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Assessing the factors that influence public transport mode preference and patronage: Perspectives of students of University of Cape Coast (UCC), Ghana

Enoch F. Sam [1*], Kofi Adu-Boahen [1], Kwaku Kissah-Korsah [2]

[1] *Department of Geography Education, University of Education, Winneba, P.O. Box 25, Winneba, Ghana*
[2] *Department of Population and Health, University of Cape Coast, University Post Office, Cape Coast, Ghana*

Abstract

Several factors influence the preference and patronage of one public transport mode as against the others. The study set out to assess the factors that influence students of the University of Cape Coast in their choice of public transport service operators. Using questionnaires and interview guides, the study was conducted at five main intercity bus terminals in Cape Coast involving 100 student commuters who happened to be available at the various terminals during the survey (Easter break). The study found that the students gave massive consideration to fare, safety, comfort and reliability before deciding on which transport operator to choose. The study also revealed that the government- owned fleet were the most preferred by the students surveyed compared to the other privately- owned modals. It was thus concluded that service operator preference and patronage was a function of how affordable, comfortable, safe and reliable their fleet and services are and also that the students preferred the services of both the Metro Mass Transit (MMT) Ltd and Intercity STC Coaches Ltd compared to the other operators because they have relatively cheaper fares and are perceived to be safe as well as are comfortable and reliable respectively.

Keywords: Fare; Comfort/vehicle quality; Perceived transport operator safety record; Student preference/ patronage; Transport service operators

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[*] Corresponding author. *E-mail address:* efsam@uew.edu.gh

1. Introduction

It is an undeniable fact that mobility is part of the daily round of activities and as such an essential component of the life of every human being (Albalate and Bel, 2010). In satisfying the need to move, public transport has in recent times become the most commonly used mode of transport. Therefore, the way public transport services are delivered as well as their qualities are important because of their effect both on the attitude and behaviour of travelers and the demand for services.

Public transport services are mostly delivered either by private or public organisations. Regardless of the party that delivers them, public transport services require substantial investment and high operating costs. According to Barnum et al. (2007), factors such as service productivity and efficiency are essential in this respect as they influence public transport demand and patronage.

Polat (2012, p. 1212) argued that "public transport services are specific and important. They are among the very basics of people's lives in modern times and that is why they are not only demanded but also required by people. It is the very basic instrument of mobility for a big percent of the population almost in all countries, where it forms one of the driving forces of economic and social life".

The nature of public transport services shapes their own demand/ patronage characteristics and vice versa. These characteristics are essential to be known in prior in order to better understand the factors that affect the demand (Polat, 2012). According to Matas (2004), "the public transport environment is dynamic and even interactive. It includes a combination of alternative transport modes, various types of passengers (e.g., students, workers and leisure travelers) and passengers with different travel purposes, different travel frequencies and different travel times. The existence of various transport modes makes it available transition between those modes for passengers. In such environment, the demand or patronage is also dynamic and volatile" (cited in Polat, 2012, pp. 1212-1213).

Secondly, Hauer (1971) argued that "public transport demand is time- dependent. In general it is higher and even more condensed in the morning and evening times while it is sparse in the remaining times of the day. While the rush hour demand mainly comes from the workers and students, the remaining demand comes from the parties such as shoppers, leisure seekers and other travelers. Thirdly, different traveler types have different expectations from the public transport services based on the travel time and purpose. The level and type of expectations shape demand differently. However, it could be argued that in many cases due to the availability of limited number of vehicles in service and passengers' having short of time, the service quality becomes one of a major issue for many especially in large cities. Also the availability of alternative transport modes is a main factor on public transport demand" (cited in Polat, 2012, p. 1213).

Trip makers/ commuters are perceived to act as rational beings, choosing travel modes most likely to offer them maximum utility. There is little doubt that a wide range of factors influence the patronage of one public transport service provider to the other. Polat (2012) has identified the following as public transport demand determinants: fare, travel time (walk access time and accessibility of transport, waiting time, in-vehicle (journey) time), service quality, comfort, reliability, availability and costs of alternative travel modes, time of travel, purpose of travel and lastly the level of public transport dependency. It could be observed that

other factors aside these enumerated above play significant roles in this respect. The researchers for example believe perceived safety and security orientation of a transport service provider by travellers may also play active role in the decision of which service provider to patronise.

Transport fares are essential to the supply of public transport services since they serve as the main source of income for operators. The relationship between fares and public transport patronage tend to be inverse, where higher fares seem to be associated with decreased patronage and vice versa (Bresson et al., 2004). However, it could be observed that the effect of fares on patronage is not similar in all public transport modes and in all time frames. For instance, Crotte (2008), who studied the factors that characterise travel demand in Mexico City, found that changes in fares did not explain changes in Metro demand in Mexico City. The study detected that rather service improvements had a more significant effect on patronage than changes in Metro fares or gasoline prices (cited in Polat, 2012).

Travel time has been seen as one of the significant factors that influence both the choice and use of one public transport mode to the other. Its importance is as a result of the fact that travelers cannot increase their travel time indefinitely (Golob et al., 1972). According to Polat (2012, p. 1216) travel time includes "several components within the public transport frame. Walk (or access) time, waiting time and journey (in-vehicle) time are the three main components of travel time. Each of these components has different value for travelers". In Horn (2003) view "for a typical public transport user, the price includes many of these cost components including access times to service points and final destinations, waiting times at stops and interchanges and travel times at vehicles which in its entirety influence the travelers' assessment of public transport services (cited in Polat, 2012, p. 1216).

In a publication by FitzRoy and Smith (1998), it was argued that service quality is another important transport variable in terms of transport service patronage with the most direct and powerful influence on patronage. Service quality includes but not limited to waiting time, service frequency, operating speed, reliability and comfort. Although the degree of importance given to comfort may differ from one group of passengers to another based on the journey time, journey purpose and passenger type, comfort is a quality factor that should be taken into account. Comfort is expected to positively affect demand (Polat, 2012).

Another point to consider is the degree of overcrowding in vehicles. Overcrowding can be expected to affect comfort and invariably create unpleasant and uncomfortable conditions. The researchers of this paper are of the view that seating arrangements in the vehicle and leg- room space as well as general vehicle cleanliness are other aspects of comfort a vehicle should provide. Koppelman and Lyon (1981) stress that people's perceptions about convenience and comfort as well as their normative beliefs correlate positively with preference and hence the choice for a given mode of transportation. It is even thought that elements with the most physiological importance to comfort are those which affect quality of a ride as well as the effort of driving such as noise, vibration, ventilation, glare, odour and seating arrangement (Neumann et al., 1978). Existing literature also tends to suggest that choice of mode for various trips is either directly or indirectly influenced by people's personal circumstances including their age, gender, household size, educational attainment and income (Buchanan et al., 2006). Perceptions of safety as well as travel experience with a

particular mode of transport are likely to influence travel decisions and preference for one mode from the other (see Ankomah, Crompton, and Baker 1996).

Lastly the degree of reliability of a bus service is another important determinant of preference and patronage. According to Polat (2012, p. 1221) "bus reliability refers to the degree of dependability on and trust-ability of passengers in a bus service. It includes features such as accessibility and confidence. Passengers should be able to depend on those services and be able to see that they are obtainable on regular basis and are long termed. Longer waiting times due to late arrival of buses and excessive in-vehicle times due to traffic or system problems reduce reliability, one of the clearest measures of which is the degree of those services' following time schedules announced. Other factors such as service frequency and service capacity also determine the usability of public transport services and thus also affect the reliability. If the service capacity available is insufficient to meet the current demand, travelers are less likely to find those services reliable".

It is an undeniable fact that without understanding the system dynamics and more importantly the behaviours of public travelers, it would be too difficult to make accurate forecasts, which are necessary for marketing, service planning and fare policy purposes (Taylor and Camilla, 2012). In view of this, the study sought to assess the factors that influence the preference and patronage of one public transport mode compared to the others among students of the University of Cape Coast. The researchers believe that armed with such valuable information, public transport service providers and operators in the catchment area of Cape Coast in particular and the nation in general would be in the position to step up their game in the bid to capture more market and patrons, since patronage of their services would increase having a knowledge of what the commuters (especially students) look out for in their travel mode choice.

2. Methods and data

2.1. Study area

The study was conducted at five (5) main bus terminals in Cape Coast namely Pedu bus terminal, Chapel square terminal, Tantri terminal, Bakaano terminal and Intercity STC yard (Figure 1). These bus terminals enumerated are known respectively for the following modals: Trotro (sprinter/ 207 Benz/ mini buses), Metro Mass Transit buses, Stanbic bank financed Urvan air- conditioned/ Yutong buses, Ford buses and Intercity STC coaches. These terminals happen to be the main terminals in the Cape Coast metropolis where intercity buses are stationed and thus where University of Cape Coast students especially those not travelling by private vehicles are known to board buses to their various destinations at any point in time.

Cape Coast metropolis happens to be the political and administrative capital of the Central Region. The metropolis is bordered to the south by the Gulf of Guinea, Komenda / Edina / Eguafo /Abrem Municipality to the west, Abura/Asebu/Kwamankese District to the east and to the north by the Twifu/Hemang/Lower Denkyira District. The Metropolis is the smallest in Ghana and covers an area of 122 square kilometres.

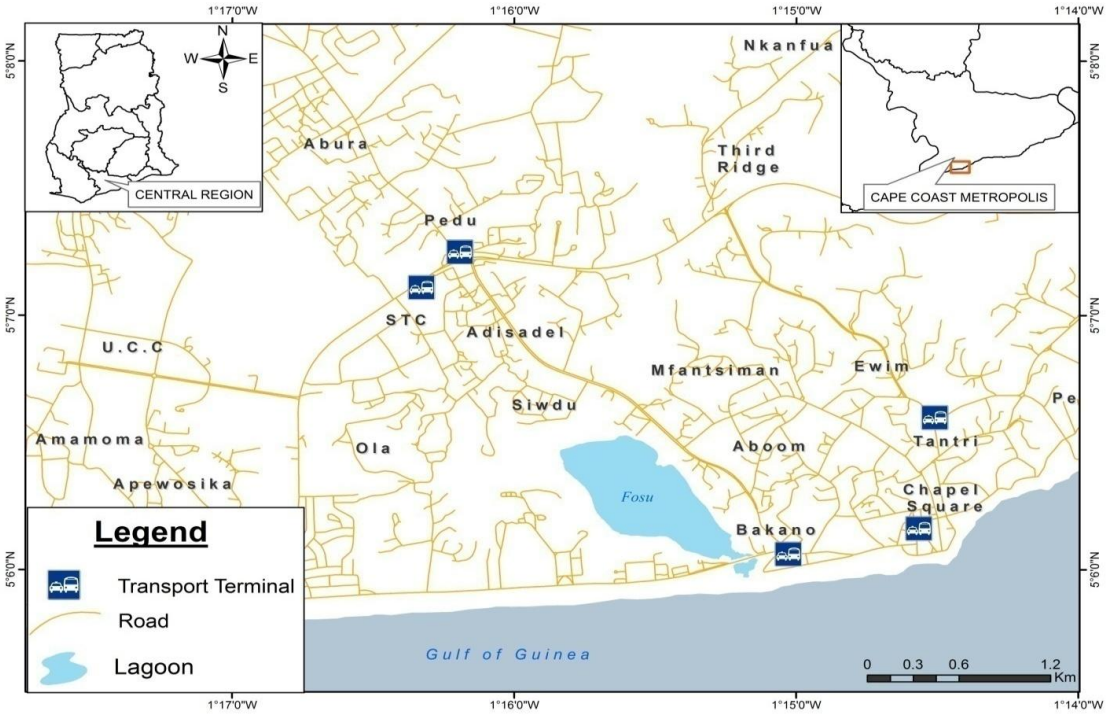

Figure 1. Map showing bus terminals where study was conducted

2.2. Study design

The study adopted a non-experimental research design to assess the factors that influence public transport mode preference and patronage among students of the University of Cape Coast especially those who patronise these services and who were available at the respective bus terminals at the time of the survey. The choice of this approach was to enable the researchers study the existing conditions and collect data that explore a possible relationship between the factors. Specifically, the study adopted both quantitative and qualitative approaches and was descriptive in nature.

2.3. Sources of data and Sampling techniques

Although information for the study came mainly from review of relevant literature on the subject matter, data for the study as were used in the analysis were gathered from responses to questions on the administered questionnaires as well as from some few interviews conducted to explore further certain issues raised by respondents. The primary data were collected from UCC student commuters traveling to Accra and other towns during the Easter break.

The views of both male and female students were considered very important considering the difference in their perceptions and priorities. With this idea at the back of our minds, the study employed different techniques ranging from stratified random sampling to quota sampling and purposive sampling. The

stratified random sampling technique was first used to select two strata- male and female students. Secondly, a quota of 50-50 was allotted the two strata. Having achieved that, purposive sampling technique was used in selecting the respondents bearing in mind the composition of the various strata as agreed upon. Individuals certified upon inquiry to be students of UCC travelling to Accra and other towns outside the metropolis were selected.

In the initial stages of the study planning, emphasis was not placed on the number of respondents but was left open since the situation under which the data was going to be collected was perceived to be "mobile or unstable" where student commuters would either be in the act of purchasing tickets, awaiting their buses or in the act of boarding their buses. However, in the long run 100 respondents (comprising 50 males and 50 females) were selected for convenience sake and out of the "unstable" environment at the bus terminals.

2.4. Data collection and analysis

Both quantitative and qualitative methods of data collection were employed in the study. Questionnaires, mainly semi-structured and close ended constituted the prominent data gathering instrument. However some individual in-depth interviews (IDIs) were done with some students especially those who were "press - for- time". Data collection occurred between 7am- 5pm on the 27th and 28th March, 2013 which happened to be the Easter break during which period majority of the students went home to celebrate the festivities with their families and relations. The researchers, assisted by two research assistants administered the questionnaires as well as conducted the interviews at the five terminals pictured in Figure 1.

The data collected from the field was first cross- checked and edited to ensure the data given was relevant for the purposes of the study. The data was coded and fed into the computer. The Statistical Product for Service Solution (SPSS version 16) was employed to process and analyse the questionnaires. The IDIs was analysed manually. The data from the IDIs was transcribed, categorised under specific theme and used for the analysis. Frequency distribution tables and cross tabulations were used to represent the results.

3. Results and discussion

3.1. Background information of the respondents

The study comprised of UCC students traveling out of Cape Coast for the Easter break. This period happens to be one of the periods, aside school re-opening and vacation time, when patronage of transport services for commuting purposes seem to be the greatest. Students and workers alike engage in much traveling at this period. It is however the point in time when the perceived "flaws" in the services of the various transport service operators seem to come out. Many a times, there seem to be issues with shortage of fleet to cater for the huge demand and at certain times long and winding queues become the order of the day due to late arrival of buses to pick the would-be passengers.

In sampling respondents for the study, the guiding principle was to ensure equal representation of all the sexes. This was due to the fact that both sexes have differences in perspectives and what they consider important or worthwhile and as such a study on criteria people look out for when deciding which transport mode or service to board at any point in time should encompass all these diversities as the sexes might present. For this purpose, 50 males and 50 females were sampled for the study as presented on Table 1.

Moreover from Table 1, it could be observed that majority of the students were within the age range of 16- 25 years. This happens to be the university going ages. Specifically, 71% of the respondents were aged 21- 25 years at the time of the survey and 22% were aged 16- 20 years. This age distribution vividly reflects the age distribution of majority of students in most Ghanaian universities.

The study also sought to ascertain the destinations of these commuting students. Basically the majority of the long distance/ intercity bus terminals in the metropolis operate buses scheduled for Accra, the national capital and Kumasi, which happens to be the capital of Ashanti Region. These towns are brisk with businesses and other activities and as such attract a lot of commuters who travel there on daily basis to engage in business, leisure and other personal activities. The study result confirms this picture (Table 1). Whereas 47% of the students surveyed were Accra-bound, 39% were heading for Kumasi. The remaining 14% were going to other locations. This picture is not surprising as it was observed during the survey that aside Tantri and Pedu bus terminals which operated other bus services to towns and cities aside Accra and Kumasi, the remaining terminals solely operated Accra and Kumasi-bound buses. A rationale behind this as revealed by one of the drivers was that Accra and Kumasi happen to attract more passengers at a time and so for purely business reasons these are viable place to ply. Moreover, in Accra and Kumasi exist other transport service providers which ply other towns and cities not served by terminals in the metropolis, thus some passengers are compelled to transit to these two cities in the bid to board buses heading to their intended destinations.

Table 1. Background information on the respondents

Variable		**Frequency**	**Percent**
Sex	Male	50	50.0
	Female	50	50.0
Age	16- 20 years	22	22.0
	21-25 years	71	71.0
	26- 30 years	4	4.0
	31- 35 years	3	3.0
Destination	Accra	47	47.0
	Kumasi	39	39.0
	Others	14	14.0

Source: Field data, 2013

3.2. Factors influencing UCC students' transport operator preference and patronage

The main objective of the study was to assess the factors or criteria these students use in deciding on which public transport mode/ operator to travel on. With this in mind it was fair to ascertain their knowledge of the existence of intercity bus terminals and transport service operators in the metropolis. Knowledge of the existence of alternative services and operators is expected to play a role in this decision making as compared to where there is a monopoly in that situation choice would be out of the equation. The study result revealed that all respondents had knowledge of the existence of other bus terminals and transport service providers aside the terminals they had visited on the day of the survey and were able to show their locations as well.

Moreover, in line with the sole objective of this study, the respondents were quizzed whether they considered any criteria in deciding which transport service operator/ bus to travel on. To this question, a whooping majority (88%) responded in the affirmative, while the remaining 12% indicated their choices were not based on any criteria and that they had come to the terminal because their friends were going there and as such wanted to have company. It is worth reiterating here again that each of the five bus terminals used in the study were known for specific buses/ operators. The Chapel square bus terminal is known mainly for the Metro Mass Transit coaches; the STC yard is also known for the Intercity STC coaches; the Bakaano terminal houses the Ford range of buses; Pedu terminal houses Trotro (Sprinter/Mini buses/Urvan) whereas the Tantri terminal are known for the Yutong range of buses and other Air-conditioned Urvan buses pre-financed by some banks in the country such as Stanbic bank, Agriculture Development Bank and the likes. So these buses are usually called by the bank that pre-financed their purchase. So one would hear of Stanbic buses, ADB buses and so forth.

Table 2. Criteria respondents considered in their fleet selection decision

Criteria	Frequency	Percent
Reliability of bus/ service provider	7	8.0
Quality of in-vehicle experience	4	4.5
Service availability	4	4.5
Perceived safety of bus/ accident record	20	23.0
Comfort/ vehicle quality	14	16.0
Fare affordability	39	44.0
Total	88	100.0

Source: Field data, 2013

Probing further on the issue of criteria the students used in deciding on which particular bus/ operator or terminal as it were (based on the fact that terminals are known for specific range of buses) to board, a follow-up question was asked to sample these specific criteria. Table 2 presents these criteria as enumerated by those respondents who asserted to employing guiding criteria in their mode choice decision making. The

criteria as illustrated on the table ranges from bus/ service reliability, the quality of the in-vehicle experience, service availability, perceived safety and accident record of the bus service provider, comfort/ vehicle quality and how affordability the fares charged are. Of the lot, consideration on fare/ ticket affordability featured prominently as 44% of the students seemed to portray. It was closely followed by a consideration on the safety record of the bus service providers (23%) and how comfortable the operators' fleet are (14%). This is not surprising as students (and more importantly as rational human beings) always seek for maximum utility.

The issue of service availability, reliability of the bus/ operator and quality of in-vehicle experience were lamped together because they seem to talk about the same attribute. On this basis, the respondents were asked to rank in order of importance which of these criteria was top of their priority. Table 3 presents the criteria in order of importance as revealed by the respondents. Once again the issue of how affordable the fares charged by these transport operators topped the list with nearly 36% of the respondents opting for that criteria, although the safety record of the service operators (25%) and how comfortable the operators' fleet are (nearly 22%) were also important. The issue of service reliability and availability was the least considered option by the respondents. A possible explanation could be the nature of transport operations in the metropolis in particular and country in general. Apart from the Intercity STC coaches Ltd which operates on "time schedules" where departure and arrival times are specified and scheduled, the other operators' departure and arrival times are purely based on the availability of passengers and how fast the bus loading process was (which is a function of the level of patronage at any point in time).

Table 3. Criteria in order of importance to the respondents

Preference	**Frequency**	**Percent**
Fare affordability	31	35.2
Safety/ accident record of service operator	22	25.0
Comfort/ vehicle quality	19	21.6
Service quality/ reliability/ availability	16	18.2
Total	88	100.0

Source: Field data, 2013

Furthermore, the study was at this point scaled to the specifics as it sought to assess the criteria that informed the choice of the transport operators/ buses the respondents selected to embark on their holiday travel. As it stood, respondents boarded buses present at the terminals where they were interviewed or administered with questionnaires. From table 4, it is again clear that the issues of fare, safety and comfort formed the top most reasons that accounted for the choice of the respective operators by the respondents at the time of the survey. Questions of why fare was "reigning" compared to the other equally important factors like safety and comfort was asked. A remark by one of the students interviewed sums it all:

"As stu5dents, we are dependent on our families and other relations for money and since these are always not sufficient amidst other expenditures, we tend to be rational and spend wisely the scarce money we have"

Again from table 4, another reason accounting for the choice of the respective service operators as at the time was the conditions present at the other terminals. It was revealed that 8% settled on other service operators because of long queues or unavailable buses at the initial terminals they had visited earlier. In this connection, one respondent remarked that:

"I need to get to my destination early to meet up with an important family occasion. This explains why I came here upon meeting long queue at the other place"

The issue of long queues and unavailable buses amidst the huge demand at the time was observed at some of the terminals visited by the research team. This situation however was a blessing to the research team as it paved the way to have access to the respondents. Other than that it would have been a huge difficulty gathering the relevant data for the study.

Table 4. Reasons behind respondents' choice of their respective transport operators at the time

Decision criteria	**Frequency**	**Percent**
Relatively cheaper fare	34	38.6
Perceived safety/ good record on safety	29	33.0
Comfortability	17	19.3
Other options not accessible at the moment (e.g. due to long queues at other terminals, other options (buses) not available at the time	8	9.1
Total	88	100.0

Source: Field data, 2013

Having established the criteria and reasons behind the choice of certain transport operators as against the others, the study sought finally to have respondents evaluate the five groups of transport service operators in the metropolis namely Intercity STC Coaches Ltd, Metro Mass Transit Ltd, Ford bus operators, Yutong/ other bank pre-financed buses and the Trotro operators by these criteria. These operators could be grouped into two- namely government-owned (or where government have shares) and the privately-owned. Intercity STC Coaches Ltd and Metro Mass Transit Ltd (MMT) fall within the government-owned or government-part-owned whereas the remaining operators were owned by persons or institutions other than the government (or government had no shares). This latter group are as it were under the broad umbrella of Ghana Private

Road Transport Union (GPRTU). With respect to Intercity STC Coaches Ltd, it is presently owned by the Social Security and National Insurance Trust (SSNIT) (80%) and the Government of Ghana (20%) whereas the MMT Ltd has government holding 45% of the shares as against 55% private shareholders. This distinction will lend support to the evaluation of these service operators.

Firstly, on the criteria of fares charged, all respondents evaluated MMT Ltd as the best operator as their fares are perceived to be the lowest. A journey to Accra cost patrons GHs 5.50 on the MMT bus as compared to the GHs 9.00 or even more the other operators were charging for the same journey at the time. One may raise the issue of the fact that the other service providers operate air-conditioned buses which adds to the cost. This is however in place but the issue is:

> "*money is scarce from the students' perspective so they will appreciate the lowest fare in the face of choice as exemplified by the study result".*

Evaluation based on the perceived safety and accident record of the various transport service operators also saw increasing and varying responses. Whereas 31 of the respondents believed MMT stood tall, 30 respondents gave high marks to Intercity STC. However, Yutong and Ford buses were perceived as the least safe. This is not surprising considering the many accidents/ crashes the buses were involved in especially during the period of their introduction to the market. For example Asare (2011) reported on an accident situation involving two Yutong buses which collided on the outskirt of Akomadan in the Ashanti region at about 2am where 15 people died on the spot. In the wake of these accidents, many calls however were made on the government to ban these buses from operating.

With regards to the issue of comfort and vehicle quality, operators like Intercity STC (30), Yutong/ Stanbic (19) and Ford (16) were rated highly by the respondents. It could be observed that these operators ran air-conditioned buses and can boast of new and spacious buses compared to the remaining operators and thus it is not surprising they were highly favoured above the two remaining operators whose buses lacked these facilities. In a study by Koppelman and Lyon (1981), it was argued that people's perceptions about safety and comfort as well as their normative beliefs correlate positively with preference and hence the choice for a given mode of transportation. This seems to be the situation with the present study finding.

Last but not least, the reliability of the bus operators' services and the quality of these services was also assessed. In all the majority of the respondents (49) believed Intercity STC buses were the most reliable. It is worth noting again that this happens to be one of the operators in the country which operate on the "time schedules" approach of departure and arrival and as such seem to be on-time and reliable. Trotro buses were adjudged as the least reliable. This may be due to the fact that they have low patronage which tends to affect their departure and subsequent arrival times.

Further analysis of the information presented on table 5 shows a certain trend worth discussing. It could be observed that on the basis of the four criteria enumerated, the government-owned buses were highly rated by the respondents above the privately-owned buses. For instance on the criteria of fare and perceived safety, MMT Ltd which is a part-government- owned service operator was adjudged the best whereas Intercity STC Coaches Ltd, another part-government- owned scored high on the counts of bus comfortability

and service reliability. These analyses make case for the choice of government-owned buses as the most preferred by the students surveyed per their evaluations above.

Table 5. Respondents' evaluation of the transport service operators by established criteria

Criteria	Existing long distance transport buses and service providers in the metropolis					**Total respondents**
	MMT	STC	Yutong/ Stanbic buses	Trotro (sprinter / mini buses)	Ford buses	
Fare	88	0	0	0	0	88
Perceived safety of bus/operator accident record	31	30	10	11	6	88
Comfort/ vehicle quality	15	30	19	8	16	88
Service availability/ reliability (time schedules)	7	49	18	4	10	88

Source: Field data, 2013

4. Conclusion and recommendation

From the study findings it could be concluded that the issues of fare, perceived safety and accident record of a transport service operator, the comfort and vehicle quality as well as service reliability in terms of time schedules are the main criteria commuters in this case students look out for in deciding which public transport service operator to choose and as well played significant roles in the choices these students made at the time. Thus service operator preference and subsequent patronage was a function of the interplay of these factors.

Moreover, students of University of Cape Coast, based on the ratings they gave to the various transport service operators, prefer the Metro Mass Transit (MMT)Ltd and Intercity STC Coaches Ltd fleet compared to the other intercity transport service operators enumerated because they have relatively cheaper fares and are perceived as safe, as well as are comfortable and reliable respectively.

On the basis of the criteria enumerated in the study, transport service operators should improve on the services they provide to the public and as well should endeavour to ensure that their buses are safe, comfortable and reliable. On the other hand efforts should be made to charge fares which were within the

reach of the ordinary population. As a matter of strategy, these operators could increase their fleet and capacity to accommodate more would-be passengers and the huge demand that attends it more especially during festive periods. Improvements in these areas will help increase revenue and profit and in the process minimise cost of operation and invariably the fare charged the passengers.

References

Albalate, D. and Bel, G. (2010), "What shapes local public transportation in Europe? Economics, mobility, institutions and geography", *Transport Research Part E,* No. 46, pp. 775-790.

Ankomah, P., Crompton, J.L. and Baker, D. (1996), "Influence of cognitive distance in vacation choice",*Annals of Tourism Research*, Vol. 23 No. 1, pp. 138-150.

Asare, G.E. (2011), Horrific accident at Akomadan: 15 perish, 15 sheep also killed, Daily Graphic, 5 April, p. 3

Barnum, D.T., McNeil, S. and Hart, J. (2007), "Comparing the efficiency of public transportation subunits using data envelopment analysis", *Journal of Public Transport*, Vol. 10, pp. 1-16.

Bresson, G., Dargay, J., Madre, J.L. and Pirotte, A. (2004), "Economic and structural determinants of the demand for public transport: An analysis on a panel of French urban areas using shrinkage estimators", *Transportation Research Part A*, No. 38, pp. 269-285.

Buchanan, N., Barnett, R., Kingham, S. and Johnson, D. (2006), "The effect of urban growth on commuting patterns in Christchurch, New Zealand",*Journal of Transport Geography*, Vol. 14, pp. 342-354.

Crotte, A. (2008), Estimation of transport related demand elasticities in Mexico city: An application to road user charging, MSc Thesis, Centre for Transport Studies, Department of Civil and Environmental Engineering, Imperial College, United Kingdom.

FitzRoy, F. and Smith, I. (1998), "Public transport demand in Freiburg: Why did patronage double in decade?", *Transport Policy*, Vol. 5, pp. 163-173.

Golob, T.F., Canty, E.T. and Gustafson, R.L. (1972), "An analysis of consumer preferences for a public transportation system", *Transportation Research*, Vol. 6, pp. 1-7.

Hauer, E. (1971), "Fleet selection for public transportation routes", *Transportation Science*, Vol. 5, pp. 1-21.

Horn, M.E.T. (2003), "An extended model and procedural framework for planning multi-modal passenger journeys", *Transportation Research Part B*, No. 37, pp. 641-660.

Koppelman, F.S. and Lyon, P.K. (1981), "Attitudinal analysis of work school travel", *Transportation Science*, Vol. 15, pp. 233-254.

Matas, A. (2004), "Demand and revenue implications of an integrated public transport policy: The case of Madrid transport review", *A Transnational Transdisciplinary Journal*, Vol. 24, pp. 195-217.

Neumann, E.S., Romansky, M.L. and Plummer, R.W. (1978), "Passenger car comfort and travel decisions: A physiological study", *Journal of Transport Economicsand Policy*, Vol. 12, pp. 231-243.

Polat, C. (2012), "The demand determinants for urban public transport service: a review of the literature", *Journal of Applied Sciences,* Vol. 12 No. 12, pp. 1211-1231.

Taylor, B.D. and Camille, N.Y. (2012), Factors influencing transit ridership: A review and analysis of the ridership literature, working paper, Department of Urban Planning, UCLA Institute of Transport Studies, Los Angeles.