

A City Called Earth

Imagine the world as one massive city. There are no trees or fields of flowers; there are just buildings and parking garages and more buildings. Earth looks like a planet from the movie Star Wars. It all started with urban sprawl. Urban sprawl, or the rapid growth of urban areas, has become a hazard over the past decade. There have been efforts to decrease sprawl, for example, Oregon enacted a law in 1973 limiting the area that urban areas could occupy (“Urban Sprawl”). This was, in a way, effective, but with engineering, urban sprawl could become a thing of the past. This is the grand challenge.

There are many characteristics of urban sprawl. There are the housing subdivisions which consume large tracts of land consisting completely of newly-built houses and other residences. There is also the strip mall and the shopping mall. The strip mall is simply a group of retail stores that share a common parking lot while the shopping mall usually consists of one main building surrounded by a parking lot. One more characteristic of development is the fast food establishments. These are usually built where population, and especially traffic, increase is expected. Usually, these are built far apart with large barriers between them. This is called single-use zoning and is usually paired with low-density land use in which buildings are spaced farther apart than traditional urban developments. These characteristics make it very obvious that there is an occurrence of urban sprawl in an area.

It may be obvious that urban sprawl leads to a decrease in the world’s green space, but there are many more effects that may not be so apparent. For example, people who live in suburban areas tend to generate more pollution and carbon emissions due to their excessive driving. This also leads to the problem of obesity because walking or

riding a bike are not practical commute options. This increase in automobile use also leads to traffic increase. Some will also argue that there is a lack of diversity in these subdivisions because the people who live there tend to be the same race, and have the same background and socioeconomic status. Other effects include increased infrastructure and transportation costs, increase in traffic related fatalities, and decrease in land and water quantity and quality.

This is the grand engineering challenge. Since the world's population is constantly growing, there is no way to end the development of land. But if there were a way to change urban sprawl from horizontal to vertical, we could save the earth's green space. The bad effects of urban sprawl could be completely eliminated if there were a way to create multi-story cities. It would be as if there were many platforms that went straight up and people could take a ramp or elevator to go up or down the platforms.

With cities like this, urban sprawl and its effects are history. Everything would be close together so there would be less of a commute and less traffic. This would also contribute to reducing obesity in people because it would be easier to walk to your destination. More importantly, we could save the world's green space and reduce pollution and carbon emissions. We are engineers. It is our job to create the future. It is our job to make sure the planet Earth does not become the city Earth. This is the grand challenge.

Bibliography

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