

Team #5: Transportation Executive Summary

In the past almost 200 years, transportation technology has undergone immense innovative development. Today, the greater majority of transportation technology requires trained personnel for the operation of transportation modes. Innovative designers, with visions of future transportation technology, have proposed the introduction of operator-free transportation technology which would provide societies with advanced and hands-free transportation alternatives. Given such advancements in transit technology, adverse occupational disruptions are likely to occur. With the introduction of autonomous vehicles, dealers and workshops will become outdated. Similarly, mechanics and repair personnel will not be needed in the management and operation of vehicles. Additionally, autonomous vehicles will result in a culture with little to no traffic accidents, again mitigating the need for repair. In addition, drivers, mobility services, traffic enforcement and parking attendants may face the burdens of job loss.

The objectives of this report focus on the disadvantage to employees given potential impacts of career changes caused by innovative disruption in transportation, specifically in the Greater Toronto Area (GTA) Region. By predicting future changes in occupations caused by disruptive technology and to analyze potential future outcomes. The main areas of transportation, including autonomous domestic vehicles, public transit, and aviation as well as technological aspects and related challenges are explored. In comparison with other modes of transportation, aviation is found to be the most far in terms of autonomy. Fully autonomous passenger aircrafts have not been brought out into the market. Autonomous aviation had a lot of breakthroughs in terms of drones. A full transition to autonomy would primarily reduce the need for pilots and other jobs related to agriculture, surveillance, shipping and delivery etc. Also, it was found out that the job

market for pilots would actually increase in the near future before the transition. The main benefactors in terms of job markets would be engineers, aircraft maintenance personnel and personnel related to mapping and path planning.

However, it is predicted that given innovative advancements, engineers and those working in technology design and development may find prosperity in the job market. Given the automatization of public transit and related infrastructure, manufacturers, labourers, and assemblers may be faced with job loss. Customer service representatives and fare inspectors which service passengers may no longer be needed and rather be replaced with automated help stations. Most importantly, if there is no need for a driver, transit operators will face job loss. It is predicted, that developers, engineers, planners and dispatcher positions may develop in future years.