Cities are increasingly integrating meaningful citizen engagement, experimenting with creative ways to involve citizens in campaigns, projects, and planning processes. Not only can citizen participation contribute to the overall success of a project, it can amplify the project’s impact, and trigger cultural and behavioural change.
Art created by youth from Durban, which is part of eThekwini Municipality, is helping connect the dots between community environmental concerns and local government focus areas. Youth and communities in the local townships of Inanda Ntuzuma and KwaMashu (INK) have been asked to express what climate change means to them.

Through the process of Photovoice, they have interpreted the question through different art forms, including photographs, poetry, and stories. The project aims to support youth engagement and understanding of climate change, while increasing collaboration between citizens and the government.

What has the city achieved?

The project provided an opportunity for participants to develop their knowledge of climate change and voice their concerns about environmental issues, while the city identified knowledge gaps and areas for further engagement with communities around climate change. Youth were given access to digital cameras and provided with training to develop their photographic skills. From the resulting photographs, deeper meaning was gained via interviews with the participants, to enable them to communicate what they wished to express through photos. The project engaged 48 participants from three local township schools and resulted in the creation of a visual and easy-to-read Climate Change Booklet. The highlight of the project was an exhibition launch event, attended by diverse members of the local community, government, and universities, which encouraged the development of partnerships for collective action on climate change. The photos were also exhibited at schools, offering the opportunity for peer-to-peer learning. A key finding was that students engaged more deeply in climate change learning by interpreting the work of their peers rather than that from municipal officials. Following the Photovoice project, students were engaged in environmentally positive actions such as clean-up campaigns, planting food gardens, and improving water quality.
What are the co-benefits?

Social:
The project has increased communication between citizens and the government. Young people were empowered to articulate their needs relating to climate adaptation, and were heard by those with the power to create change in their communities.

Health:
Awareness was raised about the negative impacts of using open fires in houses and the practice of burning unwanted materials, which leads to poor air quality and negative health impacts.

Economic:
The project helped students build their skills in creative arts and writing, increase their environmental knowledge, and boost their confidence in communicating with government officials. The experience they gained could help them receive employment in the future.

Environmental:
The students were educated about how their actions contribute to climate change, and the project further spawned community initiatives such as clean-up campaigns of local streams.

What can other cities learn?

A low budget doesn’t mean low impact:
While the Photovoice project has a relatively low budget compared to many city solutions, the city was able to make the most of their resources by engaging students in experiential education and facilitating peer-to-peer learning. Through the immersive experience of gathering photographs and art works for the Photovoice project, students were engaged in a method likely to create lasting memories and personal connections to climate change. Furthermore, the students were empowered to educate one another, which facilitated integrating conversations around sustainability within their daily lives.

Collaborate for climate action:
The Photovoice project was part of a sister-city partnership between Durban and Bremen, Germany, which facilitates knowledge sharing between the two cities. The partnership has been ongoing since 2011, when the municipalities began their partnership focusing on climate and resource protection. The cooperation between the two cities has facilitated initiatives about environmental education and climate change adaptation.

DURBAN

500 STUDENTS PARTICIPATED in an exhibition sharing results from the Photovoice project

The Photovoice project engaged students in a method likely to create lasting memories and personal connections to climate change.

Source: ™Fri Hansestadt Bremen
GLADSAXE:
Climate-adaptive neighbourhood created for the community, by the community

Gladsaxe Municipality transformed a rarely used 7,700 m² lawn and the nearby street into the vibrant, multi-purpose Kong Hans Garden and a climate-adapted neighbourhood connected to district heating, and with new cycle paths.

The features included in the garden were largely determined via a participatory process influenced by the local community. Not only does the garden help the neighbourhood weather extreme rain events and recharge groundwater, it also provides a local meeting place, an outdoor classroom, and brings nature into the city with a plethora of native wildflowers, perennials, and trees.

What has the city achieved?

Who knows what a community needs more than the people who live there? In this spirit, Gladsaxe Municipality facilitated the co-creation of Kong Hans Garden by actively engaging the local community and key stakeholders, and even piloted a participatory budget. Citizens were informed throughout the process, and invited to join a core group with direct planning influence. The key elements of the project were developed via a citizen-led idea workshop and decided upon via a community voting event.

The garden increases the region’s resilience to the increasing threat of extreme rainfall events, while providing a host of social and ecological benefits. The project aimed to decouple stormwater from the combined sewer by creating four catchments. The catchments appear to be a natural lake and wetlands, yet they are designed to relieve the drainage systems and reduce instances of flooding. Beyond these technical benefits, the garden includes many attractive features including a toboggan run, benches, and birdhouses. The garden brings nature into the city, with the planting of 6,500 m² of wild flower meadows, more than 3,000 perennials, and 327 shrubs and trees. This new habitat has attracted rich insect and animal life, including a nationally endangered butterfly species.
**What are the co-benefits?**

**Social:**
Through the participatory approach, citizens gained ownership of the process, strengthening the dialogue between citizens and the municipality. The wildness of the native species has become a topic of conversation and inspired a shift towards incorporating more nature into the community.

**Health:**
The new public green space offers citizens of all ages and abilities an informal place to gather and enjoy social and physical activities. There are also greater opportunities for active transportation thanks to the new bicycle lanes and footpaths.

**Economic:**
While operating expenses have increased, the value is returned with the areas’ use as rainwater management. In addition, the project is expected to improve the local real estate market.

**Environmental:**
The 276 trees planted will sequester an estimated 700 tonnes of CO₂ over the next 100 years. This is equivalent to the emissions of 300,000 litres of petrol or 146 car journeys around the Earth.

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**What can other cities learn?**

**Adopt a flexible approach for co-creation and collaboration:**
Collaboration between a wide variety of stakeholders was key in making the project a success, including several municipal departments, local stakeholders, politicians, citizens, and the utility company. Citizens were able to directly impact the planning process; the municipality had only set a start and end date of the process. The City Council had the courage to test a participatory budgeting process, which gave local citizens and stakeholders a unique opportunity to directly influence the project. Many ideas adopted by decision-makers came from citizens and municipal employees.

**Plan ahead and think holistically:**
Gladsaxe Municipality has taken an ambitious stance on climate adaptation and mitigation, with an overall goal of reducing CO₂ emissions by 40% in 2020 compared to 2007. The transportation and housing sectors each account for almost a third of the municipality’s overall emissions. Therefore, it was decided to address all these high-priority areas, while saving both construction expenses and the mess of having several rounds of road construction. This was done by simultaneously constructing bike lanes, connecting houses to district heating, and creating a curb extension for rainwater flow.

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**GLADSAKE**

29 TONNES OF CO₂ EMISSIONS PER YEAR are estimated to be reduced as a result of the project, through the installation of district heating, the planting of 276 trees, and improved cycling connectivity.
LONDON: From a concrete jungle to a National Park City

Beginning as a grassroots movement and growing into a city-wide strategy, London is addressing the climate and ecological emergency by working to make more than half of the city’s area green and increasing tree canopy cover by 10% by 2050.

Protecting and promoting natural beauty, wildlife, outdoor recreation, and cultural heritage are the principles behind the National Parks movement, which are being applied to a megacity for the first time in London’s strategy to become a National Park City.

What has the city achieved?

The strategic direction for the National Park City includes a policy framework, delivery of programmes, and citizen engagement activities to protect and enhance green infrastructure. Having emerged from a grassroots campaign, the Mayor is engaging public agencies, businesses, and Londoners to join the efforts to green the city, while funding programmes via the $15.3 million Greener City Fund, which will be invested in planting trees and improving and creating green spaces.

The growing green space network has been planned and designed to deliver an array of environmental and public health benefits including storing carbon, providing shade, reducing the urban heat island effect and surface water flood risk, improving air quality, supporting biodiversity, and enhancing well-being. To date, $8.5 million has been spent on more than 200 projects that have created or improved 175 hectares of green infrastructure and planted more than 175,000 trees. As a National Park City, London is taking collective action to create a city where all residents can enjoy high-quality green spaces, clean air and waterways, where more people can choose to walk and cycle, and every child benefits from exploring, playing, and learning outdoors.
What are the co-benefits?

Social:
In 2018, the project awarded grants to more than 100 communities to plant trees, and improve and create green spaces. Many of these communities were deficient in their access to nature and open spaces, which provide places for locals to meet, and children to play.

Health:
Green spaces encourage cycling and walking, boost mental health, and improve air quality. The city estimates Londoners avoid approximately $1.2 billion per year in health costs due to the city’s public parks – $727 million by being in better physical health and $463 million by being in better mental health.

Economic:
London has quantified the value of their green spaces as having a gross asset value of more than $114 billion, providing services valued at $6.3 billion per year.

Environmental:
Increasing the extent of tree cover, green space, and green roofs is improving London’s adaptation to climate change by reducing flood risk as well as lowering high temperatures during heatwaves. Meanwhile, the city’s wild residents get the added bonus of an improved habitat.

What can other cities learn?

Grow from the grassroots:
By backing citizen-led movements, governments can increase local collaboration. The National Park City concept originated as a grassroots campaign led by a small group of citizens. While the Mayor’s political leadership has been essential for taking the vision forward through strategic planning and delivering programmes, the goals of the programme could not be delivered without contributions from an array of local stakeholders.

Integrate across policy areas:
The strategic direction for the National Park City vision is embedded across multiple policy areas, contributing to the overall success of the project. For example, the Mayor’s 2018 Transport Strategy adopts a “healthy streets” approach to building climate resilience, including an annual increase in street trees on major roads. Furthermore, the Mayor’s Health Inequalities Strategy aims for all Londoners to have access to high-quality green spaces.

3 MILLION TONNES OF CARBON are estimated to be stored by London’s 8.4 million trees each year.
Nanjing recognised the need to take action as the number of private cars rose to more than a quarter of the city’s population, resulting in congested roads and rising carbon emissions. To encourage the public to adopt low-carbon commuting habits, the city introduced a green commuting platform into the popular My Nanjing mobile app.

The app helps users plan their trip, while providing incentives to engage in more sustainable forms of transportation by calculating users’ carbon emission reductions and crediting them with “green points.” The points can be exchanged for goods in participating stores.

What has the city achieved?

The My Nanjing app helps citizens plan their route, compare modes of transportation, while incentivising low-carbon commuting. Depending on the user’s travel mode – driving, public transportation, biking, or walking – the app can calculate carbon emission reductions according to the China Certified Voluntary Emission Reduction methodology. Users of the app can set up a personal carbon account, and are rewarded for choosing low-carbon transport methods with green points. Users are also awarded green points for other offline carbon-reducing behaviours, such as tree planting. The green points provide an incentive to users as they can be exchanged for gifts, or credited towards purchases at participating businesses and supermarkets. The mechanism of rewarding users with green points is facilitated via the use of blockchain technology.

Users are provided the information they need to make it easier to choose active or public transportation instead of driving, including real-time updates on bicycle rental availability, traffic updates, and air quality information. The green commuting platform is widely used, reporting more than 1 million daily hits. The app has recorded monthly averages of 1.2 million bike rentals, 4.7 million subway trips, and 5.7 million bus trips.
What can other cities learn?

**Challenge a strong car culture:**

Despite significant investments in improved public transportation, Nanjing faced the challenge that car owners simply preferred driving. Attempting to cope with ever-increasing traffic and vehicles on the road, the green commuting project was proposed as an incentive strategy to shift citizens’ behaviour. To improve local air quality on forecasted heavy pollution days, car owners are warned and provided the opportunity to opt out of driving the next day. Provided that the car owner chooses to use public or active transportation instead, they will receive double the points.

**Promote awareness of alternatives:**

By incorporating the green commuting platform into the popular My Nanjing app, citizens are provided greater awareness of the alternative low-carbon commuting opportunities available to them. Features such as real-time data on the availability of bicycles at public sharing stations can remove barriers to making active transportation more convenient for more people. The project also raised awareness with events such as the “Golden Nanjing, Green Commuting” campaign, which reported more than 600,000 participants and awarded citizens 13.5 million green points.

What are the co-benefits?

<table>
<thead>
<tr>
<th>Social:</th>
<th>Health:</th>
<th>Economic:</th>
<th>Environmental:</th>
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<tbody>
<tr>
<td>The project worked to raise citizens’ awareness of sustainable behaviour, and encouraged the public to take ownership in transitioning towards a greener city.</td>
<td>Choosing more active forms of transportation such as walking, public transportation, or shared bicycles instead of driving private cars, improves citizens’ overall fitness and general well-being.</td>
<td>The app and green point programme has seen an increased use of public transportation and fueled economic activity and partnerships, as it has already distributed more than 1.9 million green points, and recorded more than 100,000 transactions.</td>
<td>Creating incentives to reduce private car use prevents carbon emissions, and provides the added benefit of improving local air quality.</td>
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The green commuting platform makes it easier and more attractive for citizens to choose low-carbon travel, such as taking trains and other public transportation, cycling, or walking.

2.7 MILLION PEOPLE HAVE PARTICIPATED in the green commuting platform overall
Resilient Edgemere Community Plan (The Plan) aims to create long-term resilience by protecting the neighbourhood’s 5,235 residents from chronic flooding and storm events. The Plan includes 62 initiatives over the next 5, 10, and 15 years. These include moving households and providing relocation opportunities, while mitigating flood risk via the construction of a raised shoreline and transforming coastal areas into parks and wetlands. The Plan is part of New York City’s commitment to an 80% reduction of carbon emissions by 2050. In part, this will be achieved via a $50 million investment in infrastructure to improve walkability, public transport, and cycling connectivity. The Plan calls for 900 new units of affordable housing and 23,000 m² of commercial space, built with climate adaptation in mind. All new buildings will meet ambitious energy efficiency standards, including Enterprise Green Communities and/or Passive House Solar design standards, which offer up to 70% savings in heating and cooling costs.

The Plan is exceptional in its investment in community partnerships, utilising the novel Neighborhood Planning Playbook approach. The people-oriented engagement approach sought to foster a more open and inclusive process by giving residents a key role in co-creating the Plan.

What has the city achieved?

The coastal neighbourhood of Edgemere, in New York City, still suffers from the aftermath of Superstorm Sandy and the 2008 housing crisis, and faces the existential threat of flooding as sea levels rise.

To address these social and infrastructural challenges, community members were engaged in the development of the **Resilient Edgemere Community Plan**. The comprehensive plan includes neighbourhood climate adaptation, addressing the risks of flooding and coastal storms, while promoting long-term engagement between the city and the community.
What are the co-benefits?

Social:
The community-driven planning process connected Edgemere residents and community organisations to one another and to city resources, such as training programmes and job opportunities.

Health:
The neighbourhood is considered a food desert, and is challenged by higher-than-average rates of obesity, diabetes, and mental health hospitalisations. The Plan offers increased access to quality food retailers, parks, and recreation areas and opportunities for active transportation.

Economic:
Proposed zoning changes facilitate commercial retail spaces close to transit with about 300 m² already developed and the possibility of up to 23,000 m² more. Overall, the development is expected to create 600 new jobs.

Environmental:
Vulnerable land currently in residential use will be transformed into open waterfront spaces and restored parkland, while 30 acres of existing parkland will undergo ecological restoration. Benefits include reduced stormwater runoff, improved wetland ecology, protection against shoreline erosion, and recreational opportunities.

What can other cities learn?
Frame planning initiatives as a shared goal:
The challenge of climate change requires that decisions around governance and public investments be made under significant uncertainty, while the associated environmental and socioeconomic risks do not necessarily align with the siloed funding and jurisdictional structures of city governance. These challenges have been overcome by framing the plan as a shared goal, and establishing the use of funds as a shared resource.

Build a shared understanding with residents:
The planning process helped build an understanding among residents about what it means to live at the coastal edge, and the realities of a future with sea level rise. Map graphics and facilitated discussions empowered residents to grapple with climate change projections. These methods are replicable elsewhere for other cities to build community awareness in regions vulnerable to climate change.

NEW YORK CITY

The low-lying waterfront community of Edgemere is increasingly vulnerable to sea-level rise, and has historically been challenged by Superstorm Sandy and economic recession. The Plan provides a ray of hope, as it will work to protect the neighbourhood from future storms and coastal erosion, increase affordable housing, strengthen infrastructure, and create more retail and services.

Photography: First page - Albert Vecerka
Second page - Nathan Kensinger
In 2015, Salvador experienced a tragic event where 15 people died following a landslide in a low-income neighbourhood. Following this event, strong political will emerged to protect residents in vulnerable communities from recurrent extreme events. In response, the Community Centres of Protection and Civil Defense (Núcleos Comunitários de Proteção e Defesa Civil) have been built in areas at high risk of floods or landslides, in order to empower locals with the capacity to know the risks they are exposed to, and how to act to reduce those risks. The project’s goal is to enable the community to choose their own course of action, once they are aware of the dangers and possible solutions.

Low-income communities living in Salvador are at risk of flooding and landslides, a danger which is increasing due to climate change.

Community Centres of Protection and Civil Defense were formed to empower communities with the knowledge and capacity to protect themselves and their families in the case of extreme weather. Workshops on disaster preparedness, first aid, and waste management have helped improve residents’ well-being and reduce casualties from weather-related risks.

What has the city achieved?

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The community centres have worked directly with communities living in vulnerable neighbourhoods by engaging community leaders and providing educational workshops. Infrastructure solutions have also been established including an alarm system with sirens warning communities to leave their homes and go to meeting centres in cases of high rainfall. Developments, including the improvement of digital maps, have enabled better management of risk areas. The project credits these initiatives with a dramatic reduction of casualties and injuries due to weather events.
What are the co-benefits?

Social:
Community resilience is increased by building capacity through education, empowering residents to make their own choices. The programme worked to engage participation of local leaders in the planning and implementation of action in their communities.

Health:
Disaster planning and first aid workshops, as well as warning systems, have increased residents’ preparedness, and have been credited with reducing the number of casualties and injuries following extreme weather events.

Economic:
Preparedness efforts have reduced physical losses due to heavy rainfalls, such as homes and local infrastructure. When communities avoid physical loss, residents can continue earning their livelihoods.

Environmental:
The community centres have discouraged the common behaviour of disposing of garbage in the surrounding hillsides, which causes pollution and increases the risk of landslides.

What can other cities learn?

Citizen engagement isn’t easy, but it pays off:
The essence of this project is strong citizen engagement. However, engaging the local communities was challenging, as many residents have political issues with the current government, and are living in informal and illegally built homes. The success of this project has been to engage a broad diversity of people in the workshops, so city policies reach the most vulnerable residents. Residents were informed a week before the workshops, where a team led by social workers spent five days informing communities about the activities and topics of information that would be available to them.

Help the communities where they are:
The location of the low-income neighbourhoods and their informal construction make them especially vulnerable to climate change due to increased rainfall and the associated risks of flooding and landslides. However, this project has taken the approach to help the communities where they’re at, and focus on building their capacity to protect themselves and make their own choices. The workshops aim to help participants develop a better understanding of the risks they face, and empower them with strategies that can help them take action.

Salvador

More rain falls in Salvador than in London, and many communities are at risk of severe flooding and landslides.
Since 2016, Smart Green Apartments has worked with more than 21,000 of the city’s residents, and will continue to collaboratively engage a new cohort each year with the goal of reaching a minimum of 80,000 residents by 2025. The programme helps residents install efficiency improvements by reducing confusion around legislative approvals and overcoming a lack of technical expertise. For example, by implementing cost-effective efficiency upgrades and renewable energy projects, it has been possible to reduce common area energy consumption by at least 30%. Reducing water use is critical to mitigate climate change risks, as apartment buildings account for 40% of the city’s total water use, and especially in light of persistent drought conditions in the region.

Simple interventions can be effective; for example, leak-reducing measures have achieved water use reductions of 35%.

Smart Green Apartments has an overall goal of a 7% reduction in emissions by 2030 through direct action and upgrades. The programme is tracking well above its target, as projects contributing to a 30% reduction in emissions have been consistently identified. Through this success, the programme is contributing towards Sydney’s Paris Agreement target of net zero emissions for the local government area by 2050.

What has the city achieved?

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SYDNEY: Sydneysiders are giving their apartments climate-smart upgrades

A shift towards sustainable living is sweeping across high-density residential communities in Sydney as part of the Smart Green Apartment programme.

Apartment buildings house 80% of Sydney’s residents, and they present an environmental and governance challenge, as they are among the fastest-growing segments of the property sector and use more resources than single-unit dwellings per capita. Smart Green Apartments works with residents to improve energy and water efficiency, reduce operating and maintenance costs, and increase building liveability and value.
What can other cities learn?

Build capacity amongst residential communities:
The governance model for multi-owned residential properties was first introduced in Australia and has since been adopted in many locations globally. Apartment buildings are primarily managed by volunteers, where owners act collaboratively as an owners’ corporation. Challenges in engaging the sector can occur when stakeholders are unfamiliar with the legislative requirements needed for the uptake of environmental efficiency initiatives. To build their capacity to engage in long-term initiatives around the environmental performance of their buildings, Smart Green Apartments has delivered the first national sustainability training series for building managers, and a quarterly Leadership Network series.

Use programme findings to integrate a new rating tool:
Outcomes of Smart Green Apartments have provided an evidence base for broader sector improvements, including demonstrating the need for a new national rating tool for apartment buildings. The National Australian Built Environment Rating System (NABERS) tool enables tracking and recognition of action on efficiency, solar, and off-site renewables, and therefore helps residents plan into the future. The introduction of the tool was made possible through strong advocacy work on behalf of the city, and the support of Smart Green Apartments to promote uptake of this tool in the sector.

What are the co-benefits?

Social:
Smart Green Apartments seeks to increase citizen engagement, aiming to achieve 25% of residents having an active role in their apartment building’s decision-making processes. Several buildings have established long-term community strategic plans, with accompanying mission and value statements that are informed by all residents.

Health:
The programme aims to increase connectivity within high-rise communities, promoting community well-being and reducing mental health issues including loneliness. In addition, the programme aims to reduce the urban heat island effect, which is critical to residents’ quality of life during the summer months.

Economic:
Smart Green Apartments initiatives have resulted in cumulative cost savings of $1.5 million for residents, as well as reducing operating costs for the apartment owners. In addition, implementation of the projects have stimulated market growth in the high-rise residential sector.

Environmental:
The programme also seeks to improve waste management and recycling across the city’s high-rise residential communities. This will assist in the achievement of the city’s targets of 90% resource recovery by 2030.

Programme interventions have improved waste and recycling outcomes. In participating buildings, reductions of up to 50% of recyclables being sent to landfill have been achieved. The installation of textile collection bins have resulted in over 10,000 kg of clothing being diverted from landfill annually.

SYDNEY

12K TONNES OF CO₂ EMISSIONS have been avoided via the implementation of energy efficiency and renewable energy initiatives identified through the Smart Green Apartments programme.
UMEÅ: Creatively empowering citizens to adopt low-carbon lifestyles

UMEÅ is becoming The Low Carbon Place by using creative ways to empower residents to make more sustainable lifestyle choices. The city undertook a comprehensive survey of the consumption habits of its residents, and created a wide range of activities to inform and encourage citizens to adopt more resource-efficient lifestyles.

From a biking campaign featuring a famous female rap artist, to a Living Lab that challenged 10 families to go car-free for three months, Umeå is using the city as a testing ground for behavioural change towards reducing the city’s emissions.

What has the city achieved?

UMEÅ has opened residents’ eyes to the carbon footprint connected to their consumption by surveying citizens, and creating an engaging website and campaign to share the results. In addition, the city has worked to research and test ways to support citizens in transitioning towards climate-friendly lifestyles. The city estimates that the projects resulted in a 330 MWh reduction of energy use, as well as countless changes in mindset and behaviour. The activities tested in the project spanned across three categories – mobility, housing and energy, and sustainable consumption and sharing. For example, the city ran a biking campaign named #Brytupp, encouraging residents to “break up” (bryt upp) with their old habits, which resulted in 16% of participants using their bike more often, and 63% reconsidering their travel habits. Other projects included engaging housing associations and restaurants in sustainability workshops and coaching sessions.

The project also included three Living Labs to support behaviour change around sustainable transport and mobility. One enticed 10 families to go three months without a car in exchange for an array of alternative options such as electric bikes and bus cards. The campaign succeeded in creating a media buzz and several of the families continued to be car-free following the project.
What are the co-benefits?

Social:
Umeå has aimed to shift the conversation around climate change to a positive one. The creative campaigns aim to generate discussion at work and around dinner tables, and make climate action a part of everyday life.

Health:
A low-carbon lifestyle can offer residents better health by, for example, commuting by walking or biking, or eating more vegetables. Sustainable mobility also leads to improved local air quality.

Economic:
The project has included a focus on working with local businesses, such as restaurants, on transitioning their business models to more sustainable ones. This will help prepare businesses for the future, due to the expected increased demand for sustainable products and services.

Environmental:
Sustainable consumption is a leading challenge for Sweden if they are to reach their Paris Agreement goals, which requires widespread behavioural change.

What can other cities learn?

Local carbon footprint - local engagement:
Umeå informed its campaigns on sustainable consumption by analysing data on residents’ carbon footprints via a tool created in partnership with the Stockholm Environment Institute. The tool enables the results to be related to Swedish national averages, and to repeat the estimates in future surveys. The results have been made accessible via a website explaining the most significant findings, and visualising for residents how their actions impact climate change. The website illustrates how residents’ carbon footprints vary according to each district of the city, and how they can address their unique challenges.

Don’t shy away from gender considerations:
Umeå considered gender equality across all activities in the project as part of the city’s long-standing commitment to equity between sexes. As men and women’s consumption patterns differ, this was taken into consideration and explored further in the survey. For example, an earlier performed travel survey found that if men’s travel habits were the same as women’s, the city would have already reached its goal of 56% sustainable modes of travel. From this finding, a Living Lab was conducted where two male-dominated companies were engaged in initiatives to inspire their employees to commute by bike, car-pooling, and public transport.

UMEÅ
Umeå’s projects focus on facilitating sustainable lifestyles and consumption among its citizens. Umeå’s outreach campaign #Brytupp, meaning to break up from old habits, inspired citizens to make biking part of their everyday lives.

1,475 RESIDENTS REPLIED TO A REPRESENTATIVE SURVEY of Umeå’s population, creating the foundation for the calculation of a local carbon footprint.
ZAPOPAN:
An army of pint-sized “traffic wrestlers” are challenging car culture

Zapopan is putting a spin on a classic Mexican superhero (Luchador) to engage children in triggering a cultural shift towards sustainable mobility and greater road safety.

The character of Luchador Viales (traffic wrestler) features in plays for primary school children, which have been performed by a professional theatre company in every school across the city. Now, Zapopan is armed with a league of small but mighty educators to teach adults to reduce their dependence on cars.

What has the city achieved?

In Zapopan, cars are a leading cause of CO₂ emissions, and the city sought to devise a systematic way to create a cultural change. The result is a series of five plays that teach children the disadvantages of using cars for short trips, and invite them to teach their parents to walk or bike when possible. They learn about the advantages of public transport such as being able to read or draw while in transit. At the end of the intervention, every child receives a wrestler mask with the invitation to become a Luchador Viales. The mask is a symbol of rebellion against a persistent car culture and the fight for sustainability.

So far, 167,478 children under 13 have participated in the programme, and it has reached the classrooms of all elementary school children in Zapopan. Now, the project has set its sights on redesigning the play for an older audience of high school students, with the goal of reaching every boy and girl under 17 before 2021. The symbol of the Luchador is meaningful in any Mexican city, therefore the concept has the potential to be scaled across the country, and even adapted to cities around the world.

Zapopan
What are the co-benefits?

Social:
Walking and biking are sustainable modes of transport, but social ones as well. As a result, children and adults may develop greater connections with others as well as their neighbourhood when exploring the city on bike or foot.

Health:
People who engage in active transportation are more likely to meet the levels of daily exercise needed for them to be fit and to enjoy good mental well-being.

Economic:
A large portion of the city’s residents live below the poverty line. Encouraging walking or biking, while improving access through updated infrastructure, is expected to help these citizens save at least a third of their transportation expenses.

Environmental:
Zapopan conducted a survey finding that 40% of citizens’ car trips are less than four kilometres long; avoiding short car trips could significantly reduce emissions from transportation.

What can other cities learn?

Fund community projects to ensure wider reach:
The success of Luchadores Viales started from a humble beginning, and because of community persistence it was gradually able to gain financial support. The project began in 2015 without a budget, and with only volunteers performing a community service. In 2016, it received $6,300 of funding, and finally received $190,000 from the city’s Department of Transportation, which was critical to achieving the goal of reaching every child in primary school. The programme was able to communicate its value by being a road safety campaign, even though the focus is mainly on sustainable mobility.

Think of the children:
Engaging children can be an effective strategy in creating cultural change, although it can be difficult to measure returns. In the early stages of the project, council members opposed to the project argued that children cannot drive and therefore doubted the project’s effectiveness. Yet, children have the power to influence their families, and are expected to carry the experience into adulthood. In Zapopan, public policies have been focused to make it “the city of children,” and this programme is one of the ways in which the children’s well-being is being prioritised.

ZAPOPAN

500K

PEOPLE HAVE SEEN THE PLAYS performed at schools, events, and in public spaces

A classroom of children wear the Luchadores Viales wrestlers masks to empower them to act as climate warriors. The project hopes the children spread the word to their families by encouraging them to walk or bike. Meanwhile, the city is improving bike lanes and sidewalks, making it easier for families to get around without cars.

A large portion of the city’s residents live below the poverty line. Encouraging walking or biking, while improving access through updated infrastructure, is expected to help these citizens save at least a third of their transportation expenses.
Students, teachers, and educational institutions across Ukraine are in a climate-friendly competition to reduce their carbon footprint with the goal of collectively slashing emissions by 1 million tonnes of CO₂. The Climate Drops Mobile Application tracks the participants’ progress and rewards climate-positive behaviour. First piloted in Zhytomyr in 2017, the initiative has spread across Ukraine to 55 school communities in 15 cities, reducing 363 tonnes of CO₂ emissions in 2018 alone. While there is still a long road ahead to reach the project’s ambitious goal, the initiative has made waves in the students’ communities and resulted in countless inspirations and behavioural changes.

What has the city achieved?

The Climate Drops School Contest motivates students, teachers, and educational institutions in the race to become carbon neutral. For the purpose of the contest, carbon neutrality is defined as the positive difference between the CO₂ savings stemming from climate-friendly activities, and the school’s carbon footprint. The school’s emissions are calculated by the students with the help from the Climate Drops team, while the CO₂ savings are added up via the Climate Drops Mobile App. When participants engage in climate-friendly actions, they are converted into digital points in the app, called Drops (1 Drop = 1 kg of CO₂). The Drops are later exchanged for discounts at shops and the app’s other partners. Drops are achieved via the activities of the individual participants, which include biking, planting trees, waste recycling, and food waste composting. Additional activities that earn Drops include collective climate-friendly projects taking place within or outside of the educational institutions, which could include cooperation with local communities, businesses, and other stakeholders. For example, improving buildings’ energy savings or the generation of onsite renewable electricity will earn the user Drops per kg of CO₂ saved. Students also receive lessons on climate change mitigation and adaptation from participating teachers with the use of the educational materials provided by the Climate Drops team.
What are the co-benefits?

Social:
By motivating participants to engage in climate-friendly activities, the contest could create lasting behavioural change.

Health:
In an effort to reduce emissions, participants are encouraged to shift their behaviour to active transportation such as walking or cycling to school, which can improve their overall health and well-being.

Economic:
The contest and app have created new networks and cooperation with climate-responsible businesses, academia, local communities, and municipalities.

Environmental:
Participants are encouraged to plant trees, whose cooling effect could reduce citizens’ vulnerability to heatwaves in urban areas while also providing ecological benefits.

What can other cities learn?

Connect the dots between climate change and everyday life:
Climate change is a complex, far-reaching issue, and individuals can easily feel disconnected from the environmental impact of their everyday lives. The app helps participants understand and put a number on the environmental impact of their daily activities, while also empowering them to take control in reducing their personal impact. Cities can learn from the project to enlist the power of quantification, to help participants feel satisfied and excited about the difference they are making in their own lives and in their communities.

Enlist a variety of strategies to motivate behavioural change:
The app and contest provide motivation for climate-positive behavioural changes via elements of gamification, friendly competition, and discounts from participating retail stores. While the project is scheduled to last three years, it is possible that participants will turn the activities into stable habits and long-lasting behavioural changes following the positive experience of the contest.

ZHYTOMYR

85k

CITIZENS WERE INVOLVED in the Climate Drops Contest in 2018, with plans to involve 200,000 more in 2019

The winners of the Climate Drops Contest presented their achievements during the Youth and Future Generations Day at UNFCCC COP24 in Katowice, Poland.
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