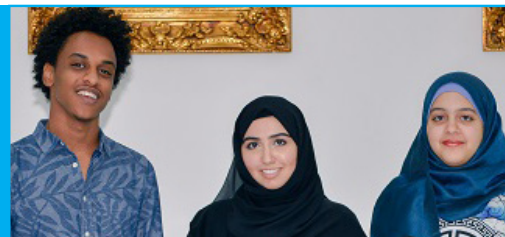


## A Smart City's Responsibility to Achieve Environmental Sustainability

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It is often told that a smart city is a lazy city, a great misconception arising from the ideology that we use electronic alternatives to reduce our efforts. Alternatively, Smart cities utilize innovative solutions that help us live a better life and help make the environment better through using Information & Communication Technology as a core.



## Smart Cities & their responsibility

Dubai makes up a perfect example of a smart city, where electronic governmental services, Green construction, & emission control are only a small example of how it contributes towards a better earth.

Innovations uniting the digital world with a greener community are becoming widely available, & though it is only starting to become a thing, these innovations must be embraced by each country's government to allow for an earth that keeps producing and a healthier lifestyle for all. As a resident of Dubai, I do nearly everything electronically & that does not make me lazy as much as it makes me do more towards the environment. My books are all in electronic format, & electric vehicle parking is around the block, besides, it is free!

The city is entitled to regulate laws and standards that allow for sustainability and proper use of smart utilities, such a city doesn't force it upon its residents but offers it to their advantage, and the advantage of our planet. Of course, a city would face difficulty in embracing such change, especially when collaborating with companies and allowing for more room to grow but this is a long term plan with a purpose bigger than all of us yet for all of us. & as so, the main responsibility right now is to spread the knowledge and the solution.



<https://twitter.com/dsoftz/status/699950911335092224>

## How would a smart city look?

Too bad we do not have a big drawing of how the city would actually look, & no it's not a city with flying cars & robots everywhere. It is still the city we live in, but it is our interaction with the daily means of living that would change. Our cars emit absolutely no harmful gases, our houses consume less than half the energy they consume now & most importantly, paper is kept where it must be, back in its tree.

The visual aesthetics of the city would only improve, so no large machines surrounding us, just trees and high rise building we're used to. That's all done through the use of technology, which can be discrete even the ones that do stand out to perform their functions can easily be designed to please the eye while maintaining their true purpose.



<https://thesmarturban.wordpress.com>

## Challenging, Yet Rewarding

A smart city is a normal city, just more efficient with more tasks. Not only should it recognize and identify its impact on the environment, it must reduce it with innovative technological solutions and offer raw materials, sustainable agricultural systems & acknowledgment towards the conservation of wildlife. But of course, it is easier said than done, a collaboration has to be done between major IT companies, since no one company offers the products required to make your city smart yet sustainable, and that not all the companies are evolving towards the same goal. So the city must create the link between these companies and offer equal chances for them to grow. Another major challenge is the cost & funding. For a city to comply with all the requirement needed to be considered smart, it would cost more for a normal city to convert than to create an entirely new city. Many aspects other than cost affect the conversion, infrastructural changes are tough and require many laborers. Changes to physical buildings aren't easy since owners would not allow for change in their property & even if allowed, permissions to energetically optimize their building wouldn't be easily obtained. & lastly, The Digital Divide, the inability of certain individuals in the society to cope with these advancements. Yes it is for a greater purpose and a healthier environment for all, but the

lack of knowledge is of various reasons, many people cannot afford to learn about technology, & many are unfamiliar with the use of it and the different interfaces due to old age or cultural background. There will always be problems, but the purpose is too great for any city to not keep up.

## How its done!

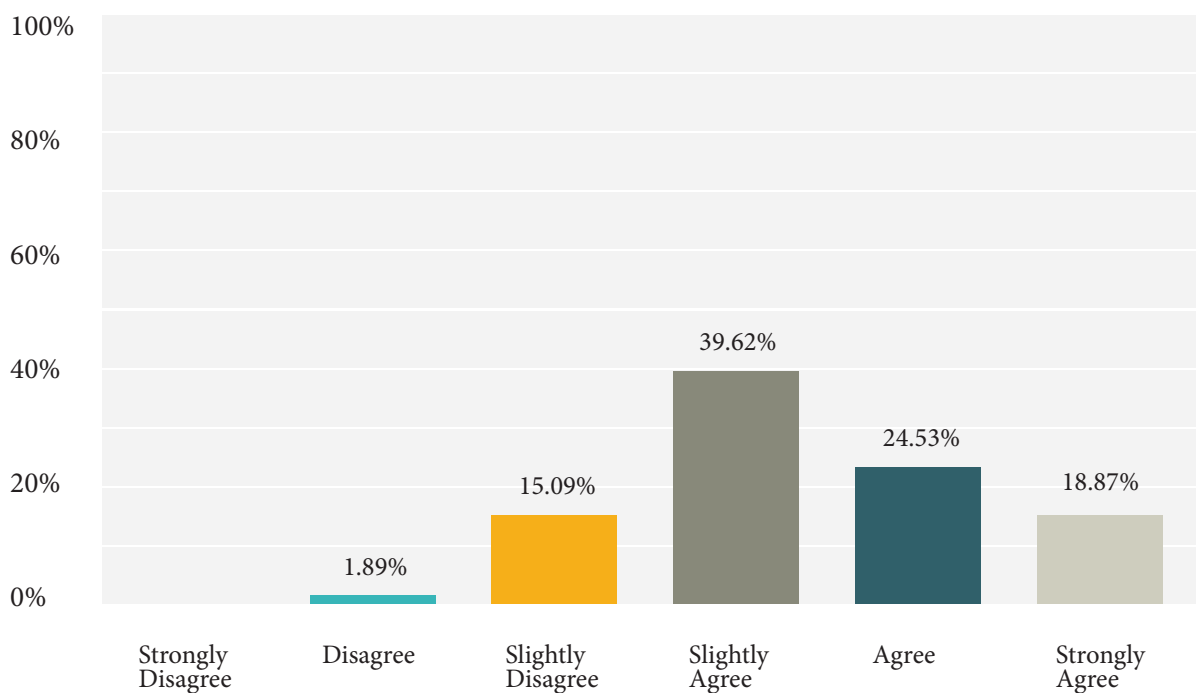
When it comes to smart cities helping nature, the solutions are endless. But the best way to help the environment is to become one with it. Biomimicry is the observation & studying of nature's systems, processes & elements & how they function allowing us to emulate nature to solve human problems and pave the way for eco-friendly solutions, this may sound ridiculous but it its far from that. Taking for example the fastest train right now, The Shinkansen Bullet Train in Japan, traveling at speeds reaching 200 miles per hour, which is remarkable, but every time it exits a tunnel, air pressure changes produce loud thunderous sounds forcing residents quarter a mile away to complain, this lead chief engineer & bird watcher Eiji Nakatsu to model the front-end of the train to the beak of the kingfisher bird, which allows the bird to travel smoothly at great speeds between two different mediums. This resulted in a tremendous reduction of noise, 15% less use of electricity & 10% faster speeds.\*

## Collected Data

A survey was conducted at **American university in the Emirates** by its students to query individuals with their concerns towards the environment & the knowledge of the impact being made. It resulted as so:

**Please respond to this statement: My concern towards environmental issues has grown due to the events, activities and and/or courses offered by my campus.**

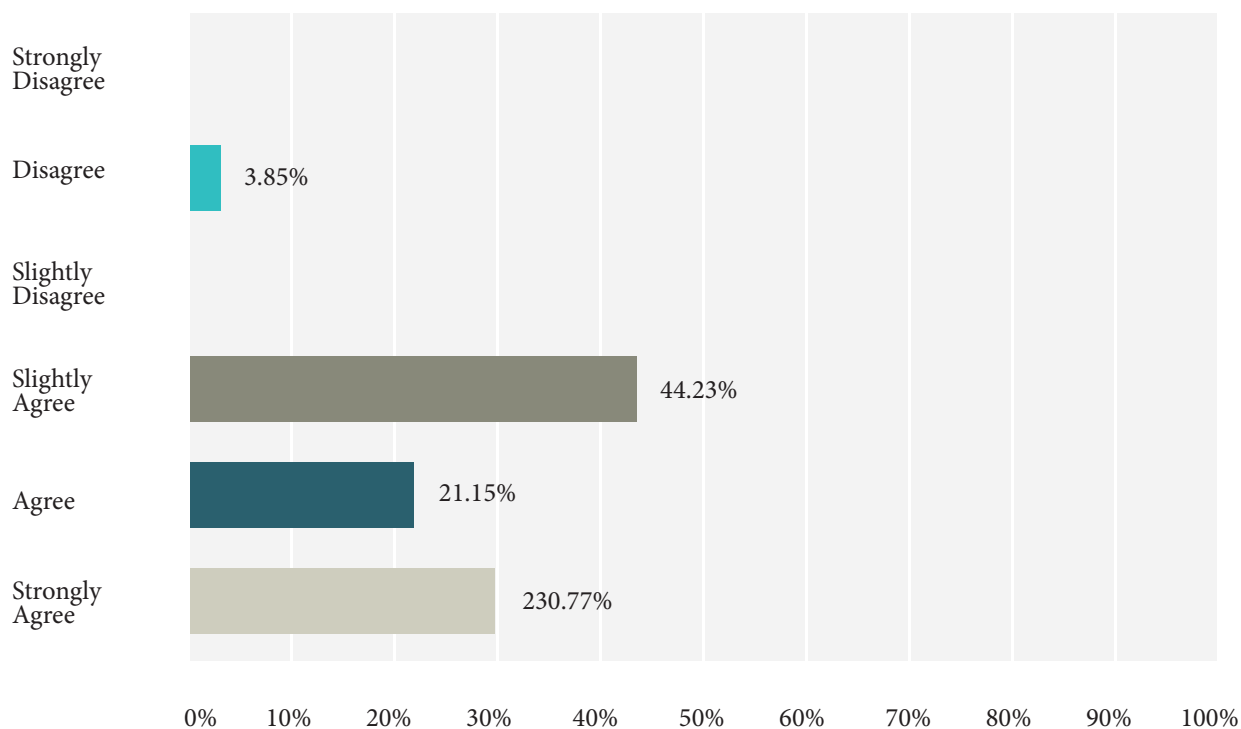
Answered:53 Skipped:0



Answer Choices	Responses
Strongly Disagree	0.00% 0
Disagree	1.89% 1
Slightly Disagree	15.09% 8
Slightly Agree	39.62% 21
Agree	24.53% 13
Strongly Agree	18.87% 10
Total	53

**Please respond to this statement: I have a personal responsibility to help make a difference on ENVIRONMENTAL issues like waste, consumption and water use.**

Answered:52 Skipped:1



Answer Choices	Responses	
Strongly Disagree	0.00%	0
Disagree	3.85%	2
Slightly Disagree	0.00%	0
Slightly Agree	44.23%	23
Agree	21.15%	11
Strongly Agree	30.77%	16
Total		52

## What is Our Responsibility

We, as citizens of such a city or any for that matter, are obliged to follow certain paths to achieve sustainability given guidelines that are applied but not forced upon us. They fit into our daily routine for us to embrace & live by. LED bulbs & solar systems are commonly available but come into use until we choose to. Not only so, we can reduce use of paper at home, recycle, garden, and most importantly spread awareness within our homes and to our children. These are simple means to follow a greener path to a much healthier lifestyle and a much greener environment.

### References:

1. Source:<https://twitter.com/dsoftz/status/699950911335092224>, accessed on 26 October 2016.
2. Source:<https://thesmarturban.wordpress.com/2015/06/24/welcome-to-smart-city/>
3. Source:<http://biomimicry.net/about/biomimicry/case-examples/transportation>, accessed on October 26 ,2016.