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Going the Distance by Going Green: DLSU's Transportation System pre-, during, and post-pandemic

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Abstract. Balancing green goals and implementing green initiatives amidst resource constraints and disruptions is always a challenge. De La Salle University (DLSU) embraced this challenge and developed a sustainable operations agenda. Guided by this agenda, we formed partnerships to operationalize a greener transportation system. One of our initiatives is to partner with an electromechanical solutions provider in operationalizing our zero-emission vehicle (ZEV) policy with the use of electronic vehicles in our shuttle services before the pandemic. To reduce the number of private vehicles on campus, we also partnered with a bus company to provide a point-to-point service for our community members. During the pandemic, we continued to develop facilities and programs to encourage the use of bicycles by our community post-pandemic. With this, we look forward to further reducing the number of private vehicles on campus and the need to provide additional parking spaces.

Keyword:

Zero Emission Vehicles (ZEV), Shuttle services, Bicycles

1. Introduction

As humanity continues to advance, we spend a lot of resources in order to prosper, to achieve what we believe will be a brighter future. Yet, we seem to be advancing at a pace in which we are burning through all our available resources, severely affecting the planet. This has brought alarm to many governments and nations, causing the United Nations to set the Sustainable Development Goals, a set of goals which aims to promote prosperity as well as to promote the protection of the planet and its resources.

As a leading private university in the Philippines, De La Salle University has responded

to the call to support the Sustainable Development Goals and embraced the challenge to develop a sustainable operations agenda. This is in line with our university vision and mission to be attuned to a sustainable Earth [1]. As a university, we have already taken measures towards achieving sustainability, including various facility renovations to promote greener, more sustainable campuses.

With the threats of Climate Change and Global Warming looming, the world is bound to face a crisis if we do not take action against this. This is why the Sustainable Development Goals are more important now than ever, and why we are currently pursuing them. Even with the current pandemic changing the way we live now, we have still been able to take steps, and have already made plans on how to continue fulfilling our commitments to sustainability, including changes to our transportation system similar to Kaplan's suggestions in his 2015 study [4].

2. Pre-pandemic Initiatives

2.2. Green Archer Express

De La Salle University operates multiple campuses, with one of them being our Science and Technology Campus (STC), located in Laguna, a suburb 40.5 kilometers away from our main campus in Manila. In STC, we were able to operationalize our ZEV policy through a collaboration with Mserv, a subsidiary of Meralco. These ZEVs, called the Green Archer Express (Figure 1), transport faculty and students from the STC to several strategic locations around the area. One of which is a 3.8 kilometer route from the STC to the Paseo Outlets, which serves as a terminal, allowing passengers to access several public transportation routes [3] (Figure 2).



Figure 1. Green Archer Express, a Zero-Emission Vehicle (ZEV) service

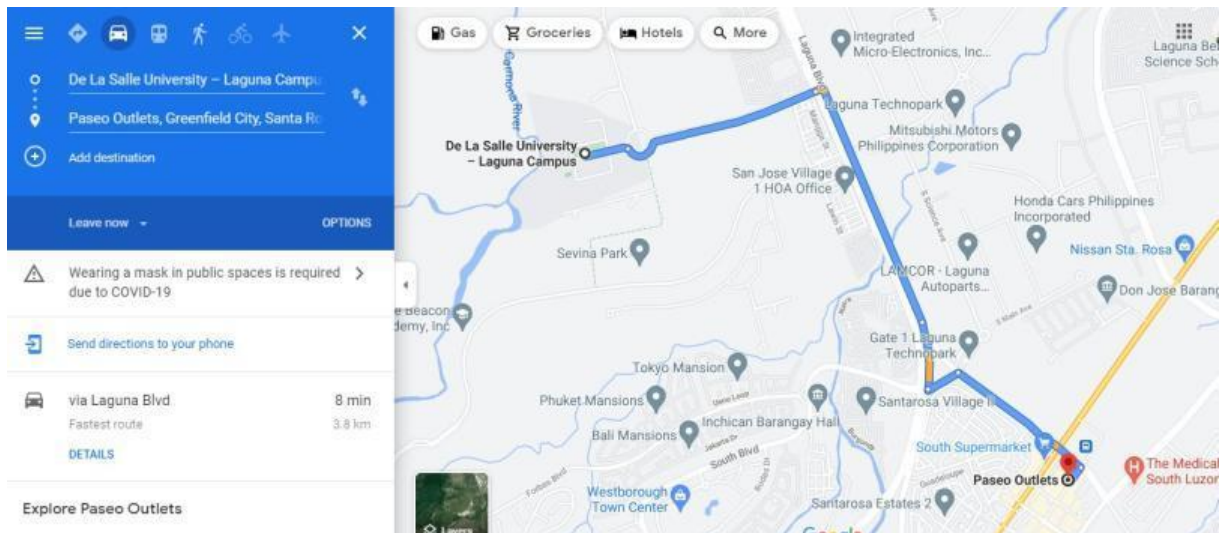


Figure 2. Route of the Green Archer Express shuttle service

This initiative provided students, faculty, and staff alike with the opportunity to take part in this sustainability initiative. The collective emissions from private vehicles traveling to and from the campus is a major issue that the Green Archer Express was able to address. To further encourage the De La Salle community to take advantage of the provided electric vehicles, the university provided this service free of charge.

2.3. Point to Point (P2P) Initiative

The student population of De La Salle University hails not only from the Central Manila Area. In fact, many come from the Sucat-Alabang area South of Manila. To minimize the use of private vehicles bringing these students to and fro, we partnered with N. Dela Rosa Liner, Inc., a bus company, in order to provide a premium point-to-point (P2P) route from the central campus to Alabang which is approximately 20.1 kilometers away from the Manila campus (Figure 3).

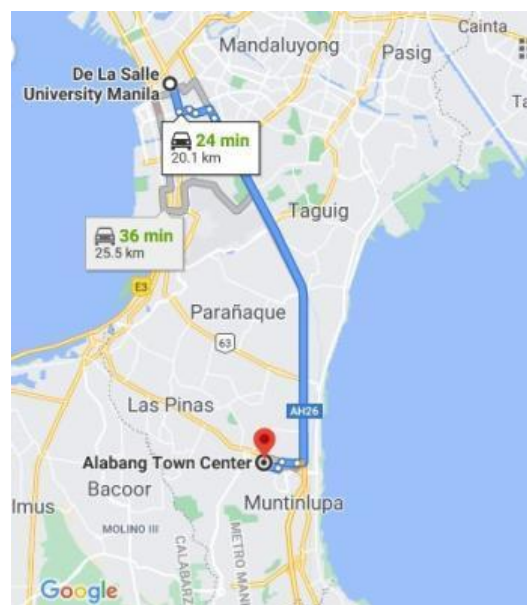


Figure 3. Route map of P2P Service from Manila Campus to Alabang

The convenience of this initiative encouraged the De La Salle community to take full

advantage of the P2P system. The initial success of this program led to an increase in demand for the service, which called for the addition of two more stop-over schedules [2]. The implementation of this P2P route has also contributed to decreasing the traffic volume of public transportation which is an issue that also heavily plagues the Philippines. The addition of the P2P route has also allowed for a safe, reliable, and direct method of transportation to and from the central campus.

3. Post-pandemic Initiatives

3.1. Bicycle Trail in Laguna Campus

Throughout the ongoing pandemic, De La Salle University has continued to develop and improve on both infrastructure and programs that further our green goals. One of which is to encourage the use of bicycles, which aims to carry over even after we return from the pandemic. In STC, the development of a 7-kilometer bicycle trail has been implemented to encourage the community to both a healthier lifestyle and a more sustainable transportation method [3] (Figure 4). The opening of this trail also serves as an invitation to those who live nearby the area to use their bicycles as an alternative to getting on and off campus.



Figure 4. Employees and Students Enjoying the Bicycle Trail in Laguna

3.2. Facility improvements in Manila Campus

Part of the plans of the university includes the updating of campus facilities that advance our goals and vision of sustainability. Proposals of the construction and renovation of walkways along the campus have been set in place to encourage our community to a lifestyle that will benefit both their health, and provide them with an awareness of their environment (Figures 5 and 6).



Figure 5. Plan for Manila campus facilities renovation (walkways) (1)



Figure 6. Plan for Manila campus facilities renovation (walkways) (2)

During the pandemic, there was a renewed movement for the use of bicycles in Metro Manila. Local governments have designated bike lanes in public streets. This uptake in the use of bicycles has prompted us to put plans in place for designated bicycle parking areas in strategic areas around the Manila campus (Figures 7 and 8), paralleling the bicycle-centric experience from the Laguna campus as well. Through encouraging the De La Salle community to a more pedestrian and bicycle-centric lifestyle, we are also consequently discouraging the use of private vehicles which contribute heavily to carbon emissions.

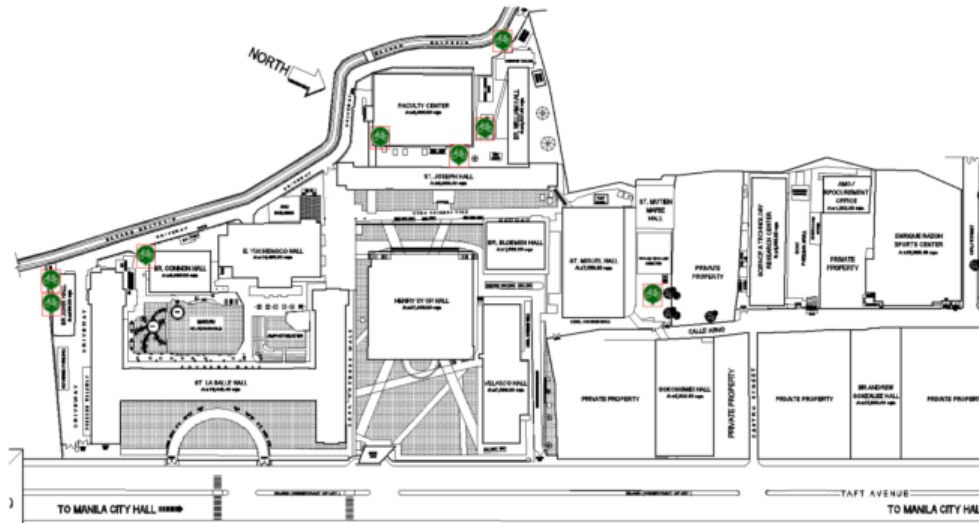


Figure 7. Map of Manila campus with proposed Bicycle Parking locations



Figure 8. Proposed bicycle parking design

4. Summary and Concluding Remarks

Balancing green goals and implementing green initiatives amidst resource constraints and disruptions is always a challenge. Furthermore, considering that our main campus commemorated its 110th anniversary this year, it has been no simple task to make the shift towards a greener campus. However, inspired by the university's vision and mission towards a sustainable Earth, multiple projects and plans were set in place. Sustainable transportation is one of the aspects of the greener future that De La Salle University finds the need to address, and through these projects can our contribution be seen. These initiatives aim to involve and engage the De La Salle community in taking part in the step towards sustainable development, which according to our University Chancellor is essential to attain our SDG commitments [1].

Pre-pandemic, the university has partnered with various companies in order to implement both a ZEV shuttle system to and from the Laguna campus as well as a premium P2P service to both campuses for our community. Even through the pandemic and the

quarantine situation, we have set in place plans and proposals that further our green initiatives such as facility renovation and improvement, as well as a shift to a more bicycle-centric mobilization for sustainability.

Furthermore, we plan to quantify and actualize the impacts of all our sustainable transportation initiatives to better manage and improve our programs.

May this paper serve not only as a statement of the progress of our university toward sustainable transportation systems, but also as inspiration and a guide for others to follow suit. In line with the United Nations' SDGs 11 (Sustainable Cities and Communities) and 13 (Climate action), we find development towards more sustainable transportation a necessary and noble goal. Together, we should all aim to go the distance, by going green.

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