**USC Essay Ravi**

*At USC Viterbi, we endeavor to engineer a better world for all humanity. This vision goes hand-in-hand with the objectives of the National Academy of Engineering (NAE) and their 14 Grand Challenges. Engineers and Computer Scientists are challenged to solve these problems in order to improve life on the planet. Learn more about the NAE Grand Challenges at* [*http://engineeringchallenges.org*](http://engineeringchallenges.org) *and tell us which challenge is most important to you, and why. (250-word limit)*

Flying air speeders, hovering shuttles, and speeding cloud cars, as seen in *Star Wars: Attack of The Clones* reminded me of something. Yes, I’m a geek, and Yes, I love sci-fi movies. But let’s not forget one thing: the densely populated capital of Coruscant.

Overpopulation has become increasingly real over the past few years. Studies project that global population will grow to at least 8 – 10 billion by 2040 – 2050. A 20% population increase at worst, the amplifying demand for residential housing and job opportunities would burden existing infrastructural systems, especially in metropolitan cities.

This is especially true in Jakarta: 10 million people face extreme levels of pollution, traffic, and flood almost daily. The lack of proper infrastructure and urban planning in Jakarta is why I believe the Grand Challenge of restoring and improving urban infrastructure must be solved.

To build a proper city, an engineer must focus on empowering sustainability. The idea of sustainability requires an engineer to innovate and capitalize on the latest technological advancements that could accelerate infrastructure growth and lessen cities’ carbon footprint. Clean sources of energy, such as wind and solar farms, are one of the ways in which a city can improve their standard of living.

Such efforts must be met with effective urban planning which is critical to ensure a healthy environment is created for citizens to work and recreate.

As humans encounter overpopulation, it’s important to maintain the efficacy of our infrastructure so that we may avoid a public crisis and create a healthier future for upcoming generations.