

The Impact of Go-food on Travel Behaviour for The Fulfillment of Consumption Needs in Higher Education Areas

by Okto Manullang

Submission date: 01-Mar-2021 03:14PM (UTC-0800)

Submission ID: 1521720170

File name: anullang_2019_IOP_Conf._Ser.__Earth_Environ._Sci._396_012039.pdf (2.16M)

Word count: 7665

Character count: 39641

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To cite this article: O R Manullang and N S Limbong 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **396** 012039

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The Impact of Go-food on Travel Behaviour for The Fulfillment of Consumption Needs in Higher Education Areas

O R Manullang, N S Limbong

Department of Urban and Regional Planning
Diponegoro University, Indonesia

E-mail: oktomanullang72@gmail.com

Abstract. This study examines the Go-food implications for changing the behavior of people's travels in fulfilling consumption needs, specifically for eating and drinking. This community travel behaviour is seen from two sides, namely: Go-food user request side and provider side (Go-food driver travel intensity). Quantitative methods were applied to analyse Go-food implications towards travel behaviour from provider and user. The results of this study explain that a high level of travel occurs at night and is hostile to the beginning of the driver's travel. It is influenced by the function of the trade area that is located on the surrounding road, especially when weekdays on Sirojudin Street (21%), while the weekend at Ngesrep Timur V Street (20%) and Jatimulyo Street (17%). In addition, the behaviour of the driver's travel goals is spread, which is when weekdays in the Bulusan area (30%), while in the weekend in the Pedalangan area (27%). Fulfillment of this consumption needs affects the change in Go-food user travel behaviour. Before there was Go-food, several factors were considered, namely: distance, time, cost, frequency, and reason for travel, whereas after Go-food, factors that are considered or have a relationship are: frequency factor and goal travel. This is because the Go-food service is used when the community prioritizes its time for productive matters. Moreover, the Go-food facility resulted in the Go-food user making a request to the place where he wanted to eat, although the distance was quite far. This is because cost and distance are not a problem for Go-food consumers.

Keywords: Go-Food, travel behaviour, and higher education

1. Introduction

The area of higher education is usually spread in big cities, one of which is in the city of Semarang. According to the policy of the City Area Section (BWK) contained in the Semarang City RTRW in 2011-2031 [1], the center of higher education in the Tembalang District is Diponegoro University (Undip), Semarang State Polytechnic (Polinnes) and Pandanaran University (Unpand), while in Banyumanik District it has one university, the Health Polytechnic of the Ministry of Health Semarang (Poltekkes). The term "tertiary education area" will be used in this study to describe the area around the four tertiary institutions.

The area of Higher Education is inhabited by the local community, but the majority is dominated by students from outside the City / Regency of Semarang. Judging from the number of students, Diponegoro University is a university that has the most students among the other four, namely around 43,095 students and followed by the Health Ministry of Health Polytechnic Semarang (Poltekkes) around 6,764 students, Semarang State Polytechnic (Polinnes) around 4,961 students, and Pandanaran University around 1,184 students [2]. The total number of students in the Higher Education Area is around 60,000 students who can experience population growth each year. Population growth that occurs can be known based on the number of new students who come from outside the City / Regency of Semarang. New students as migrants have a percentage of 61%, while new students coming from

the City / Regency of Semarang are 39% [3]. The addition of new students who come from outside this area will certainly result in an increasing population growth rate each year.

The rate of population growth in this region can trigger an increase in meeting the needs of every individual who is heterogeneous. The community needs in question can be: clothing needs, shelter, consumption, and so forth. But the need that currently dominates is consumption needs with a percentage of business towards trade and services of 64% as the main work in the Higher Education Area [4]. In addition, the trigger for an increase in the fulfillment of consumption needs is seen from the people's habit of consuming 2 to 3 times a day.

The intensity of meeting the needs of sustainable consumption can indirectly result in an increase in the quantity of traffic travel. This is influenced by individual behavior in traveling to the place of consumption needed or referred to as travel behavior [5]. Some examples of trips are: from a place to stay to a traditional market, food stalls, restaurants, or other places. On the other hand, the travel behavior requires transportation facilities, such as walking, private motorbikes, public transportation, and so on. According to data from the Central Statistics Agency (2010) [6] the Higher Education Region has always experienced an increase in motorcycle vehicles each year with an average increase of 289 units of motorcycles per year. When viewed from these data, transportation is highly developed and widely used by the public, namely motorbikes. Therefore, people's travel behavior in meeting consumption needs can have an impact on the trip generation and changes in land use, especially by using private vehicles (motorbikes) [7].

However, at present the fulfillment of community needs has been influenced by the rapid development of technology through online transportation services in the form of Go-jek, Grab and UBER [8]. Began to shift the choice of modes of public transportation to online transportation caused by the comfort and safety obtained from online transportation. Another advantage possessed by online transportation is that it offers convenience for users in ordering via smartphone without having to come to a motorcycle taxi station [9]. One of the online transportation used through smartphones is the Go-jek application.

The Go-jek application established by Nadiem Makarim ranks first as the most popular online transportation service in Indonesia [9]. This service is also one of the transportation facilities used by the community in the Higher Education area, especially for student migrants from outside the area to facilitate travel. Besides functioning to pick up passengers, the Go-jek service also provides delivery services (Go-food) that function to deliver food / drinks in accordance with the needs of public consumption [10].

Nadiem Makarim said that the message service between Go-food has grown to become the largest consumption service center in the world after China [11]. This development began to emerge during April 2015 with the increasing coverage of Go-food services. In addition, the Go-food service has reached food vendors and food stalls on the outskirts of 50 regencies and cities in Indonesia [11]. This gives benefits to the community because most of the consumption places in this region already exist in Go-food services, so that people can meet their consumption needs easily and varied without traveling. On the other hand, these benefits can also be felt by the community through work as a Go-food driver to increase the income of the people in the Higher Education Area. This is an important reason for researchers to find out about people's travel behavior towards Go-food services in the Higher Education Area.

The existence of this Go-food service is thought to bring changes to people's travel behavior in terms of meeting consumption needs. Travel behavior is measured in several factors, namely: distance traveled (travel distance), travel time (travel time), travel costs (travel cost), travel frequency (travel frequency), and mode selection (mode-choice) [12]. Changes in travel behavior are seen based on two different sides, namely from the demand side of Go-food users and the provider side through Go-food drivers. This is a comparison of travel behavior, both before and after the Go-food service in meeting their daily consumption needs.

Viewed from the side of the Go-food driver, the behavior of the trip to pick up and order has a relationship between spaces from one location to another on an ongoing basis. This is thought to create erratic travel patterns because it adjusts the demand for Go-food users who place orders through the Go-food service. The driver's journey occurs continuously, which is more than 2 or 3 times a trip in 1 day, it is suspected to cause traffic jams. The impact of congestion is usually seen at rush hour or travel time that has a high frequency of travel simultaneously. Then there is the

concentration of origin of trip generation in a zone and the imposition of traffic in meeting the consumption needs in the Higher Education Area [13].

Viewed from the perspective of Go-food users, the intended travel behavior aims to look at the supporting factors for changes in people's behavior in meeting consumption needs. In addition to the availability of Go-food service factors, it is also necessary to know how factors change travel behavior towards trip generation generated in the Higher Education Area. This can provide 2 (two) possibilities, namely: the reduction in trip generation or increasing trip generation, depending on the intensity of the trip caused by distance [14]. The statement can be interpreted as the implication of Go-food on people's travel behavior.

Implications of Go-food as an online service can affect lifestyle (life style) or different behaviors [15]. Therefore, it is necessary to analyze how changes in travel behavior that occur after the Go-food service. The behavior of the trip is difficult to know if it does not first pay attention to what factors and impacts that are affected by the existence of Go-food on consumption needs. Based on the description above, this research is important to be carried out to determine changes in travel behavior as an implication of Go-food in meeting consumption needs in the Higher Education Area.

2. Research Methods

The research method used is a quantitative method with descriptive analysis tools and crosstabs analysis. The purpose of this method is to identify the implications of Go-food from the demand and supply side which include: social, economic, demographic conditions, and travel behavior of Go-food users. This study also uses primary collection techniques (questionnaires & observations) and secondary data collection techniques (journals, books, internet sources, articles, etc.). The data collection is divided into 3 times, namely at breakfast, lunch, and dinner.

Data collection method is a very important component in conducting research because data collection determines the success or failure of a study [12] [16]. Data collection techniques used in this study are distinguished based on the source, namely primary data collection techniques and secondary data collection techniques. The data acquisition of this study was conducted for Go-food drivers (supply side) and Go-food users (demand side). The technique used in sampling for Go-food drivers in this study is the non-probability sampling technique using the accidental sampling method. Accidental sampling method is a responsive sampling technique based on coincidences, so anyone who happens to meet with researchers can be used as a response when viewed according to data requirements. Sampling locations are spread evenly within a radius of about 3 kilometers from the Higher Education Area, ie Go-food service users who have data on their travel behavior that they do every day or several days as long as they use the application. The number of Go-food drivers in the Higher Education Region is unknown, so sampling can be calculated using the Lemeshow formula, a total of $n = 96 \approx 100$ samples is obtained. The sample distribution of Go-food drivers can be seen in detail in the Table 1:

Table 1 Go-food Driver Sampling

Days	Go Food drivers	Quantity of Go Food drivers trips	Category
Monday	15 drivers	88 trips	Weekdays
Tuesday	15 drivers	89 trips	
Wednesday	15 drivers	98 trips	
Thursday	15 drivers	85 trips	
Friday	15 drivers	98 trips	
Saturday	15 drivers	102 trips	Weekend
Sunday	15 drivers	94 trips	
TOTAL	105 drivers	654 trips	

Source: Researcher's Observation Results, 2019

The technique in sampling for Go-food users will be known after observing the results of the recording of Go-food drivers as many as 105 respondents of Go-food drivers. The resulting observations were 654 trips. The population obtained was subject to research using the sampling technique with the Slovin formula. Slovin formula is a formula to calculate the minimum number of samples from a population that is obtained to be smaller but can represent the population as a whole, which is equal to 100 samples of Go-food users. The data to be studied was carried out by a random

sampling method that is taking several populations randomly but having the same criteria namely users of Go-food services.

This research has an important objective to learn how to use the large variables that are the main focus of this analysis. This can reflect travel characteristics and land use characteristics that conflict with travel [17], resulting from Go-food services. By understanding and analyzing these changes, it is hoped that they can provide findings that are consistent with the theory and reality currently being developed, especially in the Higher Education Area.

3. Travel Behaviour From Provider Side (Go-Food Driver Travel)

The existence of Go-jek especially who serves Go-food during weekdays and weekends has a difference. This is because there are different patterns of activity on weekdays and weekends, and can affect the behavior of Go-food driver trips [18]. Therefore, this study will identify the distribution based on two (2) different times, namely working days (Monday to Friday) and weekends (Saturday and Sunday).

3.1. During Weekdays

Go-Food drivers start their travel from the consumption place listed on the Go-food service as per booking. Usually the driver who get the Go-food booking is determined based on the closest distance to the place of consumption needed by the Go-food user community. Therefore, Go-food drivers have a tendency to wait for reservations in places that are close to the restaurants or other consumption places that are already registered on the Go-food service (Figure 1).

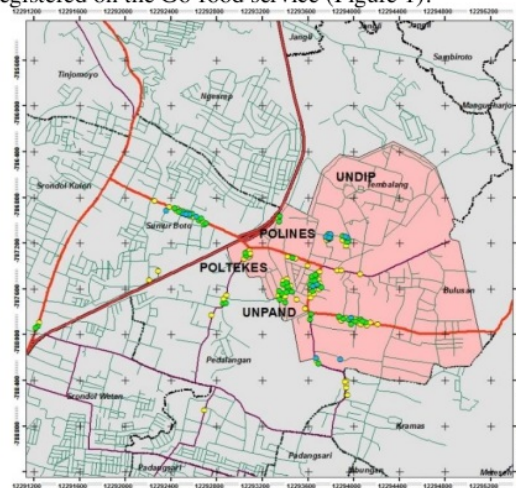


Figure 1. Early distribution map of driver's travel at Weekdays

The distribution of driver travels during weekdays tends to focus on the corridor Sirojudin Street, Ngesrep Timur V Street, Jatimulyo Street, and Banjarsari Street. This centralized distribution pattern occurs because of the large quantity of Go-food driver travels in certain locations (Figure 2).

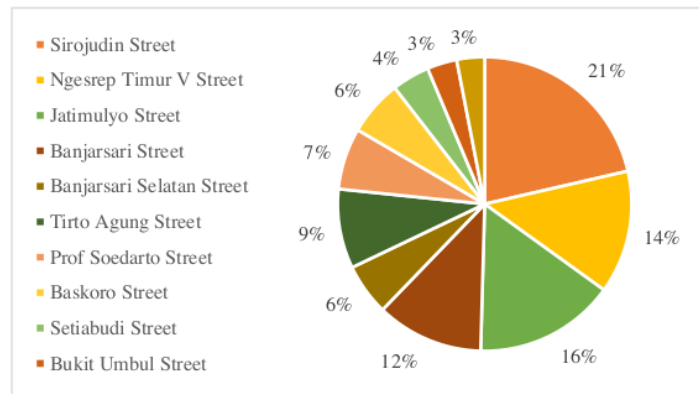


Figure 2. Percentage of Initial Driver Travel During Weekdays

The initial distribution of the travel by the Go-food driver was dominated by the corridor Sirojudin Street is 21% of the total. Location points that have high concentrations include: thuk-thuk thai tea, ternate yaya yellow rice, abahabu kebab, and pong pera-pera-warung. These places have been registered with the Go-food service and have a higher customer quantity compared to other places to eat on weekdays (Figure 3).

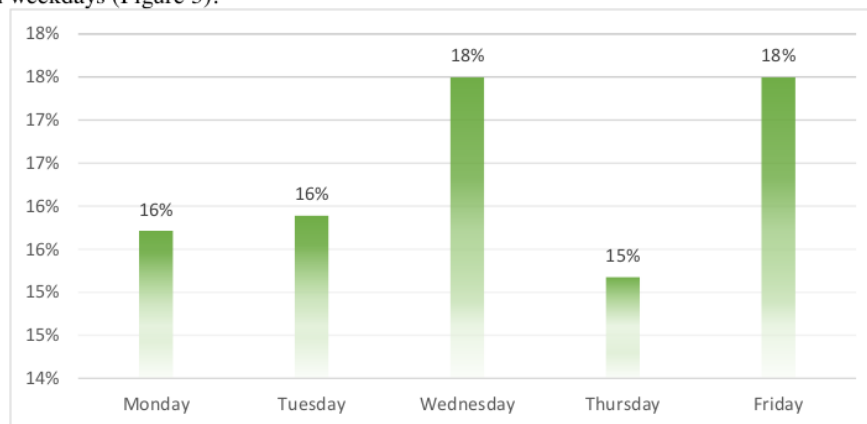


Figure 3. Go-food Driver Travels on Weekdays

The highest frequency is on Wednesday and Friday, compared to other days. Most people in the Higher Education Area do many activities during weekdays, so there is a lack of time to cook on their own. After completing their activities, people prefer to fulfill their food needs without having to cook. The higher the demand for Go-food users, the higher the travel by the driver. The frequency of this travel will increase the number of drivers' movements, a minimum of more than 2 or 3 travels in 1 day. Increased driver travel can contribute to congestion when passing certain road sections at the same time. This congestion is also influenced by the place of eating that is most in demand by Go-food users. Some places of consumption needed during weekdays can be known through Figure 4:

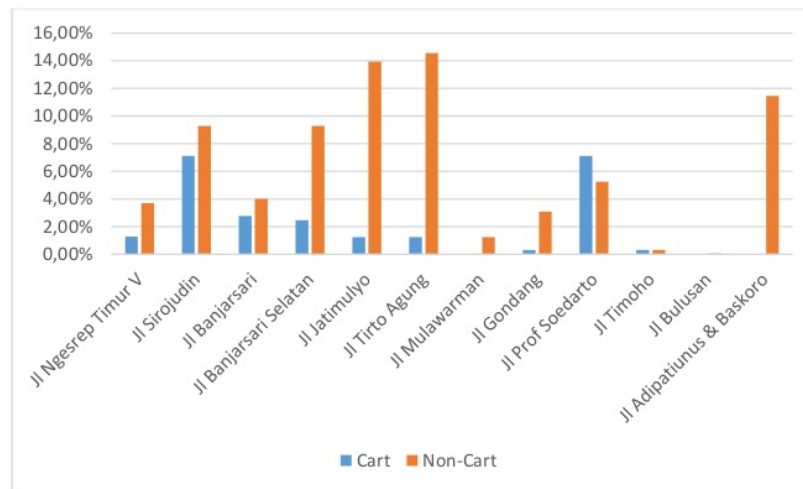


Figure 4. Frequency of Driver's Travel Based on Consumption Place on Weekdays

Based on Figure 4 above, it can be explained that the dominant driver travels to a place to eat on Jl. Tirta Agung, compared to eating places that use carts. Places to eat that have buildings certainly require parking for Go-food drivers, but if seen in the field, parking spaces are only provided by a few eating places.

3.2. During Weekend

Based on the Figure 5, map below, the distribution of origin of driver travels at weekends tends to focus on certain corridors. This centralized distribution pattern occurs because the quantity of Go-food drivers is determined according to the place to eat or drink needed by Go-food users. Every travel made by the Go-food driver depends on the request of Go-food users who are centered on a place to eat or drink.

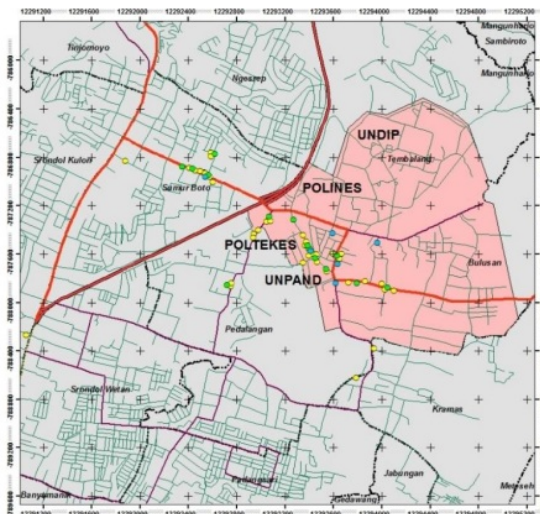


Figure 5. Map of the distribution of the origin of the driver's travel during the Weekend

The following can be seen in Fiture 6 more detail the initial quantity of driver travels based on the corridors in the Higher Education Area:

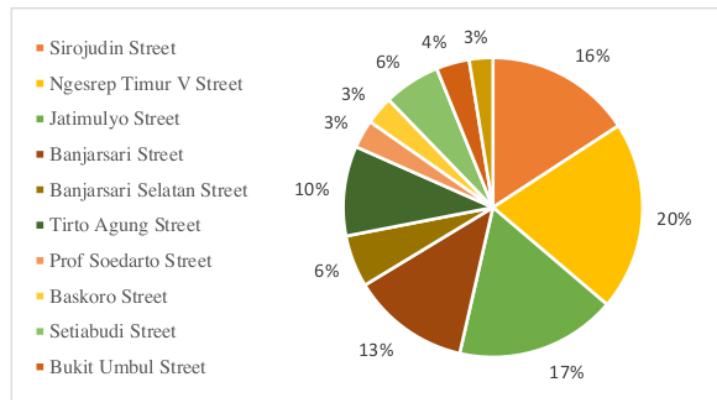


Figure 6. Percentage of Origin of Driver's Travel during Weekend

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Based on the Figure 6, it can be seen that the driver's travel during the weekend tends to center on the corridor Jatimulyo Street (17%) and Ngesrep Timur V Street (20%). This centralized distribution pattern occurs because travel generation with high concentrations is in certain locations carried out by Go-food drivers. The location is determined according to where food is needed by Go-food users. From the results of the field survey, along the Jatimulyo Street and Ngesrep Timur V Street is dominated by eating places that are already registered in the Go-food service. The places to eat are: panties pizza, Surabaya noodle hut "cak dul", successful depots, buto express, house of moo, ragil stalls and games shops. These eating places are already subscribed to Go-food and have a high quantity of customers on weekends.

The frequency of Go-food driver travels is higher on Saturdays, this can be seen within 2 days on weekends via the Figure 7:

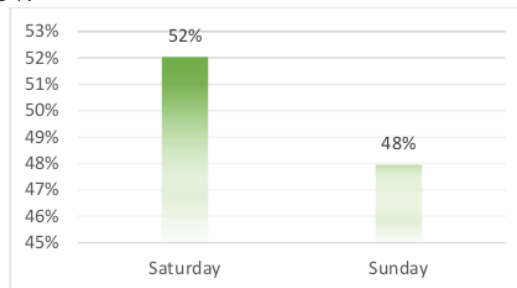


Figure 7. Driver Travel Frequency Go-food at Weekend (Per-day)

Based on the results of the diagram above, the frequency of Go-food driver travels occurs every day in a fluctuating manner. This can be seen from the number of Saturday and Sunday travels that are not much different, namely 67 travels and 63 travels. This is due to the influence of activity behavior, where at the weekend most people do not carry out fulltime work activities and use Go-food to facilitate the fulfillment of their food consumption needs. Thus, the driver will travel to the dining place according to the order of the Go-food user community.

The intended place to eat is a place that has been served by Go-food, both those who have built land for eating places and those who do not have land built (using a cart). Some of the places to eat needed at weekends can be found through the Figure 8:

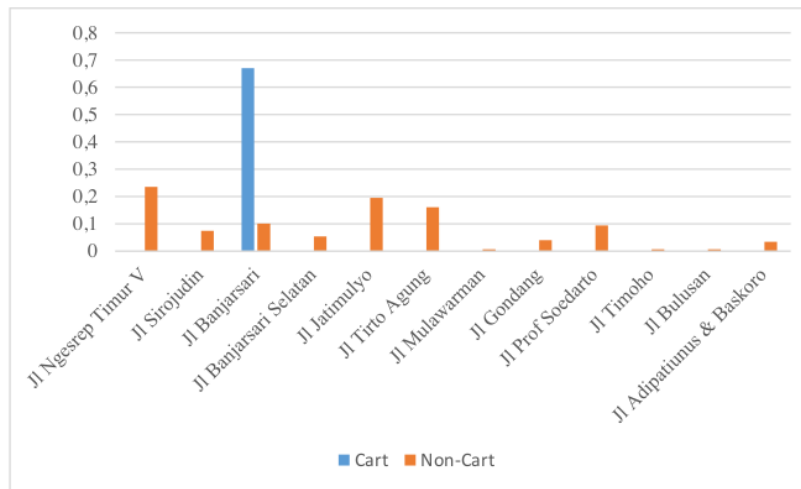


Figure 8. Frequency of Driver Travel by Weekend Consumption Place

Based on the Figure 8, it can be explained that the dominant driver travels to a place of consumption that has built up land on Ngesrep Timur V Street, compared to consumption places that use carts. Consumption sites that have built-up land certainly require parking spaces for Go-food drivers, but if seen in the field, parking lots are only provided by a few places of consumption. This can be one of the considerations related to the provision of parking space for consumption places, so that the arrangement of the space for consumption can be arranged in such a way, especially in places of consumption that have high frequency of demand. The frequency of these requests can be seen based on mealtimes used by the community, as shown in Figure 9:

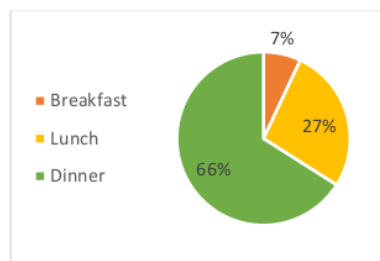


Figure 9. Go-food driver travels during weekends based on mealtimes

Based on the diagram above, it is known that out of 196 most travels were made during dinner as many as 130 movements (66%), while lunch time was 52 travels (27%), and breakfast time was 14 travels (7%). Comparison of this travel explains that the driver's breakfast time is less than the others. The high and low travel done depends on the number of requests for Go-food users who place an order. Go-food driver travels are dominated at night, so that it can cause the concentration of travel in certain corridors at the same time. The distribution of Go-food driver trips is dominated at night, so that it can cause the concentration of travel in certain corridors at the same time.

The distribution of trips over different periods of time has different identification results. This can be seen from the quantity of Go-food drivers' distribution in traveling for 1 week. Therefore, it needs to be seen how the travel distribution spreads during weekdays and weekends in the Table 2:

Table 2
Comparison of Travel Spreads During Weekdays and Weekend

Paramater	Travel Spreads During weekdays	Travel distribution on weekends	Analysis
Early travel distribution patterns	Centralized distribution pattern with the highest quantity is in the corridor Jl. KH. Sirojudin by 21%.	The distribution pattern is concentrated with the highest quantity in the corridor Jl.Jatimulyo (17%) and Jl.Ngesrep Timur V (20%).	The centralized distribution pattern occurs because the location of consumption places is concentrated in one particular location, with the highest quantity being on Jl. Sirojudin, Jl. Ngesrep Timur V, and Jl. Jatimulyo. The higher the quantity of Go-food driver trips, the higher the density of traffic passing through these roads. This can have an impact on high traffic generation in the corridor.
Distribution pattern of travel destinations	The pattern of travel spread is dominated by the Bulusan area by 30% of the total.	The pattern of travel spread is dominated by the Pedalangan area (27%) which is inhabited by the local community.	Demand for transportation services for passengers is inelastic, whereas demand for transportation services for the transportation of goods is elastic [19]. This statement occurs in meeting the consumption needs of the community through Go-food services that are elastic, in accordance with the needs of each individual. Go-food user dwellings in this region are scattered randomly according to land use that is urban sprawl. This resulted in the point of awakening of the Go-food driver's destination travel spread. Therefore, the availability of Go-food services is an efficient solution in meeting its consumption needs.

4. Changes in Travel Behavior from the Side of Go-food Users

Changes in travel behavior can be seen from the Go-food user profile and its characteristics in 2 (two) different time periods, namely before and after the existence of Go-food.

4.1 Go-food User Profile

Go-food user profile intended in this study is a general description of Go-food users viewed from several variables, namely: distance traveled, travel time, travel costs, travel frequency, reasons for travel, and destination of the travel. Each of these variables will be seen based on 2 (two) different time periods, namely before and after the Go-food service in the Higher Education Area.

a. Travel Distance

The intended travel distance is the distance from the place of origin to the place where the community intended to eat before Go-food. This study will look at three (3) categories of distance, which are near (<500 m), moderate (500 m - 1,000 m) and far (> 1,000 m). Changes in travel behavior based on distance can be seen on the Figure 10:

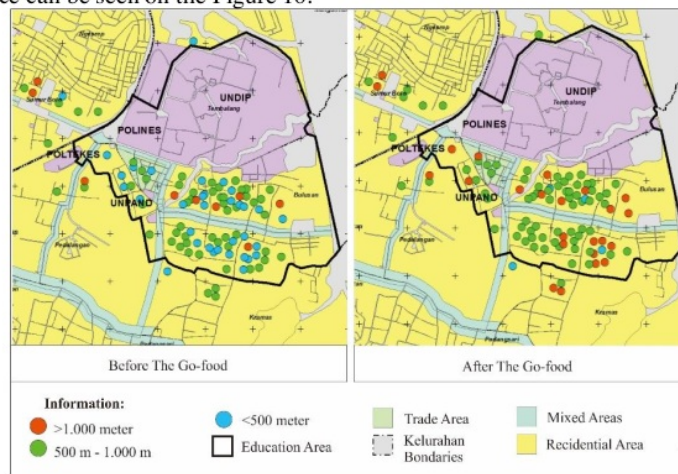


Figure 10. Map of distance traveled before and after the Go-food

Based on the map above, the travel distance of people who dominate their food needs is around 500 m - 1,000 m, both before and after the Go-food. The results of the percentage comparison of the distance traveled can be known more clearly through the Figure 11:

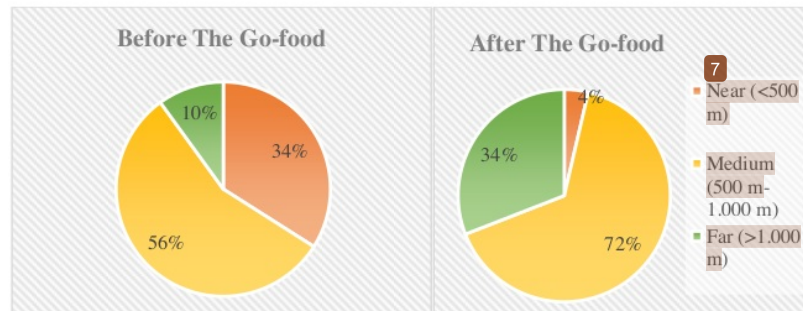


Figure 11. Percentage of distance before and after Go-food

Distance is related to the location of meeting food needs, including food needs that are carried out with Go-food services. Almost all interactions that require travel generate traffic flow, but now these interactions are facilitated by Go-food services. Based on the results of the percentage of distance obtained, there is a change, namely the increase in the distance traveled from before (56%) to after Go-food (72%). This was caused by the ease of Go-food service in reaching places to eat, so that more dominant people chose places to eat as they wished with more distance traveled than before. Therefore, it can be concluded that technology has a major impact on people's travel behavior after Go-food, namely the increasing distance of food ordering done by Go-food users.

b. Travel Time

The travel time of the intended travel is the travel time taken from the place of origin to the place of eating intended by the community before the Go-food. The travel time variable is divided into three (3) categories, namely fast (<15 minutes), medium (15 minutes - 30 minutes) and far (> 30 minutes). Travel behavior based on travel time can be seen on the Figure 12:

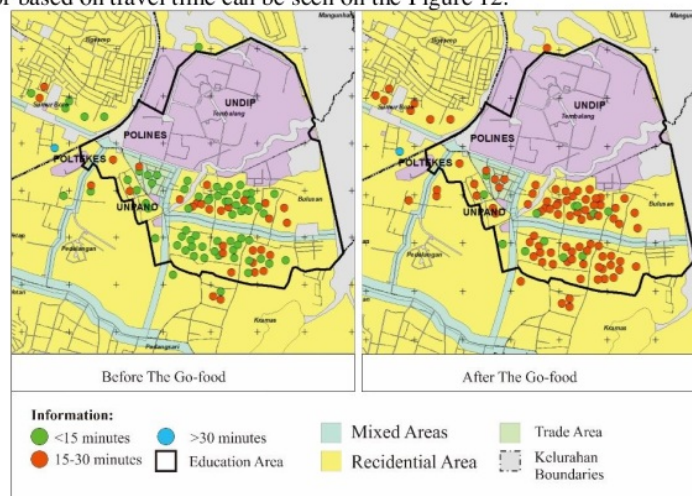


Figure 12. Map of travel time before and after Go-food

The travel behavior map above explains that there are changes in the travel time of the community before and after the Go-food. The travel time before Go-food is dominated by <15 minutes, then changes after Go-food is dominated by about 15-30 minutes to meet its consumption needs. The

results of the comparison of before and after travel time can be known more clearly through the Figure 13:

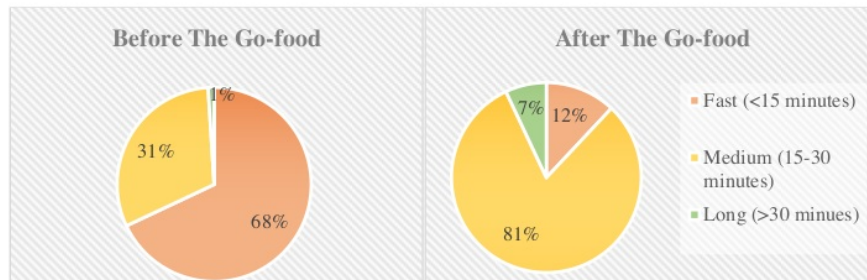


Figure 13. Percentage of travel time before and after Go-food

Travel time is closely related to distance traveled, the further the distance traveled, the greater the required travel time. Based on the results of the study, there was a change in the increase in travel time from fast (<15 minutes) to moderate (15-30 minutes). The travel time needed after the Go-food is longer because the distance to go is further by increasing the waiting time of the driver at the food place. The behavior of the travel can explain that a longer travel time is not an obstacle for Go-food users to meet their food needs.

c. Travel Cost

The intended travel costs are the transportation costs incurred to meet their food needs before the Go-food. Transportation costs are divided into three (3) categories, namely cheap (<Rp. 6,000), medium (Rp. 6,000 - Rp. 12,000) and expensive (> Rp. 12,000). Travel behavior based on travel costs can be seen on the Figure 14:

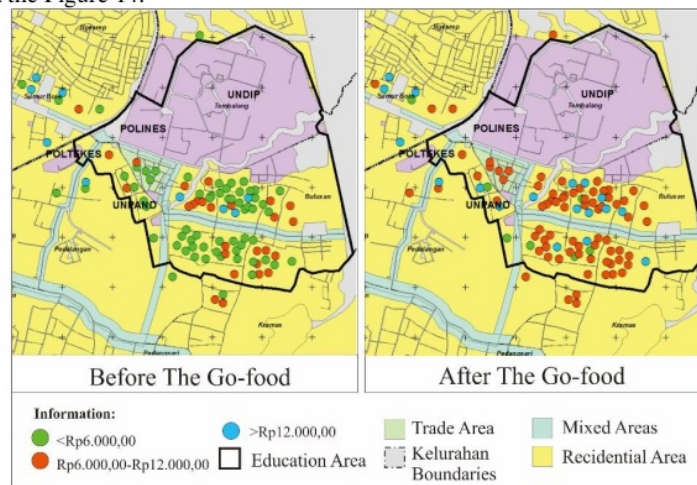


Figure 14. Map of travel costs before and after the Go-food

Based on Figure 14, the travel costs of community travels change between before and after the Go-food. The change in behavior is that before Go-food is dominated by costs of <Rp6,000.00, while after the existence of Go-food, it costs Rp6,000.00 - Rp12,000.00 for travels to meet people's food needs. The results of the comparison of the cost of this travel can be known in more detail through the Figure 15:

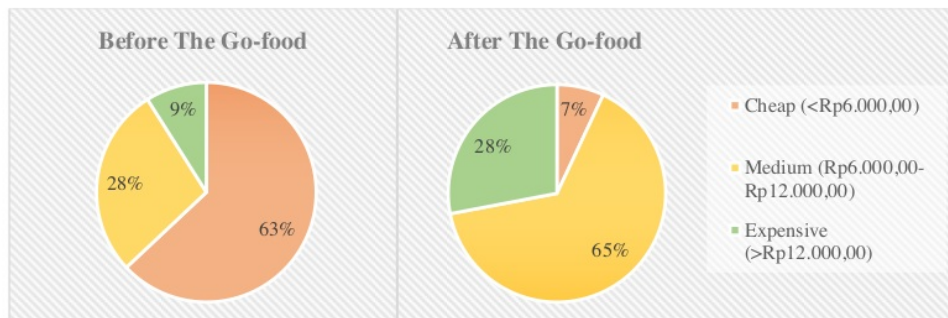


Figure 15. Percentage of user travel costs before and after Go-food

The percentage change in travel costs before and after Go-food has increased, from cheap (<Rp6.000,00) to moderate (Rp6.000,00 - Rp12.000,00). This also affects the increase in distance and travel time after Go-food. Therefore, the costs incurred in accordance with the distance of ordering food needed by Go-food users, as well as additional transportation service costs for Go-food drivers.

d. Travel Frequency

The intended travel frequency is the number of travels taken by the community in meeting their food needs before and after the existence of Go-food services. Travel frequency is divided into three (3) categories, which are rare (<5 times in 1 week), moderate (5-10 times in 1 week) and high (> 10 times in 1 week). Travel behavior based on travel frequency can be seen on the Figure 16:

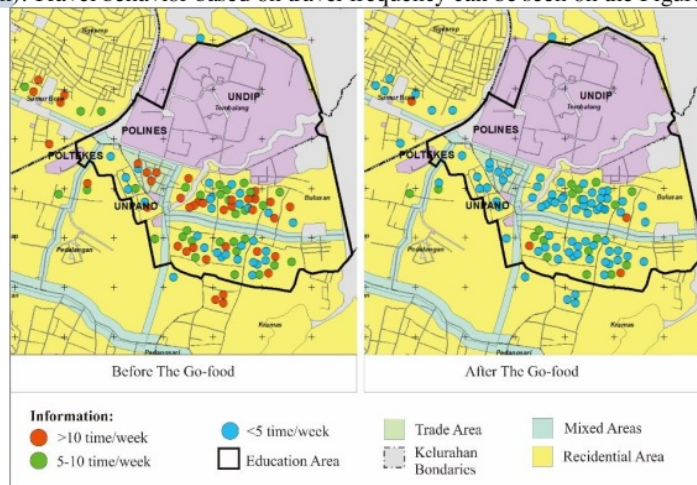


Figure 16. Map of travel frequency before and after Go-food

The map before and after the Go-food above explains that the frequency of people's travels in meeting their food needs is almost balanced from the 3 (three) categories, whereas after the existence of Go-food tends to be dominated by people who do frequency as much as <5 times / week (rarely). The results of the frequency comparison of travels can be known in more detail through the Figure 17:

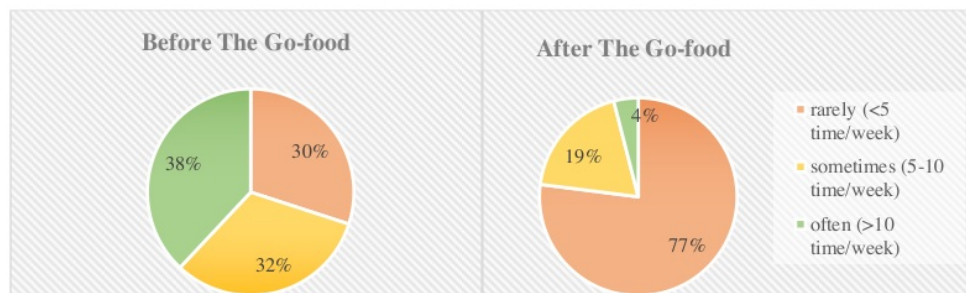


Figure 17. Percentage of travel frequency before and after Go-food

The frequency of travels that are seen to have a change that decreases, i.e. from frequent (> 10 times / week) to rarely (<5 times / week). This is consistent with what was said in Engel's law, namely: if the income of a person rises, then that person will proportionally reduce expenses to obtain daily necessities and replace them with more luxurious or secondary goods.

e. Travel reasons

The reason for the intended travel is the reason for the Go-food user community to travel to the intended dining place to meet their food needs before the Go-food. The reason for this travel is divided into five (5) categories, namely: (1) self-cooking, (2) buying near boarding, (3) bored with food near boarding, (4) amount of busyness, and (5) distance of eating place far away. To find out the user's profile from the reason for the travel, it can be seen on the Figure 18:

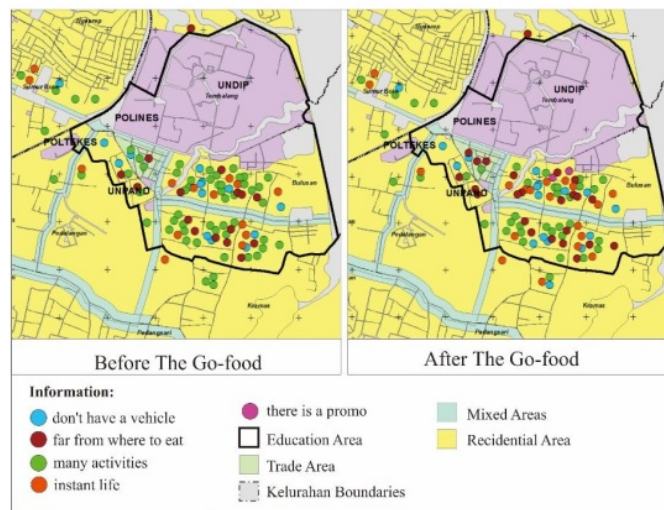


Figure 18. Map of travel reasons before and after Go-food

Based on **Figure 18**, the reasons for community travel before and after Go-food have more reasons for activities than other reasons for meeting food needs. The results of the percentage comparison of the reasons for this travel can be known in more detail through the Figure 19:

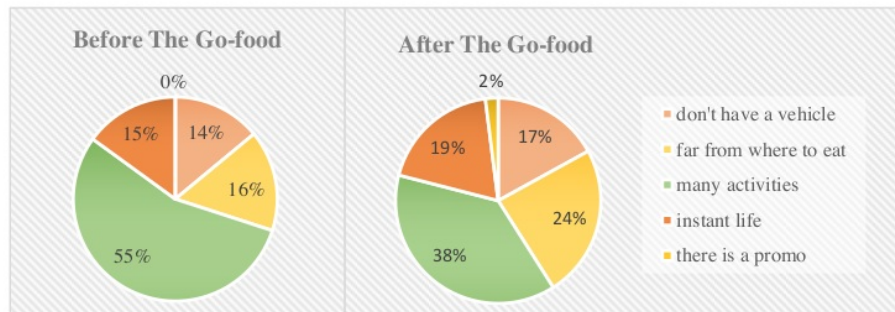


Figure 19. Percentage of travel reasons before and after Go-food

The reason for the travel depends on the behavior of the community, including the behavior of daily activities. Changes in travel reasons that dominated before and after the Go-food were the same but had a difference in percentage values. The percentage of travel reasons that dominate is due to the large number of activities. In addition, the reason for the increased travel is that it is far from where to eat (24%) compared to others. This is related to the increasing travel distance after Go-food to facilitate the fulfillment of food needs, even though the eating place is far from where Go-food users live.

f. Travel Destinations

The purpose of the travel in this study is a place to eat that is often visited by people to meet their food needs before the Go-food. The purpose of the travel is divided into five (5) categories, namely: the nearest market, the nearest food stall, an affordable place, depending on the mood and the place to eat far enough. Travel behavior before Go-food based on the purpose of the travel can be seen on the Figure 20:

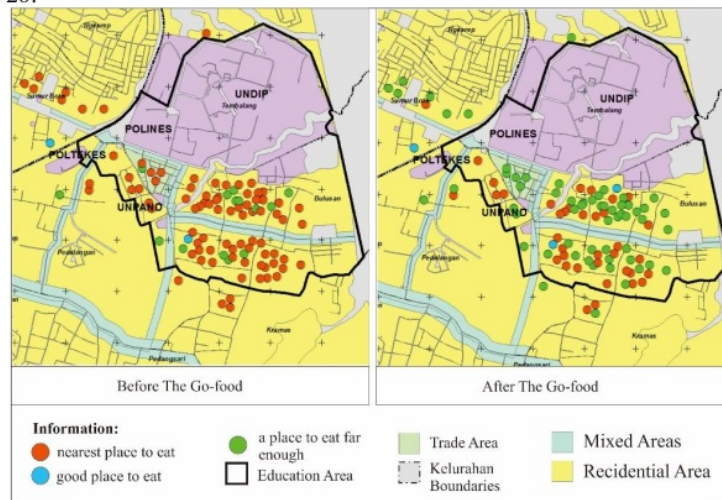


Figure 20. Map of travel destinations before and after Go-food

The travel behavior map above explains that the travel destination of the community before and after the Go-food has changed. These changes can be seen from the distribution before the Go-food is dominated by the destination to the nearest place, while after the Go-food is dominated by the destination to a quite far place. The results of the percentage comparison of the purpose of this travel can be seen more clearly through the Figure 21:

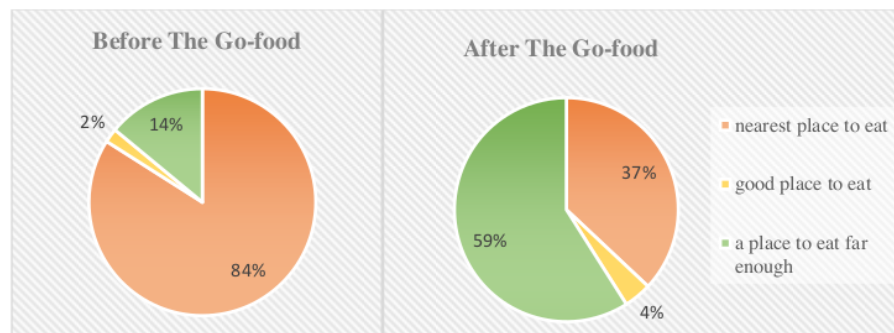


Figure 21. Percentage of user travel destinations before and after Go-food

The purpose of the travel obtained is related to the ease of Go-food service in meeting food needs with distance and near distance. When viewed from the purpose of the travel before and after the travel, there are differences, namely: from the nearest eating place to a place to eat far enough. It can be concluded that the purpose of Go-food users' requests is dominated by places far enough from where they live.

Travel behavior that experiences different changes and tends to influence other factors, is the travel distance factor. Before Go-food, users tended to travel at a distance that was close to where they lived, so that it would also influence the cheap cost factor of travel and time factors that tend to be faster than when using Go-food services. Go-food users are dominated by demand with a distance that is far enough from the place to eat, so that it has an influence on the travel time is quite long and the cost of travel is more expensive than before the Go-food service.

4.2. Characteristics of Travel Behavior

The behavior characteristics of this travel are divided into two (2) different times, namely before and after the Go-food. The aim is to see how changes in the behavior of Go-food users travel, whether to provide significant or reverse changes to the use of Go-food services. This analysis will look at some of the effects of the research variables determined based on the theories from Gliebe and Koppelman in Ettema, et al. (2006) [20], explains that travel behavior is influenced by social, economic and demographic conditions.

a. Before the Existence of Go-food

Some data obtained to analyze the characteristics of travel behavior before Go-food will be explained in more detail through the results of the crosstab analysis that can be seen in Table 3:

Table 3

Chi Square Analysis Results of Travel Behavior Before the Existence of Go-food

Correlation Coefficient Value (Asymp. Sig. (2-sided))	Mileage	Traveling time	Travel Costs	Travel Frequency	Travel Reasons	Travel Destinations
Age	,949	,000	,232	,355	,308	,901
Vehicle Ownership	,020	,154	,017	,314	,872	,018
Income	,242	,931	,186	,780	,044	,055

Hypothesis:

Ho: there is no relationship between rows and columns, or between the two variables analyzed

H1: there is a relationship between rows and columns, or between two variables analyzed

This Chi-square test is used to see whether there is a relationship between variables, namely hypothesis can be obtained from the probability value through the value of Asymp. Sig. (2-sided). If the probability value is > 0.05 then Ho is accepted, but if the probability is < 0.05 then H1 is accepted and Ho is rejected. In the case of the crosstab analysis above, there are five (5) relationships that have a probability value of < 0.05 , namely (Figure 22):

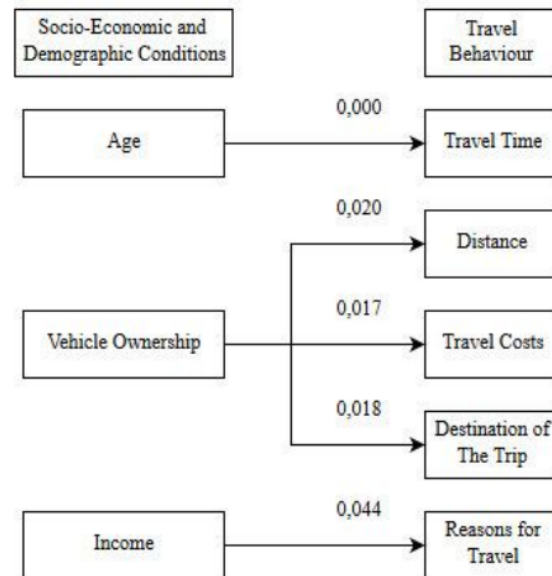


Figure 22. Crosstab Analysis Results That Have a Relationship Before the Existence of Go-food

Based on the results of the relationship of the variables above, there are several things that occur, namely:

1. The trading area is spreading and is increasing in the Higher Education Area, so that it can be reached more closely.
2. The community in the Higher Education Area is dominated by students who need a lot of productive time (activities / activities), so they prefer to meet their consumption needs in the nearest food stalls.
3. The community decides to fulfill their food needs related to distance, travel time, travel costs, travel destinations, and reasons for travel.

b. After the Go-food

Some data obtained to analyze the characteristics of travel behavior after Go-food will be explained in more detail through the results of the crosstab analysis (Table 4):

Table 4
Results of Crosstab Analysis of Travel Behavior After the Go-food

Correlation Coefficient Value	Distance	Travelling Time	Travel Costs	Travel Frequency	Travel Reasons	Travel Destination
Age	,327	,330	,858	,003	,673	,030
Vehicle Ownership	,557	,936	,959	,251	,104	,588
Income	,987	,947	,200	,629	,600	,399

Hypothesis:

Ho: there is no relationship between rows and columns, or between age and travel distance

H1: there is a relationship between rows and columns, or between age and travel distance.

Chi-square test will see whether there is a relationship between variables that can test the hypothesis by comparing the probability value through the Asymp. sig value. (2-sided). If the probability value is > 0.05 then Ho is accepted, but if the probability is < 0.05 then H1 is accepted and Ho is rejected. In the case of the crosstab analysis above, there are two (2) relationships that have a probability value < 0.05, namely (Figure 23):

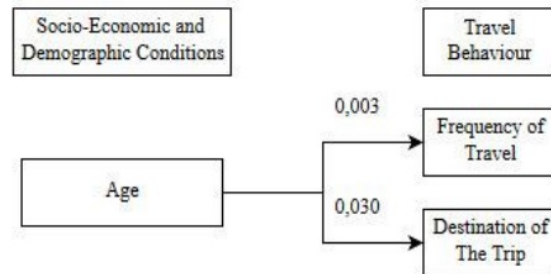


Figure 23. Crosstab Analysis Results That Have a Relationship After the Existence of Go-food

Based on the results of the variable relationship above, there are several things that have happened, namely:

1. Go-food services are used when people prioritize time for productive matters.
2. Go-food users do not think about the distance, cost, time, and reason for the travel.
3. Go-food users make requests to where they want to eat, even though the distance is quite far. This is because cost and distance are not a problem for Go-food users.

Go-food users do not need to leave the house to make their travel requests, because they are already represented by Go-food drivers.

5. Implications of Go-food on Travel Behaviors

The intended implication of Go-food is the impact caused by Go-food services on travel behavior from two (2) sides, namely: demand and supply (provider). Go-food user requests are analyzed through the characteristics of Go-food users, while offers are analyzed through the distribution results and travel frequency of Go-food drivers (Figure 24).

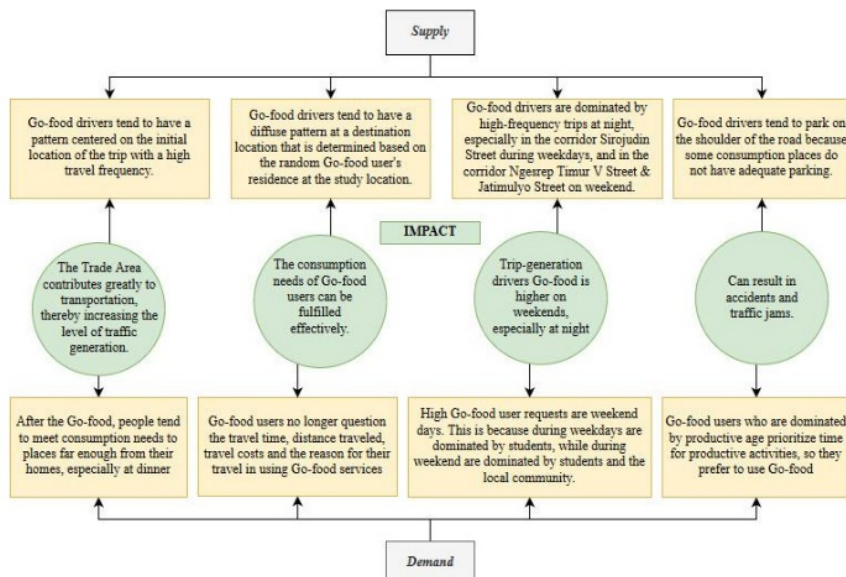


Figure 24. Implications of go-food for travel behavior

6. Conclusion

The initial distribution of the Go-food driver's travel is centralized because the location of the trade is concentrated in one particular location, with the highest quantity when weekdays are on Sirojudin Street (21%), while when weekend is on Jatimulyo Street (17%) and Ngesrep Timur V Street (20%). The higher the quantity carried out, the higher the frequency of the Go-food driver that passes through the road. This results in high traffic generation in the corridor. Concentration of trip generation conducted by Go-food drivers is at dinner time, both on weekdays (62%) and on weekends (66%). This results in high accessibility in the afternoon until the evening.

Meeting the needs of food has an impact on changes in travel behavior of Go-food users. Prior to Go-food, several factors were taken into consideration, namely: distance, time, cost, frequency, and reason for travel, whereas after Go-food, factors that were considered or had a relationship were: the frequency factor and the purpose of the travel. This is because Go-food services are used when the community prioritizes time for productive things. In addition, the ease of Go-food has resulted in Go-food users making requests to the places they want to eat, even though the distance is quite far. According to Levinson (1998) [21], economic aspects will influence travel behavior, including: aspects of income, expenses, work status, household, and type of work. This opinion illustrates the economic condition of Go-food users according to standards and is not a problem for Go-food users.

7. Acknowledgment

This article's publication is partially supported by the United States Agency for International Development (USAID) through the Sustainable Higher Education Research Alliance (SHERA) Program for Universitas Indonesia's Scientific Modeling, Application, Research and Training for City-centered Innovation and Technology (SMART CITY) Project, Grant #AID-497-A-1600004, Sub Grant #IIE-00000078-UI-1. The research was funded by Indonesian Ministry of Research, Technology and Higher Education (Ristekdikti) under the scheme of University Basic Research Excellent 2019 Contract No. NKB-1636/UN2.R3.1/HKP.05.00/2019.

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