives and health of the city’s 30,000 bus drivers are now easier and better, thanks to the e-bus transition.

**Health:**
The elimination of local air pollution, as well as the halving of noise pollution, improves the health of Guangzhou’s citizenry. The need for noise-reducing building seals has also been decreased, enabling architects to make greater use of natural ventilation, thereby reducing energy demand for cooling.

**Economic:**
The lifetime energy costs for electric buses is 20% lower than conventional fuel buses, resulting in energy cost savings of around $58 million. Maintenance costs are approximately 20% lower, too.

**Environmental:**
The electrification of these buses is estimated to reduce CO₂ emissions by 249,000 tonnes, and nitrous oxide emissions by more than 16,000 tonnes, annually.

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GUANGZHOU

↓ 249K TONNES OF CO₂ EMISSIONS are estimated to be reduced yearly via the electrification of 11,220 buses

What can other cities learn?

**Strong urban governance is required:**
Ambitious projects such as these demand strong and effective leadership from all facets of society: local government, industry, bus companies, and civil society. Greater engagement and cooperation between different areas of the public sector had to take place to allow for more effective public-private partnerships, as well as devising the crucial green finance instruments.

**Making use of green finance instruments:**
Guangzhou city officials, in collaboration with financial institutions and the involved bus manufacturers, operators, and transport companies, made good use of a plethora of green finance instruments. Some of these include: the financial leasing and rental contracts for acquiring electric buses, zero-margin benchmark interest rates, and purchase discounts for vehicles.

Guangzhou’s ambitious sustainable urban mobility project includes the electrification of its entire fleet of 11,220 buses, as well as constructing 4,000 charging stations across the city.
The year 2012 marked the start of an ambitious 33 year project, a collaboration between the Capital Region of Denmark and 26 municipalities to create 746 kilometres of cycling paths across 45 interconnected routes to form a cohesive network.

This significant $332 million investment in the regional cycling infrastructure is what has enabled Greater Copenhagen to maintain its reputation as one of the globe’s most cycling-friendly regions.

In the seven years since its inception, 167 kilometres of Cycle Superhighways have been built, with an additional seven more routes expected to be completed over the next two years. These superhighways connect residential, educational, and business areas as well as public transportation hubs and stations. This highly coordinated, long-term planning has made cycling to work easy, safe, and flexible for all the region’s citizens. Indeed, between 2007 and 2016, the number of cycle journeys has risen by 20%, with 408 million cycle journeys taking place every year.

Even though 24% of all regional journeys are by bicycle, this coorporation is not resting on its laurels. The Cycle Superhighways project hopes to increase the number of annual bike trips in the Capital Region by 6 million.

It goes without saying that traffic does not take municipal borders into consideration, which is why much of this initiative’s success can be attributed to the cooperation between the 26 participating municipalities and the Capital Region of Denmark. Without the long-term political will, a project of this magnitude across an area of this size would not be possible.

This forward-thinking project provides a good example of how working together can help solve some of society’s most pressing issues.
What are the co-benefits?

Social: Every year, this completed initiative will result in 720,000 fewer car journeys, as well as 55,000 fewer hours spent in traffic. As a mode of transport, cycling is a time-efficient way of exercising as part of a person’s daily commute.

Health: An additional 6 million cycle journeys are expected to take place annually. The city expects approximately 40,000 fewer sick days per year, thereby resulting in significant public cost savings, as well as significant extra tax revenue.

Economic: This scheme will result in less congestion, which is important given the fact that car traffic is on the rise in the Greater Copenhagen region. The enhanced cycling infrastructure will lead to a $860 million surplus thanks to the myriad economic benefits.

Environmental: The 45 Cycle Superhighways will result in an annual reduction of 1,500 tonnes of CO₂ emissions, as well as avoiding 2,500 kilograms of NOx emissions per year.

What can other cities learn?

Focus on cost-effective modes of transportation:
Increasing the number of cycling commuters is an extremely cost-effective way of reducing large amounts of CO₂ and NOx emissions, while also significantly improving public health. Compared with other regional infrastructure investments, the Cycle Superhighways project is significantly cheaper as the route network offers a socioeconomic return of 19% compared to 3.1% for the city’s new City Circle Metro Line.

Divide task to ensure successful implementation:
Various public actors have played different roles in this project. The process of planning and constructing the Cycle Superhighways lies entirely with the participating municipalities. The Capital Region has provided financial support by co-financing the coordinating office with 75% funding. The state has contributed 50% of the total construction costs, with the local municipalities, as well as public funds, filling the remaining gaps in funding.

COPENHAGEN

6 MILLION ADDITIONAL CYCLE JOURNEYS expected to take place every year by 2045

Despite one out of every four journeys already involving the bicycle, the Capital Region hopes to increase the number of annual bike trips by 6 million once the Cycle Superhighways project is completed in 2045.
Like countless cities around the world, Bucaramanga struggles with congestion within its city limits, in spite of the mean travelling distance being less than 7 km. In early 2016, it did not have any bicycle infrastructure and cycling represented less than 1% of modal share. However, by taking a strong, forward-thinking political stance, city officials have steadily introduced cycle-inclusion policies, with the overarching goal of significantly boosting bicycles as a viable transportation alternative, thereby decreasing both noise and local air pollution and reducing carbon emissions from transport. By the end of 2019, construction will end on a 20 km cycle path network – a $4.4 million investment – along the main urban thoroughfares. Following which, residents from all backgrounds of this metropolitan of one million inhabitants will have greater access to safe and direct cycling routes as roads are transitioned away from motorised transport. A pilot bike-sharing system, with 210 bikes spread across 12 bicycle stations, which represented an $400,000 investment, will have also been implemented. The recent declaration of the “hecho metropolitano” means that all these developments are legally enforceable for the entire Metropolitan Area. Hence, the three neighbouring city municipalities of Girón, Floridablanca, and Piedecuesta will have to be cycle-inclusive by 2030 at the latest.

Since 2016, Bucaramanga’s Mayor’s office has put the bicycle high on the city’s transport agenda.

The creation of the Bicycle Office, as well as the first dedicated 2.6 km bicycle lane connecting the public library with the public university, were the first two concrete implementations by the city on its quest to increase cycling ridership to 5% by 2030. Following this, the Cycling Strategy was published in 2018, thereby creating an institutional framework in order to implement, replicate, and upscale these ambitious city-wide developments.

What has the city achieved?

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What are the co-benefits?

Social: Cycling is one of the most equitable forms of transport available due to the relatively low cost of bicycle acquisition and maintenance.

Health: Increased physical exercise via urban cycling will likely lead to an overall boost in citizens’ health, with a likely reduction in the number of cardiovascular cases in the Bucaramanga metropolitan area.

Economic: Investing in cohesive, interconnected cycling networks often results in significant long-term return on investments due to increased economic activity from the local citizenry, as well as reduced costs related to health issues connected to excessive local air pollution.

Environmental: Bicycles are one of the most efficient modes of transport from a carbon emissions perspective. Moreover, the greater the modal share of non-motorised transport, the lower the concentration of local air pollutants across the city.

BUCARAMANGA

What can other cities learn?

Widespread bicycle integration is the key:
Successful integration of the bicycle with the city’s other modes of transport is crucial for this scheme to be a long-term success and for the bicycle to become a go-to for Bucaramanga’s residents. So, in addition to the cohesive, interconnected 200 km cycling network planned by 2030, ample bicycle parking infrastructure at bus stations, as well as facilitating bringing bikes onto public buses, are all goals the city plans to implement in the medium-(2025) and long-term (2030).

Create the space for new organisations to flourish:
Since the city’s bicycle initiatives started in 2016, Ciclaramanga – an organisation run by part-time volunteers – has also spearheaded the development of “Bicicultura” (bicycle culture) throughout Bucaramanga. By taking the lead via visionary, long-term policy, the Mayor’s office has helped foster a space for other organisations to help the transition towards sustainable and equitable forms of transportation.

200 KILOMETRES OF CYCLING ROUTES by 2030

An attractive, safe, and segregated 20 km cycling route network along Bucaramanga’s main thoroughfares will be completed by the end of 2019.
Three years after Bogotá’s city government introduced its comprehensive “Integral Sustainable Mobility Plans” (PIMS: the spanish acronym), results are starting to gain serious traction, with more than 150,000 people now actively commuting. Being home to one of the highest population densities in Latin America, effective public policy through PIMS was the crucial tool used by the city’s policymakers to help ease the myriad problems connected to excessive, widespread private vehicle travel. The initiative “Muévete Mejor” (Move Better), under which administrators coordinate and promote the overarching strategy, works by guiding and supporting participating public and private organisations, with implementation undertaken by the entities themselves.

In addition to infrastructure investment, Muévete Mejor has demonstrated that to achieve long-term cultural change it is essential to provide frequent training workshops and events to inspire positive behavioural changes. The annual bicycle-to-work week led to 121,542 trips taking place over 2017 and 2018, with 649 tonnes CO₂ emissions avoided. The 40 monthly car-free days have led to 100,000 bicycle trips. This prevented 387 tonnes of CO₂ from being emitted in 2018.

What has the city achieved?

So far, 71 public organisations, 18 universities, and 77 private companies are actively involved in the network, though it is the involvement of the private sector that is key to successfully transforming the city. The 5,200 companies that each employ at least 50 employees – more than 1.9 million employees in total – are the entities this ambitious scheme hopes to inspire next. The largest 1% of organisations employ 48% of the population. By implementing a suite of strategies – from teleworking to increasing the share of employees commuting by bicycle – these companies could have an overwhelmingly positive impact on the quality of city life.

BOGOTÁ: City gets Bogotanos on the move with green commuting

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What are the co-benefits?

Social:
By positively changing people’s habits, an increase in workers’ quality of life is often achieved, with a greater sense of community being fostered thanks to the general interest prevailing over private interests.

Health:
Active commuters are exposed to significantly lower concentrations of air pollutants, which reduces the risk of developing respiratory and cardiovascular diseases. Average cycling commuters travel 8.9 km per trip, equating to approximately 35 minutes of physical activity.

Economic:
Active commutes and/or public transport journeys result in substantially lower commuting costs for workers.

Environmental:
Just two bicycle-to-work weeks led to 121,542 commute trips, preventing 649 tonnes of CO₂ emissions.

What can other cities learn?

A multi-pronged approach:
By using different strategies over time, the city has inspired different people at different times of the year. Carpool week – involving more than 80 organisations – led to more than 2,200 trips with a shared private vehicle. In the 11th Bicycle Week 34,530 journeys took place. In the Bike and Pedestrian Challenge, 74 organisations mobilised 19,638 trips, of which 30% were pedestrian caravans. During the inter-city challenge – Bogotá vs Medellín – 2,600 public sector workers commuted by bicycle.

The city’s multi-pronged approach to promoting sustainable urban mobility has led to 150,000 more active commuters since 2016 when the project launched.
Since 2013, Bengaluru’s project Tender Specifications for Urban Road Execution (SURE) has focused on re-designing the city to prioritise active forms of transport, as well as public transport options.

With more than 7.5 million registered motor vehicles, congestion has become an ever-increasing issue, thus demoting motor transport options has been seen as an essential strategy. Such has been the success of the project that 90 roads are already part of Tender SURE, with investments totalling $137.3 million.

What has the city achieved?

Encouraging behavioural change towards more active forms of transport is not easy, which is why Tender SURE has constructed an array of infrastructure that makes public and active transportation a more pleasant experience. These measures include widened footpaths, an expanded cycling network, more bus bays and bus lanes, and improvements to make bus stops more enjoyable places to be. A far better integration of numerous public utilities within the city’s re-design has been essential to reduce the disruption and economic costs associated with the maintenance and repairs of these roadworks, thereby aiming for long-term solutions instead of short-term fixes.

With more than 12 million citizens living in the metropolitan area, the average citizen spends more than 240 hours stuck in traffic every year. Certain Tender SURE sites have seen pedestrian volumes increase by 250%, as well as a likely reduction in transport-related air pollution. Safety has increased, too. In a country in which 37% of total deaths from road accidents are pedestrians, road accidents in Bengaluru have decreased from 6,024 in 2011 to 4,611 in 2018. Finally, the city’s urban heat island effect – an increase of 2.5°C over the past 30 years – has been targeted by planting more vegetation.
BENGALURU

What are the co-benefits?

Social:
In India, pedestrians are disproportionately at risk of being involved in a road accident. Bengaluru’s project has already demonstrated a reduction in the total number of traffic accidents.

Health:
The increased uptake of walking, cycling, and using public transport results in more active lifestyles, which improves the public’s general health.

Economic:
Active forms of transport and superior public transport options are more equitable forms of transport, providing a greater segment of the city’s population with access to transportation.

Environmental:
Bengaluru’s aim is to reduce 154 million car trips per year, which would result in an annual 5% reduction in CO₂ emissions.

What can other cities learn?

Seek the residents’ advice:
As most of the works have taken place in the CBD of Bengaluru, in order to receive residents’ feedback and advice two weeks of door-to-door campaigns with local residents and property owners took place. In addition, residents were informed with warnings of the planned upcoming major city works.

Inspire other cities:
So successful has the Tender SURE been thus far that other major Indian cities like Nagpur, Chennai, Hyderabad, Bhopal, Indore, and Vadodara have enquired about how to best go about developing their own respective sustainable urban mobility projects.

154 MILLION REDUCTION OF CAR TRIPS per year are hoped to be seen through the project Tender SURE

Increasing the total surface area of dedicated footpaths has been a key strategy of re-designing the city centre to be more pedestrian-friendly.

A photo prior to construction is pictured in the bottom left.
HALDEN: Sustainable mobility meets the sharing economy

February 2019 was the month Halden Municipality shifted its mobility policies. It decided to lease 20 electric vehicles (EVs) and to purchase 20 electric bicycles for its 2,200 employees, in order to put its transportation funds to better use, as well as significantly reduce its transportation sector air pollutants and CO₂ emissions.

Outside office hours, the city’s 30,000 residents and tourists are able to rent on an hourly basis any of this diverse mix of EVs from the private car-sharing provider Mobility Park via the public national mobility platform app Entur.

What has the city achieved?

After the municipality determined it had paid $268,795 in employee travel allowances in 2017 for trips mostly using private fossil-fuel cars, it decided to research alternatives. Given that one-third of these trips were under 3 km, it opted to purchase 20 electric bicycles to fulfil the majority of all 5 km Halden-based employee trips.

The municipality has initially leased the 20 EVs until January 2020, after which time it can decide whether to extend the lease agreement for another two years, depending on the success of this pilot project. Halden Municipality hopes that by creating this consistent EV demand, the car-sharing provider can offer lower rates for all users, thereby making it more attractive for citizens to rent rather than own a vehicle. The municipality has big hopes for this forward-thinking scheme. It points out that there are about 507,000 public sector employees across Norway. If similar schemes were scaled nationwide, it could reduce CO₂ emissions by 14,000 tonnes each year. On a grander scale, were all private workplaces – with their 2.7 million employees – to make similar solutions available, 73,600 tonnes of annual CO₂ emissions could be avoided.
What can other cities learn?

Make the most of national policies:

This project would not have been financially feasible without the national Climate Action Program fund "Klimastas," made available by the Norwegian Environment Agency. This $195,627 was crucial for constructing the costly charging infrastructure supplied by private supplier, Schneider Electric Norge. The municipality does not expect a full return on investment for this project. The national fund has an overarching goal of mainstreaming sustainable solutions across a number of Norwegian municipalities, including Halden.

Short-term, reduced-risk pilot projects make good sense:

The initial leasing of the diverse 20 EVs is for an 11-month period, after which the municipality will decide whether to prolong the lease by an additional two years, depending on the success of the innovative scheme.

The car-sharing solution and charging stations required $258,920 of investment. Each EV costs the municipality $371 per month. The electric bikes and charging hubs demanded an investment of $120,828, with the bicycles expected to last 5-10 years.

HALDEN

By leasing 20 EVs and purchasing 20 electric bicycles, Halden Municipality expects to reduce its yearly transport-related CO₂ emissions by 120 tonnes.

What are the co-benefits?

Social:
The municipality hopes this car-sharing initiative will reduce the social differences between its residents, as lower-income families now have access to a more affordable mobility option.

Health:
A Norwegian study indicated that each sharing car has the potential to take 10 private cars off the road, meaning this initiative will likely reduce air pollution in the city.

Economic:
Car-sharing solutions allow for more effective land-use planning, in effect lowering the demand for car parking spaces. 1,000 new homes are planned in the centre of Halden, with more in the pipeline.

Environmental:
The 20 EVs are expected to prevent the release of 120 tonnes of CO₂ annually.

TONNES OF CO₂ EMISSIONS potentially reduced were all Norwegian Municipalities to implement similar projects

14K
The northeastern Brazilian city is the latest urban entity to transition from the unsustainable individual transport model. It has managed to do so by rapidly implementing a mix of low-cost – approximately $5.4 million – yet highly impactful interventions by learning from cities that have successfully implemented urban mobility best practices.

Over six years, dedicated bus lanes have expanded from 3.3 km to 107.4 km, with another 42.6 km expected by 2020. Twenty shared electric cars have been introduced, as well as 800 shared bicycles. By the end of 2020, both these schemes will have been scaled up to 100 and 4,000, respectively. The cycling path network has been expanded from 68 km to 257.5 km, with the initial goal of 236.2 km already having been surpassed. The boost in cycling infrastructure has been particularly effective, as a recent survey about the shared bike system indicated that 12% of cyclists used to be car or motorcycle drivers.

Finally, the city has benefited from a plethora of environmental benefits thanks to widespread urban tree planting.

What has the city achieved?

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Finally, the city has benefited from a plethora of environmental benefits thanks to widespread urban tree planting.
What are the co-benefits?

Social: These transport alternatives have promoted social inclusion and made the city more accessible to a larger segment of the population. Today, 93% of local people live within 500 metres of the public transportation system, while 40% are within 300 metres of the extensive cycling network.

Health: The city’s roads are safer. Road fatalities have decreased from 14.7 fatalities per 100,000 inhabitants in 2014 to 8.6 in 2018 – a 42% decrease. Over the same timeframe, there has been a 46% reduction in the number of serious traffic-related accident patients.

Economic: Making roads safer has significant economic benefits for the municipality. Compared to 2016, the city saved $34,123,164 – a 19% decrease – in costs related to traffic accidents in 2017.

Environmental: These projects will have reduced 265,633 tonnes of CO₂e emissions annually by 2020. More than 80,000 trees have been planted in the city over the same time period.

What can other cities learn?

Political vision and will instrumental:
The ongoing success of Fortaleza’s urban mobility planning can be partly attributed to Mayor Roberto Claudio’s strong advocacy toward climate change issues and preference for evidence-based policy-making. The municipality’s highly qualified technical staff, with ample support from key international partners, have also been instrumental in the rapid and effective implementation of myriad projects.

Private partnerships integral for quick roll-out:
The city’s development paradigm has been significantly shifted with relatively few financial resources. Strong partnerships with private sector stakeholders have been pivotal for the swift implementation of certain projects, as well as keeping costs low for the municipality. Public hearings and workshops were organised to keep local communities engaged and informed over the projects’ design and development.

As of 2020, 4,000 shared bicycles will be available to use across the city’s 257 km of cycling paths.
The Cities100 report features 100 leading climate action projects from cities around the world. The report demonstrates that cities' leadership on the climate crisis provides the added benefit of creating safe, liveable, and equitable cities for all citizens.

The 2019 digital report is the fourth edition of Cities100 and features 12 different categories of climate action.

Cities100 is a collaboration between C40 Cities and Nordic Sustainability, and is funded by the Danish philanthropic association Realdania.

Read them all by visiting: cities100report.com