



**CrossRoads**  
Supporting the national road construction industry

# 2012 Road User Satisfaction Survey

Creating Opportunities for Sustainable Spending  
on Roads in Uganda

Prepared by  
**Limelight Limited**  
November, 2012





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## A. Executive Summary

### i. Background

#### Context:

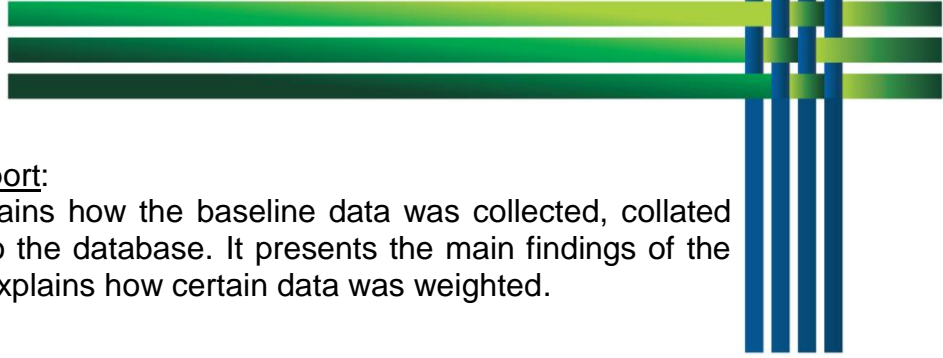
According to the World Bank, urban transport fares take up to 41% of the income of the poorest 20% in Kampala. High transport costs have a negative impact on the lifestyle and well being of the public. This is because when households spend a large proportion of their income on transport, they are left with little to invest in productive economic activities to generate more income and improve household welfare.

The fares charged by transport providers are based on the cost of providing the transport with a mark up added in order to provide an acceptable return on investment. Undoubtedly, the condition of the road network is one of the major factors that determine the cost of providing transport. Vehicle wear and tear and maintenance costs increase significantly when the road network is in poor condition.

In an effort to improve Uganda's road network, the Government of Uganda (GoU), through the Ministry of Works and Transport (MoWT) developed and launched the National Construction Industry (NCI) Policy in May 2011. Among other things, the policy calls for building the capacity of national road contractors, thus enabling them to deliver road works and services on time and at a profit; which would increase value for money for the GoU which invests in the roads sector each year. It is anticipated that a more competitive road industry dominated by national contractors will lead to an improved road network, reduce the cost of doing business and boost economic growth.

Creating Opportunities for Sustainable Spending on Roads (CrossRoads) is a four year Programme funded by the Department of International Development (DFID) and the European Union (EU) to support the development and growth of the road industry in Uganda. Its aim is to support national road contractors to become more competitive and provide value for money in the delivery of road works and services. Ultimately, this effort will lead to an improved road network that meets the needs and expectations of the GoU and road users.

As part of the support that CrossRoads is providing to the road industry, an annual Road User Satisfaction Survey (RUSS) is to be carried out to assess the level of road user satisfaction with the national road network. For this purpose, CrossRoads contracted Limelight, a local market research agency, to conduct the first year baseline survey. The survey was conducted nationwide across both urban and rural parts of Uganda between April and June 2012.



Scope of the report:

This report explains how the baseline data was collected, collated and entered into the database. It presents the main findings of the RUSS. It also explains how certain data was weighted.

Methodology:

A cross sectional survey design was used to survey road users across 6 regions in Uganda (including Kampala and DUCAR as a separate regions). Regions were identified according to the respective road network service provider, namely, Kampala serviced by KCCA, Western/Eastern/Northern and Central serviced by UNRA and local government roads serviced by DUCAR. This categorisation will help in future analysis of findings for any region or its respective service provider (See section B, sub section iv on page 8 for further details).

Sample size:

A total of 2,857 respondents were interviewed. A sample of a minimum of 400 interviewees was taken for each of the 6 user groups, namely: truck drivers, motor cyclists, car drivers, bus/matatu drivers, passengers and cyclists. At least 480 interviews were conducted per region, the exception being the DUCAR region where at least 400 interviews were conducted (See section B, sub section v on page 9 for the rationale, statistical justification and further details of the sample).

Quality assurance measures:

Various quality assurance measures were put in place to ensure the collection of robust data. These included: training of field personnel, pilot testing of the questionnaire, translation and back translation of the questionnaire, supervision of enumerators by field managers, supervision of the data entry team by a statistician and daily/weekly field updates to the CrossRoads Secretariat, who would then provide feedback and advice on challenges encountered (See section B, sub section vi on page 11 for further details).

Calculation of weighted average using traffic counts:

After data processing, a subset of questions was weighted by traffic count data collected at each data collection site, in order to better reflect the views and opinions of road users (See section B, sub section vii on page 12 for further details).

Challenges encountered in the survey:

Key challenges encountered during fieldwork included; deviation from quotas set for user groups, difficulties in respondent interception on some roads, difficulty in accessing certain roads (e.g. upcountry) and in some cases poor weather and external



events (e.g. presidential visit in Arua during the survey in that area). (See section B, sub section viii on page 12 for further details).

Application of RUSS:

There are five basic types of questions in the questionnaire: namely 'Yes/No', degree/rankings, preferences/priorities, numeric responses and banded responses. These can be analysed in ten distinct ways: by service provider, region, pavement type, roads with ongoing road works, gender, age, income, occupation, education and tribe.

## ii. Sample Findings

Introduction to findings:

Thirteen questions have been analysed by disaggregating the collected data against one independent variable e.g. region, user group, gender, etc. Simple and weighted averages have been calculated on each question. Ratings of road user responses are on a scale of 1-4 where 1 = very satisfied and 4 = very dissatisfied.

Level of satisfaction with experience on Ugandan roads:

Truck drivers and motor cyclists appear to be the most dissatisfied at 3.0 which is slightly above the national average of 2.9.

Reasons for dissatisfaction with experience on Ugandan roads:

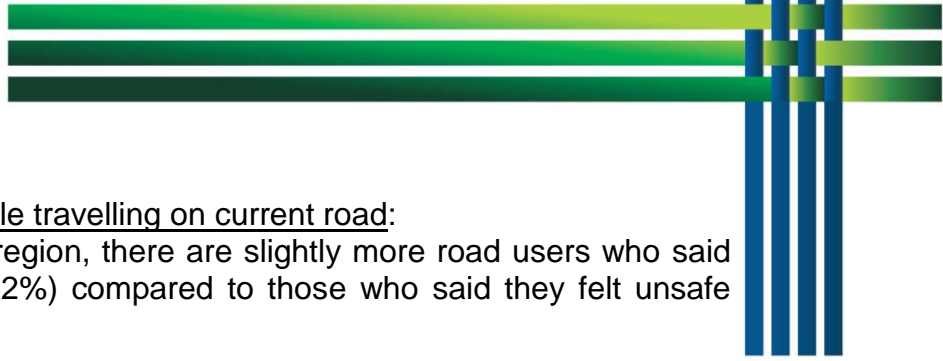
Truck drivers cite presence of potholes as the main reason for dissatisfaction at 85.3%, followed by narrow roads and roads that are not maintained at 68% and 42% of responses respectively.

Level of satisfaction with service provider on key service attributes:

Users are dissatisfied with the poor design of roads in the DUCAR region (3.3) while they are more satisfied with traffic management in Central at 2.3 for UNRA maintained roads.

Top three suggestions by pedestrians for Ugandan roads:

Widening roads is the main priority for improvement (72% of the pedestrian respondents). For this question, only one region out of the six was analysed in order to reduce the great time and effort that would have otherwise gone into weighting all six regions. Manual weighting of questions is a painstaking process; fortunately we shall not face this constraint from next year onwards when the weighting shall be done using custom made software for the RUSS. It should be emphasised that there was no particular criteria used to select a region for weighting and that any region – be it Eastern, Central, Northern, Kampala or DUCAR – can in theory be analysed in exactly the same way. The same explanation holds for subsequent questions where only the Western region is discussed.



Feeling safe while travelling on current road:

In the Western region, there are slightly more road users who said they felt safe (52%) compared to those who said they felt unsafe (48%).

Willingness to pay road toll/levy:

In the Western region, there are slightly more road users willing to pay toll (52%) than those not willing to pay (48%).

Rating of road on key road attributes:

In the Western region, road users were most satisfied with the low level of road congestion (2.4), and then with the enforcement of traffic regulations and low dust (2.6).

Average length of delay experienced on roads with works:

There was an overall average delay of 30 minutes reported by users on roads with ongoing works.

Feeling safe while travelling on the road:

The level of perceived safety on paved roads is more than that for unpaved roads. This is expected since paved roads are generally in better condition than unpaved roads which increases the perception of increased safety among road users.

Willingness to join road user association:

Approximately 3 out of every 4 (76%) of road users showed willingness to join a road user association. The interest was highest among commercial drivers.



## B. Background

### i. Context

According to the World Bank, urban transport fares take up to 41% of the income of the poorest 20% in Kampala. High transport costs have a negative impact on the lifestyle and well being of the public. This is because when households spend a large proportion of their income on transport, they are left with little to invest in productive economic activities to generate more income and improve household welfare.

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## ii. Significance of Road User Satisfaction Survey (RUSS)

The RUSS will be conducted annually at the same time (April-June) each year. The RUSS will provide an outcome accountability mechanism and associated monitoring system through which the road users can provide feedback to providers of services in the road sector and other key stakeholders.

It will become possible for the user of the data to:

- Gauge how users' experience of using a certain road has changed over the past year;
- Understand the reasons for this change through an ordering of user perceptions;
- Generate an overall level of satisfaction per road;
- Evaluate performance of UNRA by region, road user group, pavement type, gender and/or other variables (e.g. age, occupation, income, tribe, number of people in household etc.);
- In coming years, monitor the road sector performance to check for improvements – if any – as a result of CrossRoads (and other interventions);
- Gather data on road user perception on several other issues which were hitherto not researched or evaluated prior to RUSS.

The RUSS complements and supports a key objective of the Ugandan National Transport Master Plan 2008-2023, namely 'introduce a monitoring system for the roads sub-sector'<sup>1</sup> by providing a simple feedback mechanism to service providers.

## iii. Scope of the report

This report explains how the data was collected, collated, processed and entered into the database. It also explains how some of the data was weighted and presents the key findings of the RUSS.

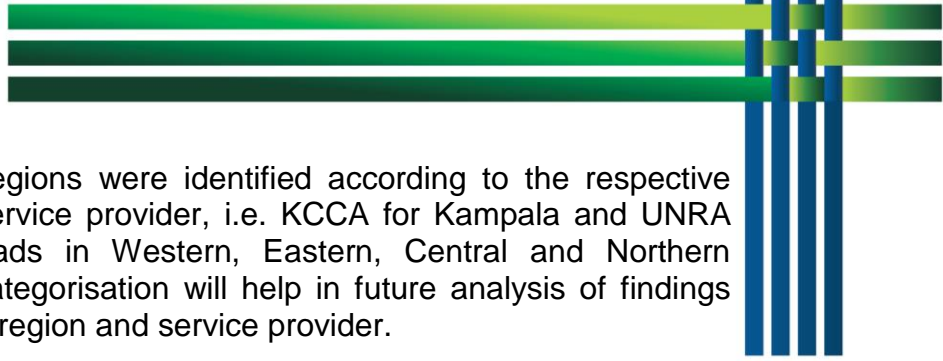
## iv. Methodology

A cross sectional survey design was used to survey road users across 6 regions in Uganda, namely: Central, Western, Eastern, Northern, Kampala and DUCAR (District, Urban and Community Access Roads). Kampala was included as a separate region as the majority of its roads are managed by KCCA and not UNRA. This way, KCCA specific data does not skew the UNRA specific data from the Central region of Uganda.

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<sup>1</sup> See section 2-22 of the Ugandan National Transport Master Plan 2008 – 2023, accessed 22 February 2012  
[Transport master plan main report doc.pdf](#)





Roads in the regions were identified according to the respective road network service provider, i.e. KCCA for Kampala and UNRA for national roads in Western, Eastern, Central and Northern regions. This categorisation will help in future analysis of findings for according to region and service provider.

A small pilot study on DUCAR in the Central region was also undertaken. While it would have been preferable to undertake DUCAR related data collection across Uganda, the limited data available on DUCAR roads made such a task very difficult if not impossible at present. During the piloting phase of the questionnaire, the feasibility of collecting data on the DUCAR network was explored. In order to get some insights on road user views and opinions on the DUCAR network, it was decided to collect data from four districts in the Central Region – Mpigi, Wakiso, Mityana and Luwero. In this report, DUCAR has been treated as a separate region in the same way as Western, Northern, Eastern, Central and KCCA.

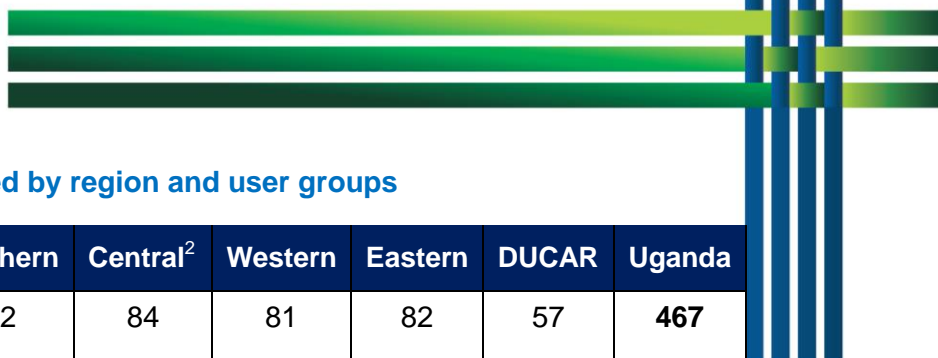
#### **v. Sample size**

A total of 2,857 respondents were interviewed. Sampling was stratified across region and user group.

A sample of a minimum of 400 interviewees was taken for each of the 6 user groups, namely: truck drivers, motor cyclists, car drivers, bus/matatu drivers, passengers and cyclists. 400 interviewees per user group constitutes the minimum recommended sample size for getting statistically significant findings, with a +/- 5% margin of error. This ensures that findings are statistically representative at the national, regional and user group level.

At least 480 interviews were conducted in all regions, except for the DUCAR region where at least 400 interviews were carried out, reasons for which have been discussed in the previous section.

Since total and / or regional populations for each user group were unknown, it was intended that the total sample be divided equally across each region so that a minimum of 80 people are interviewed per user group per region. However as evidenced from Table 1, these theoretical quotas were not achieved in reality for reasons detailed in sub section viii on page 12 (Challenges encountered in the survey).



**Table 1: Interviews conducted by region and user groups**

USER GROUP	Kampala	Northern	Central <sup>2</sup>	Western	Eastern	DUCAR	Uganda
Truck drivers	81	82	84	81	82	57	<b>467</b>
Motor-cyclists	93	82	83	80	80	117	<b>535</b>
Bus/matatu drivers	86	79	92	79	81	17	<b>434</b>
Motor vehicle drivers	80	81	82	80	82	52	<b>457</b>
Passengers (Even split by gender)	80	78	81	79	85	77	<b>480</b>
Cyclists	76	77	89	82	78	82	<b>484</b>
<b>Total</b>	<b>496</b>	<b>479</b>	<b>511</b>	<b>481</b>	<b>488</b>	<b>402</b>	<b>2,857</b>

A mix of commercial and non-commercial, motorised and non-motorised road users was selected. Table 2 presents more information on user groups interviewed.

**Table 2: Definition of RUSS user groups**

USER GROUP	DEFINITION
Truck drivers	Drivers of commercial (i.e. haulage / freight) vehicles.
Motor cyclists	Drivers of motorbikes (either privately owned, borrowed, rented or <i>boda-boda</i> ).
Bus/matatu drivers	Drivers of privately owned minibuses, single decker bus, coach
Motor vehicle drivers	Driver of owned, rented borrowed vehicle: this included paid drivers of motor vehicles.
Passengers	Includes any person who is a passenger in any of the driver user group categories above. Specific questions were asked to this road user regarding their experiences as a pedestrian.
Cyclists	Driver of owned, borrowed, rented bicycle; including non-motorised <i>boda-boda</i> .

<sup>2</sup> Excluding Kampala city.



In order to gain equal representation of views of the male and female road users, 50% of the respondents under the passenger user group were women.

Twelve roads – six paved and six unpaved – were randomly sampled from each region covered by the survey. Random selection was done using a simple random number generation formula. In order to get a nuanced understanding of service provision and user experience, some roads – paved and unpaved - currently under rehabilitation or construction were purposely sampled within each region for data collection. On an average, 40 interviews were carried out on each road. This number however varied depending on whether the road is located in an urban or rural setting and the amount of traffic on the road at the time of the interviews. The time spent at each location ranged between 3 and 8 hours, depending on the number of users on that road and the volume of traffic at the time of the interview. The average time spent per location was therefore 5.5 hours. Traffic counts were carried out at the same time and the same place as the interviews.

#### **vi. Quality assurance measures**

All the enumerators and supervisors recruited to conduct the fieldwork had previous experience in carrying out similar nationwide quantitative surveys. A two day training workshop was held to get everyone to understand the aims of the survey and answer any queries regarding the survey process and/or questionnaire. This was followed by two days of pilot testing the questionnaire on KCCA roads in Kampala. Based on feedback from the pilot testing exercise, the questionnaire was revised and the final version for collecting data across the regions was produced.

CrossRoads staff attended the two day training workshop and responded to questions raised by the survey team. They also visited data collection sites in Kampala.

Following the production of the final version of the questionnaire, it was translated into Luganda and five other regional languages, namely Luo, Lugbara, Ateso, Runyankore and Runyoro. This was done in order to enable enumerators to conduct interviews in the most widely spoken local language of the district. During fieldwork, Limelight Ltd. provided daily and weekly updates to CrossRoads regarding work carried out and the challenges encountered in the execution of the fieldwork.

Epidata was the software used for data entry while SPSS was used for data cleaning and analysis. The data cleaning and analysis was



carried out by a team of experienced data entrants, who were supervised by a data analysis manager and a statistician.

On receipt of the final dataset, CrossRoads checked a random sample of questionnaires, and cross referenced them against the data base to check for accuracy of data entry.

### **vii. Calculation of weighted average using traffic counts**

After data processing, a subset of questions was weighted according to traffic count levels recorded at each data collection site in order to provide user road opinion in relation the volume of traffic encountered on the road. The traffic counts, grossed up to 24 hour equivalent daily counts, provide an up-to-date, quick and low cost check on the volume of traffic on every road visited.

Weighting was done for the questions where it was deemed important to measure the response in the context of the volume of traffic on the road e.g. “How satisfied are you with your experience using this road?” The formula used to arrive at each weighted result was:

$$\frac{\text{Sum of (degree of satisfaction x daily traffic level)}}{\text{Sum of all daily traffic levels in the chosen universe}}$$

The formula derives the weighted average for the question chosen, by the independent variables specified by the user. Detailed workings of the weightings are shown in section C, sub sections ii) and iii) on pages 15- 23 of this report.

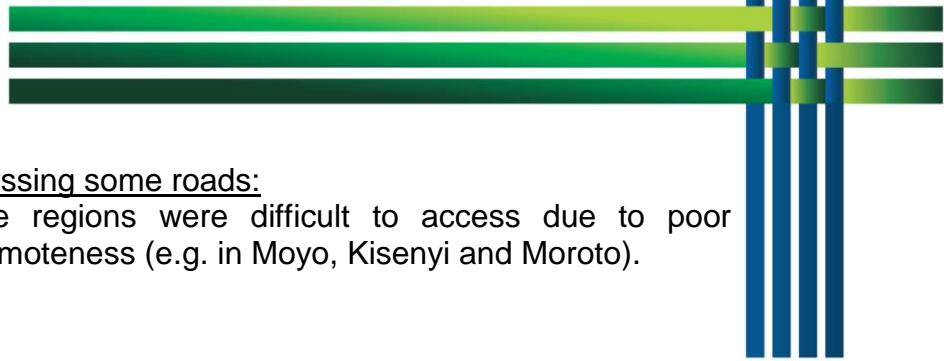
### **viii. Challenges encountered in the survey**

#### Deviation from theoretical sampling frame:

Due to differing usage patterns, it was not possible to achieve equal distribution of road user groups on paved and unpaved roads. This was especially true for unpaved roads where the number of cars and taxis/matatus encountered by enumerators was low. However, efforts were made to interview at least 30% of the target for each user group per road per region.

#### Reluctance to cooperate by some user groups:

In the case of some UNRA roads (e.g. highways), some user groups such as truck drivers were reluctant to stop for interviews. The enumerators had to get the support of local traffic police to get the cooperation of truck drivers and carry out interviews.



Difficulty in accessing some roads:

Roads in some regions were difficult to access due to poor condition and remoteness (e.g. in Moyo, Kisenyi and Moroto).

**ix. Application of RUSS data**

RUSS has 10 defining categories split into two groups as shown in Table 3.

**Table 3: List of categories by road and respondent**

By Road	By Respondent
Service Provider (UNRA, etc.)	User group
Region (6 including DUCAR)	Age band
Pavement (Paved or gravel)	Gender
Roads with ongoing road works	Occupation
	Income band
	Tribe

There are five basic categories of questions in the questionnaire, namely:

- “Yes/No” type responses: These have been depicted in ‘thermometer’ or percentage format.
- Degrees of satisfaction: These have been depicted as numeric weighted average in ‘thermometer’ format.
- Preferences, priorities, ranking: These have been depicted as percentages in histogram format.
- Numeric responses about facts or opinions: These have been depicted as a line graph. (e.g. time for this journey, or age)
- Banded responses: These have been depicted in pie chart or histogram format. (e.g. education level, occupation)

Each question type can be analysed under the above ten categories, i.e. by service provider, region, pavement type, roads with ongoing road works, gender, age, income, occupation, education and tribe.

Further details are provided in the appendix, where every question has been linked to the appropriate processing routine, its graphical representation and the type of average calculated (simple or weighted average).



## C. Sample Findings

### i. Introduction to findings

Thirteen questions have been analysed in this report by disaggregating the data against one independent variable e.g. region, user group, gender, etc. These particular questions have been selected as they represent each section of the questionnaire, each type of question and type of average (simple vs. weighted). For two questions (Qn. 5 and 16), detailed workings have been shown on how the weighted average was arrived at. Table 4 indicates the questions analysed.

**Table 4: List of questions analysed**

Question number	Question asked
B	Respondent Type
5	What is the main purpose of this trip?
10	I would like you to tell me your top three areas which you consider need to be prioritised to improve your experience on the Uganda road network as a pedestrian?
14	Did you feel safe travelling by (mode of transport used) on this road today?
16	Are you generally satisfied with your overall experience of roads on the Ugandan road network?
17	If you are dissatisfied or very dissatisfied with the condition of the Ugandan road network, why is this?
23	Would you be willing to pay a road toll/levy, if you know that this toll went directly to improve the Ugandan road network?
32	On a scale of 1 to 4, how would you rate this road regarding (key road attribute listed)?
44	If your journey was delayed by the roadworks you experienced, how long was the delay for?
45	How safe do you feel when travelling on this road?
47	Thinking about all the issues we have discussed related to your experience on this (service provider's name) managed road, please rate your general satisfaction with the (service provider's name)'s services related to (key road service attribute listed)?
51	What is your main occupation?
57	If a Road User Association was formed for your district/region, would you be interested in joining the group?

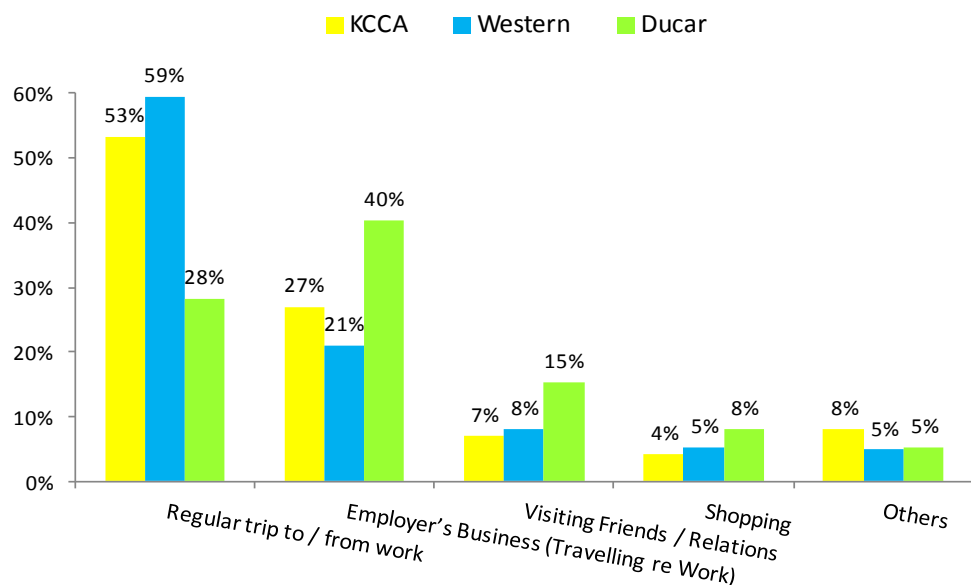


## ii. Main purpose of trip, disaggregated by region (simple and weighted)

There are up to 39 separate reasons mentioned for this question, of which the top 4 have been selected for the purpose of this report since together they account for around 90% of the reasons mentioned. The reasons are: regular trip to/from work (53%), employer's business/travelling regarding work (27%), visiting friends/relations (7%) and shopping (4%). The other 35 reasons have been grouped under 'others' (8%).

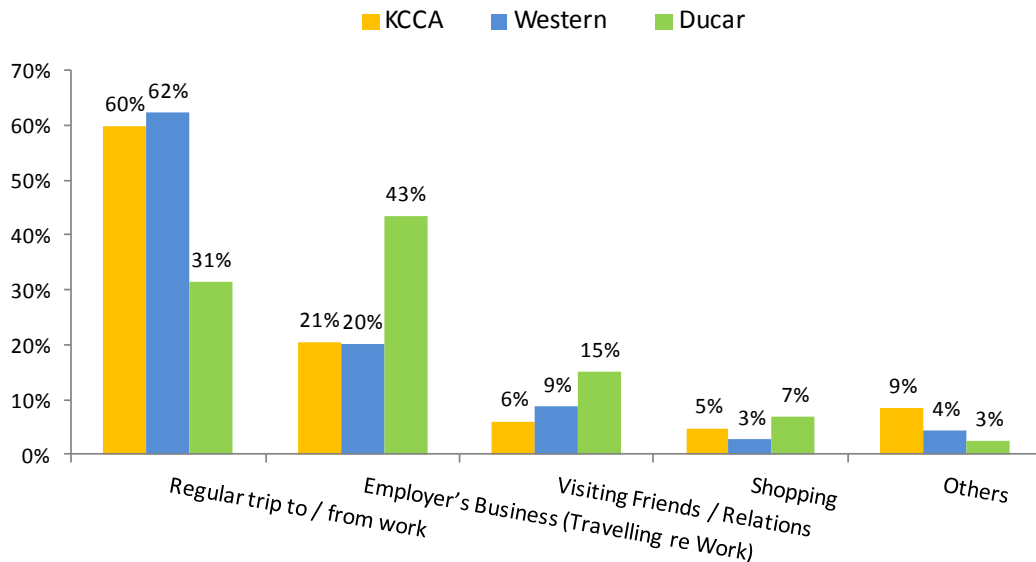
The reasons selected have been analysed according to three regions – KCCA, DUCAR and West - and depicted as percentages. The findings have been compared as a simple and weighted average for this is a question of perception about an individual road. These have further been illustrated in a bar graph format shown in Figures 1.1 and 1.2.

**Figure 1.1 – Graph showing main purpose of trip undertaken by road users in KCCA, West and DUCAR region (simple average)**





**Figure 1.2 – Graph showing main purpose of trip undertaken by road users in KCCA, West and DUCAR region (weighted average)**



Some important observations to note are:

- The weighted average is far much higher than the simple average for those travelling on employer's business in the KCCA region.
- Looking at the weighted averages, there is a high percentage of road users travelling on employer's business in the DUCAR region (43%) compared to the KCCA and Western region.
- On the same note, there is also a relatively low percentage of road users travelling on regular trip to/from work in the DUCAR region (31%) compared to the other regions. This indicates that DUCAR roads are used more for occasional trips - rather than daily trips.

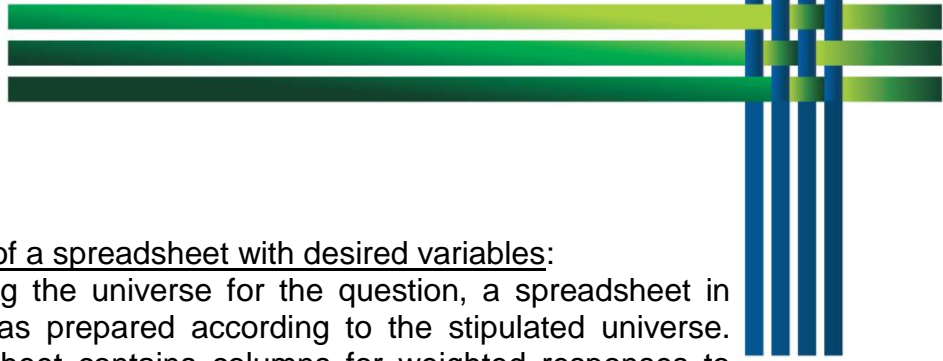
#### *Process for arriving at weighting average*

The weighted average for this question was arrived at using the following process. The explanation provided has been further illustrated with snap shots to aid visualisation and understanding of the process.

#### STEP 1

- Defining the universe for the question chosen:  
In this case, the top four attributes mentioned were selected and analysed by three regions – KCCA, DUCAR and West. The remaining reasons were analysed in the column called 'others'. This however can change as the user may want analysis done according to specific variables e.g. user group, gender, paved versus unpaved, etc.





## STEP 2

- Preparation of a spreadsheet with desired variables:  
After deciding the universe for the question, a spreadsheet in MS Excel was prepared according to the stipulated universe. The spreadsheet contains columns for weighted responses to every attribute. The weighted average responses are interlinked with the simple average responses using pre installed formulas. The formula used was:

$$\frac{\text{Sum of (attribute mentioned x daily traffic level)}}{\text{Sum of all daily traffic levels in the region}}$$

Applying the above formula to KCCA, the calculation for 'regular trip to/from work' would be:

$$\frac{112,557}{188,278} = 60\%$$

It should be noted that since weighting is calculated by road, it is necessary that the spreadsheet have 72 separate entries for every attribute. (12 roads \* 6 regions).

	A	B	C	D	E	F	G	H	I	J	K	L	M
9	<b>Response evaluated</b>			12		12		12		12		12	
10	<b>Group definition</b>			<b>Region</b>									
11				Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted
12	#	Road	ADT	Regular trip to / from work		Employer's Business (Travelling re Work)		Visiting Friends / Relations		Shopping		Others	
13				0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14			188,278	0%	0	0%	0	0%	0	0%	0	0%	0
15	1	Bombo road (KCCA)	24,082		=C15*D15		0		0		0		0
16	2	Kyadondo road 2 road	10,050		0		0		0		0		0
17	3	UN RISE road	1,874		0		0		0		0		0
18	4	Station Approach road	50,569		0		0		0		0		0
19	5	Kitante Lane road	40,215		0		0		0		0		0
20	6	Bunyonyi road	3,214		0		0		0		0		0
21	7	Market Square road	18,733		0		0		0		0		0
22	8	Nalukolongo road	8,326		0		0		0		0		0
23	9	Kyadondo 1 road	2,464		0		0		0		0		0
24	10	Stretcher road	14,602		0		0		0		0		0
25	11	Bwaise - Nabwere road	5,440		0		0		0		0		0
26	12	Muwuliriza road	8,709		0		0		0		0		0



### STEP 3

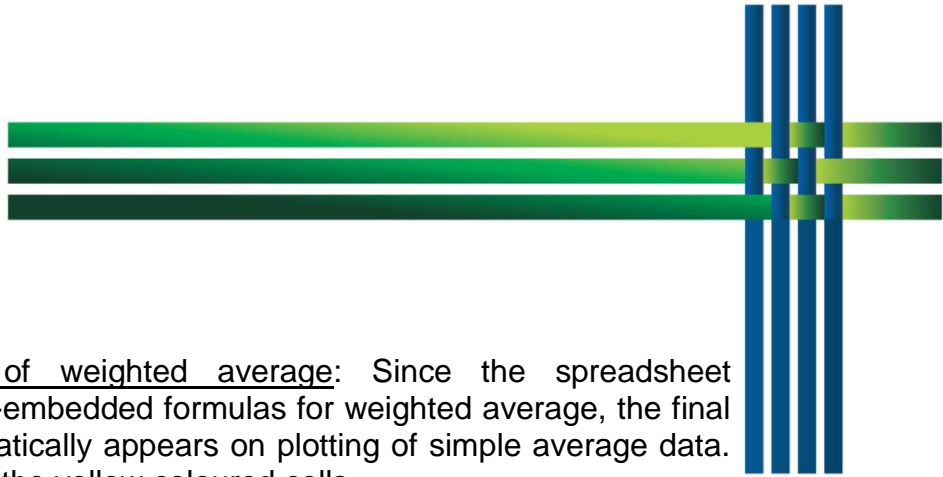
- Extraction of simple averages from RUSS dataset:  
The data was extracted from the RUSS dataset with the specified variables i.e. main purpose of trip for KCCA, DUCAR and Western regions only.

Region	Regular trip to / from work	Employer's business (Travelling re Work)	Visiting Friends / Relations	Education	Shopping
<b>KCCA</b>	53%	27%	7%	1%	4%
<b>West</b>	63%	19%	9%	2%	3%
<b>DUCAR</b>	31%	43%	15%	1%	7%

### STEP 4

- Plotting of simple averages into spreadsheet:  
For each attribute mentioned, the simple average data was extracted from SPSS by a data analyst. It was then plotted into the respective cells of the spreadsheet using the Copy and Paste function.

A	B	C	D	E	F	G	H	I	J	K	L	M
<i>Response evaluated</i>			12		12		12		12		12	
<i>Group definition</i>			<b>Region</b>									
#	Road	ADT	Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted
			Regular trip to / from work		Employer's Business (Travelling re Work)		Visiting Friends / Relations		Shopping		Others	
			53%	60%	27%	21%	7%	6%	4%	5%	8%	9%
		188,278	638%	112,557	324%	38,629	83%	11,337	50%	8,984	97%	16,011
1	Bombo road (KCCA)	24,082	55%	13,165	36%	8,669	1%	321	3%	642	3%	642
2	Kyadondo road 2 road	10,050	60%	6,068	8%	758	9%	948	8%	758	15%	1,517
3	UN RISE road	1,874	41%	760	49%	912	3%	51	3%	51	3%	51
4	Station Approach road	50,569	82%	41,254	5%	2,662	5%	2,662	5%	2,662	3%	1,331
5	Kitante Lane road	40,215	56%	22,621	13%	5,027	6%	2,513	6%	2,513	19%	7,540
6	Bunyonyi road	3,214	65%	2,075	21%	669	2%	67	2%	67	8%	268
7	Market Square road	18,733	29%	5,464	54%	10,147	4%	781	0%	0	13%	2,342
8	Nalukolongo road	8,326	69%	5,782	14%	1,156	3%	231	8%	694	6%	463
9	Kyadondo 1 road	2,464	35%	870	35%	870	18%	435	0%	0	12%	290
10	Stretcher road	14,602	54%	7,910	23%	3,346	13%	1,825	6%	913	4%	608
11	Bwaise - Nabwere road	5,440	44%	2,371	44%	2,371	5%	279	3%	139	5%	279
12	Muwuliriza road	8,709	48%	4,218	23%	2,041	14%	1,225	6%	544	8%	680
	Road	ADT	59%	62%	21%	20%	8%	9%	5%	3%	5%	4%
		51,481	712%	31,989	253%	10,380	96%	4,435	64%	1,378	59%	2,251



**STEP 5**

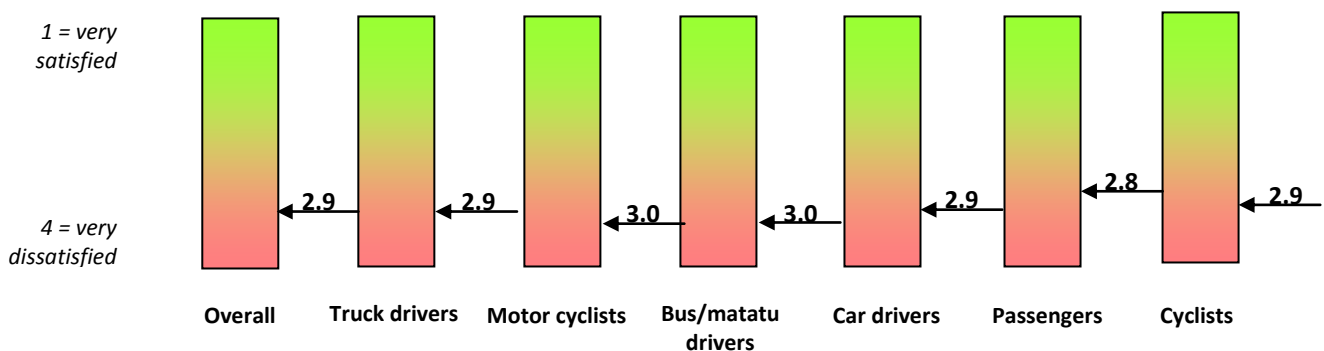
- Calculation of weighted average: Since the spreadsheet contains pre-embedded formulas for weighted average, the final result automatically appears on plotting of simple average data. It appears in the yellow coloured cells.

	A	B	C	D	E	F	G	H	I	J	K	L	M
9		<b>Response evaluated</b>		12		12		12		12		12	
10		<b>Group definition</b>		<b>Region</b>									
11				Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted	Survey	Weighted
12	#	Road	ADT	Regular trip to / from work		Employer's Business (Travelling re Work)		Visiting Friends / Relations		Shopping		Others	
13				53%	60%	27%	21%	7%	6%	4%	5%	8%	9%

**iii. If satisfied with experience of the Uganda road network, disaggregated by user group (simple and weighted)**

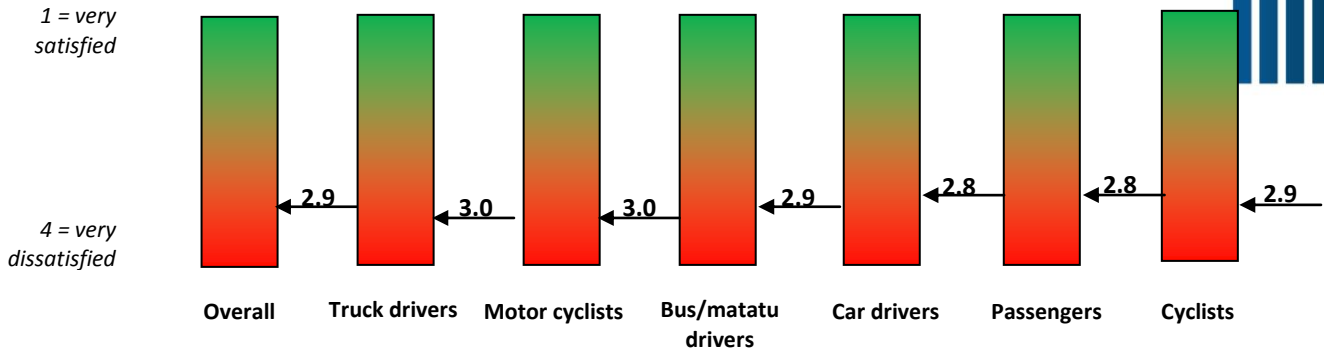
Ratings of parameters have been analysed by user group. The findings have been compared as a simple and weighted average for this is a question of perception. These have been further illustrated in a 'thermometer' format in Figures 1.3 and 1.4.

**Figure 1.3 – Graph showing rating of satisfaction regarding experience on the Ugandan road network, analysed by user group (simple average)**





**Figure 1.4 – Graph showing rating of satisfaction regarding experience on the Ugandan road network, analysed by user group (weighted average)**



Some important observations to note are:

- The overall satisfaction rating for experience of road users with the Ugandan road network is 2.9, which is close to an equivalent rating of 'dissatisfied'.
- Looking at the weighted average, car drivers and passengers have given a higher rating than the national average of 2.9. Cyclists and bus/matatu drivers follow second in terms of ranking, being at par with the overall average of 2.9.
- Truck drivers and motor cyclists appear to be the most dissatisfied at 3.0, with their ratings slightly above the national average of 2.9. Truck drivers could be more dissatisfied than other road users because they generally have more experience driving on the roads. They regularly drive across borders into neighbouring countries where at times roads are in better condition than Ugandan roads. As a result, they have higher expectations and are more critical of the condition of the Ugandan road network.

#### *Process for arriving at weighted average*

The weighted average was arrived at using the following steps. The explanation provided has been further illustrated with screen shots to aid visualisation and understanding of the process:

#### STEP 1

- Defining the universe for the question chosen:  
In this case, the level of satisfaction of road users with the Ugandan road network was chosen for analysis. This was further analysed specifically by user groups, namely truck drivers, motor cyclists, bus/matatu drivers, car drivers, passengers and cyclists.



**STEP 2**

- Preparation of a spreadsheet with desired variables:  
After deciding the universe for the question, a spreadsheet in MS Excel was prepared according to the stipulated universe. The spreadsheet contains columns for weighted responses to every attribute. The weighted average responses are interlinked with the simple average responses using pre installed formulas. The formula used was:

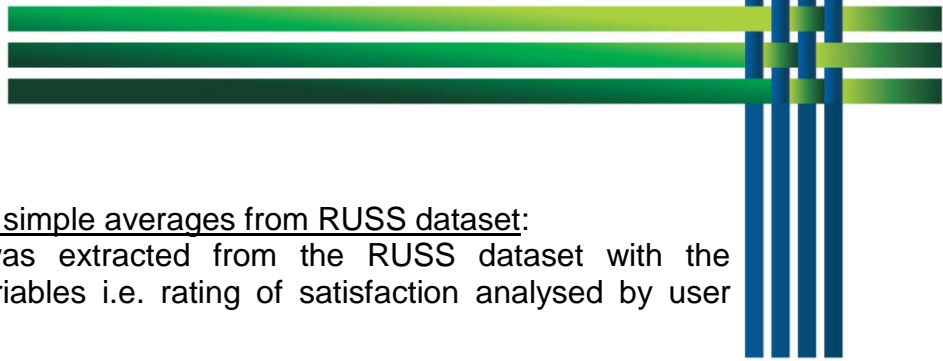
$$\frac{\text{Sum of (rating of satisfaction x daily traffic level)}}{\text{Sum of all daily traffic levels}}$$

In the case of truck drivers, the weighted formula would be:

$$\frac{1,127,626}{379,579} = 3.0$$

It should be noted that since weighting is calculated by road, it is necessary that the spreadsheet have 72 separate entries for every attribute (12 roads \* 6 regions).

	A	B	C	D	E	F
11	<b>Group definition</b>			<b>User Group</b>		
12				Survey	Weighted	
13	#	Road	ADT	Mean rating		User Group
14				0.0	0.0	Truck drivers
15			423,321		0	
16	1	Bombo road (KCCA)	24,082		0	
17	2	Kyadondo road 2 road	10,050		0	
18	3	UN RISE road	1,874		0	
19	4	Station Approach road	50,569		0	
20	5	Kitante Lane road	40,215		0	
21	6	Bunyonyi road	3,214		0	
22	7	Market Square road	18,733		0	
23	8	Nalukolongo road	8,326		0	
24	9	Kyadondo 1 road	2,464		0	
25	10	Stretcher road	14,602		0	
26	11	Bwaise - Nabwere road	5,440		0	
27	12	Muwuliriza road	8,709		0	



**STEP 3**

- Extraction of simple averages from RUSS dataset:  
The data was extracted from the RUSS dataset with the specified variables i.e. rating of satisfaction analysed by user group.

<b>KCCA</b>	<b>Truck drivers</b>	<b>Motor-cyclists</b>	<b>Bus / matatu drivers</b>	<b>Car drivers</b>	<b>Passengers</b>	<b>Cyclists</b>
	3.08	2.82	3.33	2.80	3.00	2.93
	3.00	3.00	3.00	2.64	2.88	3.20
	2.86	2.78	3.50	3.57	2.70	2.50
	3.25	2.67	3.33	0.00	2.86	0.00
	0.00	3.25	2.00	2.00	1.88	0.00
	3.17	2.82	3.00	3.14	3.27	3.50
	3.00	3.00	3.10	3.00	3.25	0.00
	2.70	4.60	3.00	3.13	3.00	2.78
	4.00	5.67	3.33	2.67	2.00	4.00
	3.07	3.60	3.50	3.00	3.33	3.36
	3.40	4.85	3.00	2.80	2.75	3.63
	2.75	3.00	0.00	3.00	2.67	2.67
<b>EASTERN</b>	<b>Truck drivers</b>	<b>Motor-cyclists</b>	<b>Bus / matatu drivers</b>	<b>Car drivers</b>	<b>Passengers</b>	<b>Cyclists</b>
	2.90	2.98	2.97	2.91	2.78	2.85
	2.90	3.00	3.14	3.18	3.08	3.00
	0.00	2.63	3.00	2.50	2.63	2.42



**STEP 4**

- Plotting of simple averages into spreadsheet:  
For each road attribute, the simple average data was extracted from SPSS by a data analyst. It was then plotted into the respective cells of the spreadsheet using the Copy and Paste function.

Note that there were certain roads where a certain user group was not intercepted, in which case that particular road was overlooked for the purpose of weighting responses for that user group. For example, Kitante Lane was overlooked when arriving at weights for Truck drivers as there were no drivers intercepted at Kitante Lane.

	A	B	C	D	E	F
10	<i>Response evaluated</i>			66		
11	<i>Group definition</i>			<i>User Group</i>		
12				Survey	Weighted	
13	#	Road	ADT	Mean rating		User Group
14				2.9	3.0	Truck drivers
15			379,579	190.9	1,127,626	
16	1	Bombo road (KCCA)	24,082	3.08	74,097	
17	2	Kyadondo road 2 road	10,050	3.00	30,150	
18	3	UN RISE road	1,874	2.86	5,356	
19	4	Station Approach road	50,569	3.25	164,349	
20		Kitante Lane road		0.00	0	
21	6	Bunyonyi road	3,214	3.17	10,176	
22	7	Market Square road	18,733	3.00	56,198	
23	8	Nalukolongo road	8,326	2.70	22,480	
24	9	Kyadondo 1 road	2,464	4.00	9,856	
25	10	Stretcher road	14,602	3.07	44,780	
26	11	Bwaise - Nabwere road	5,440	3.40	18,497	
27	12	Muwuliriza road	8,709	2.75	23,948	

**STEP 5**

- Calculation of weighted average: Since the spreadsheet contains pre-embedded formulas for weighted average, the final result automatically appears on plotting of simple average data. It appears in the yellow coloured cell.

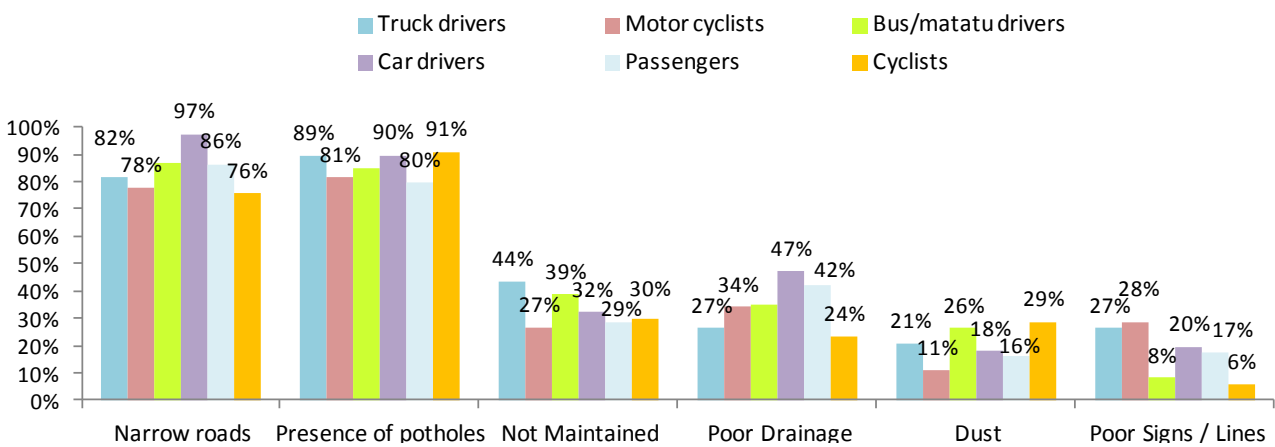
	A	B	C	D	E	F
10	<i>Response evaluated</i>			66		
11	<i>Group definition</i>			<i>User Group</i>		
12				Survey	Weighted	
13	#	Road	ADT	Mean rating		User Group
14				2.9	3.0	Truck drivers
15			379,579	190.9	1,127,626	
16	1	Bombo road (KCCA)	24,082	3.08	74,097	



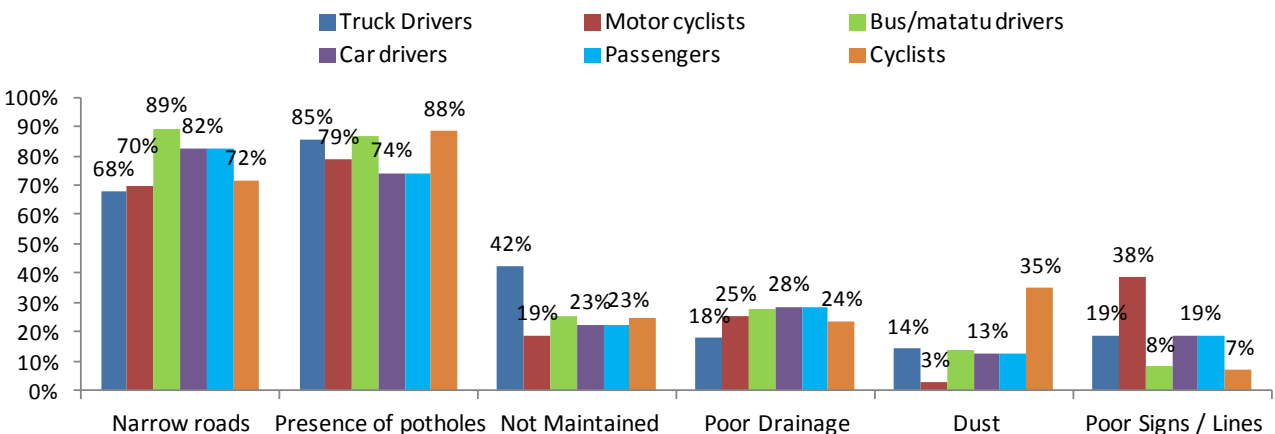
**iv. Reasons for dissatisfaction with the Ugandan road network, disaggregated by user group (simple and weighted)**

There are up to 57 separate reasons mentioned by road users, of which the top 10 have been selected for the purpose of this report. They are: narrow roads, presence of potholes, poorly maintained roads, poor drainage, presence of dust, poor signage, no pedestrian paths, bad driving by motorists, bad driving by public transporters and increased congestion. The remaining 47 separate reasons have been grouped under 'others' in Table 5. The reasons have been further analysed by user group and depicted as percentages. The findings have been compared as simple and weighted average for this is a question of perception. The top six reasons have been further illustrated in histogram format in Figures 1.5 and 1.6.

**Figure 1.5 – Graph showing reasons for user dissatisfaction with the Ugandan road network (simple average)**



**Figure 1.6 – Graph showing reasons for user dissatisfaction with the Ugandan road network (weighted average)**







Some important observations to note are:

- Truck drivers cite the presence of potholes as the main reason for their dissatisfaction (85.3%), followed by narrow roads and roads that are not maintained at 68% and 42% of responses respectively.
- In general, there are significant differences in responses when simple and weighted averages are compared. For example, motor cyclists who cited poor road signs/lines as reason for dissatisfaction increased from 28% (simple average) to 38% (weighted average). Similarly, car drivers who cited poor drainage as reason for dissatisfaction decreased from 47% (simple average) to 28% (weighted average).
- Narrow roads are of especially high concern to bus/matatu drivers at 89%.
- Potholes and dust are of high concern to non motorised riders such as cyclists at 88% and 35% respectively.
- Roads that were not maintained are of great concern among truck drivers at 42%.
- Poor road signs and lines are of great concern among motor cyclists at 38%.

**Table 5 – Table showing reasons for user dissatisfaction with the Ugandan road network (weighted average)**

User group / Attribute	Truck drivers	Motor cyclists	Bus/matatu drivers	Car drivers	Passengers	Cyclists
Narrow roads	67.7%	69.8%	89.3%	82%	82.4%	71.5%
Presence of potholes	85.3%	78.6%	86.8%	74%	74.1%	88.3%
Not Maintained	42.2%	18.7%	25.5%	23%	22.5%	24.4%
Poor Drainage	17.7%	25.3%	27.5%	28%	28.5%	23.7%
Dust	14.1%	2.9%	14.0%	13%	12.8%	34.8%
Poor Signs / Lines	18.8%	38.4%	8.1%	19%	18.9%	6.9%
No pedestrian paths	6.3%	8.5%	1.5%	7%	7.4%	4.3%
Bad Driving – Motorists in General	3.5%	1.1%	11.4%	15%	14.8%	15.0%
Bad Driving – by Public Transporters	0.7%	0.2%	8.8%	15%	14.6%	5.5%
Increased congestion	4.5%	0.2%	0.6%	11%	11.4%	9.1%
Others	27.3%	27.4%	24.4%	49%	48.5%	16.2%

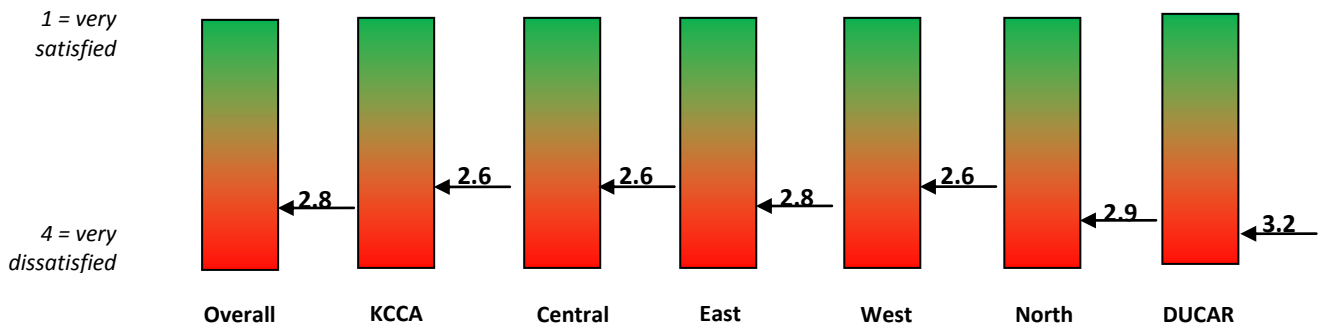


**v. Level of satisfaction with service provider on key service attributes, disaggregated by region (simple and weighted)**

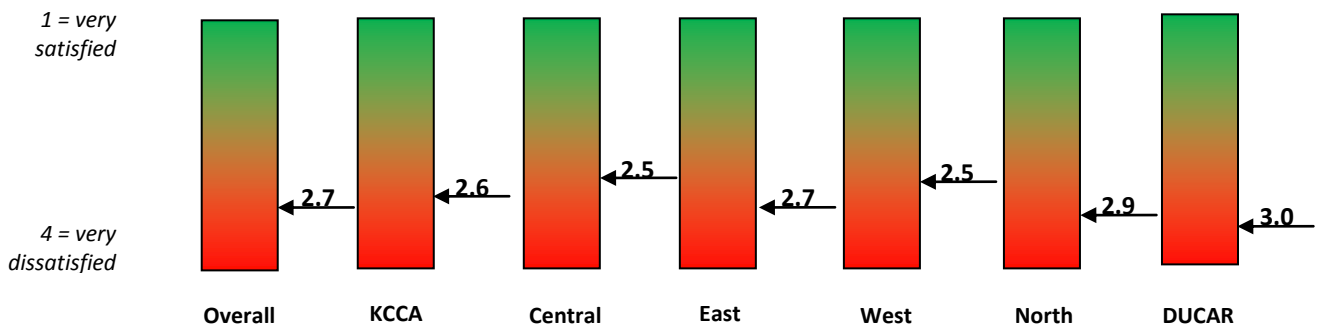
Ratings on parameters such as overall satisfaction levels, maintenance of national roads and upgrading of murram roads to tarmac, etc. were assessed using a 4 point scale where 1 indicates a very satisfied user, 2 a satisfied user, 3 a dissatisfied user and 4 a very dissatisfied user.

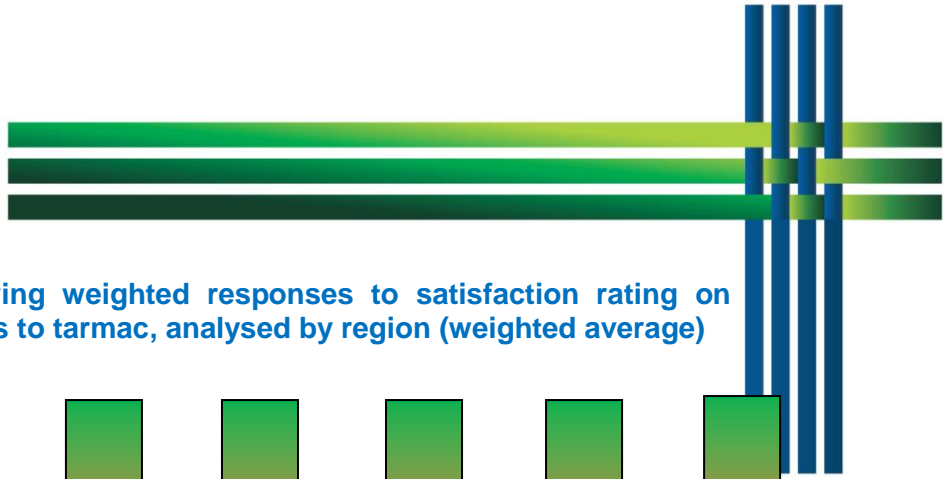
Ratings of parameters have been analysed by region. The findings have been compared as simple and weighted average for this is a question of perception about an individual service provider. This has been further illustrated in a 'thermometer' format in Figures 1.7 to 2.2.

**Figure 1.7 – Graph showing weighted responses to satisfaction rating on overall satisfaction levels, analysed by region (weighted average)**

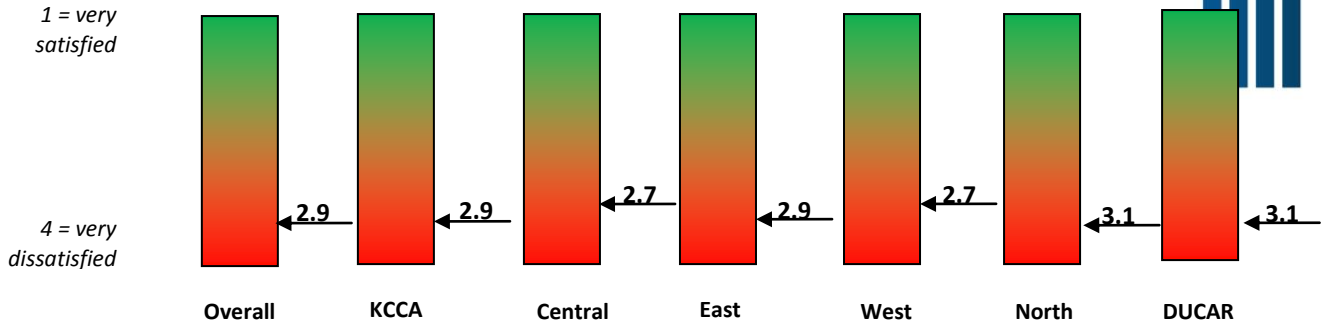


**Figure 1.8 – Graph showing weighted responses to satisfaction rating on maintenance of roads, analysed by region (weighted average)**

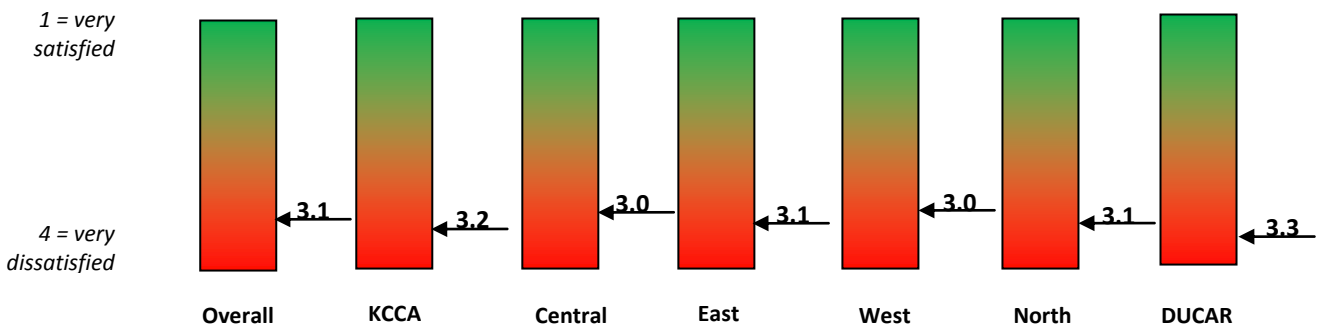




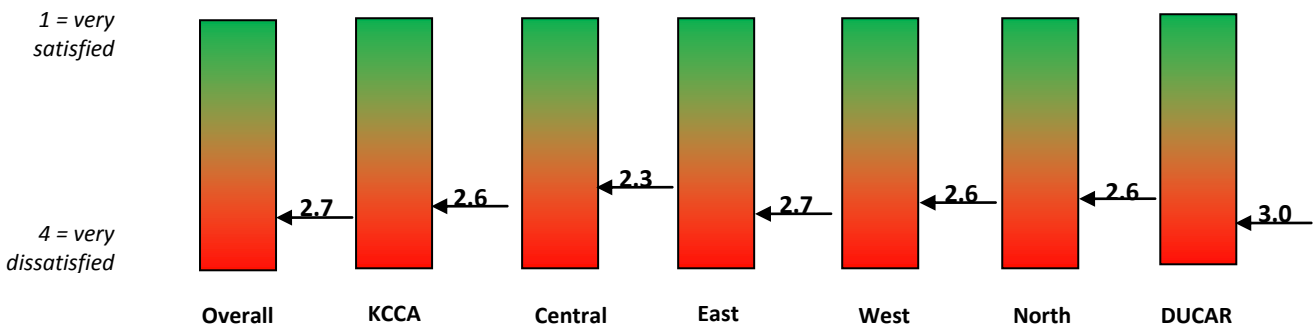
**Figure 1.9 – Graph showing weighted responses to satisfaction rating on upgrading of murram roads to tarmac, analysed by region (weighted average)**



**Figure 2.0 – Graph showing weighted responses to satisfaction rating on ferry services between national roads, analysed by region (weighted average)**

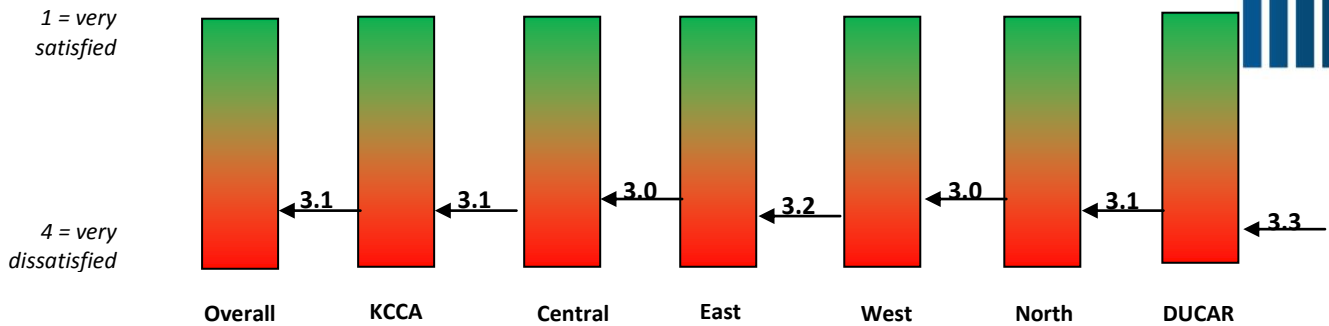


**Figure 2.1 – Graph showing weighted responses to satisfaction rating on traffic management, analysed by region (weighted average)**



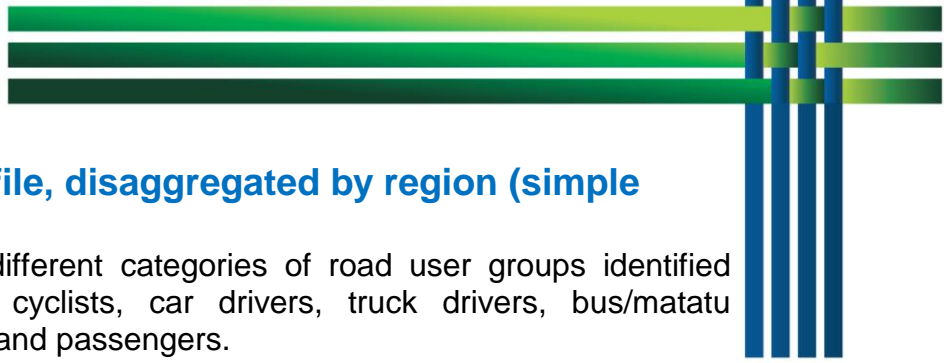


**Figure 2.2 – Graph showing weighted responses to satisfaction rating on better road design, analysed by region (weighted average)**



Some important observations to note are:

- Roads on which data was collected in Central region received the highest satisfaction ratings in general, ranging between 2.3 to 3.3. DUCAR roads covered by the survey received the lowest satisfaction ratings in general, ranging between 3.0 and 3.3.
- The least satisfactory parameter reported was better road design in the DUCAR region (3.3) while the most satisfactory parameter was traffic management in Central at 2.3. This was followed by maintenance of roads in Central and Western region at 2.5.
- Overall, maintenance of roads received the highest satisfaction rating at 2.7. Better road designs (e.g. fly overs) and ferry services between national roads received the lowest overall satisfaction rating at 3.1.

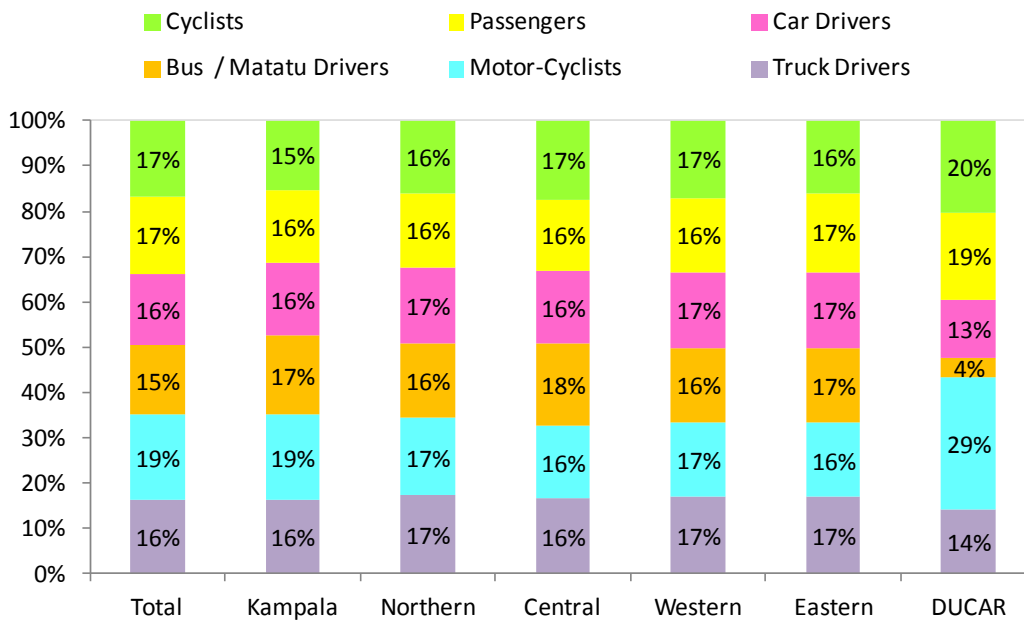


**vi. User group profile, disaggregated by region (simple average)**

There are six different categories of road user groups identified namely: motor cyclists, car drivers, truck drivers, bus/matatu drivers, cyclists and passengers.

The user groups have been analysed according to region and depicted as percentages. Findings have been illustrated in a stacked bar graph format in Figure 2.3.

**Figure 2.3 – Graph showing breakdown of user group categories according to region (simple average)**



Some important observations to note are:

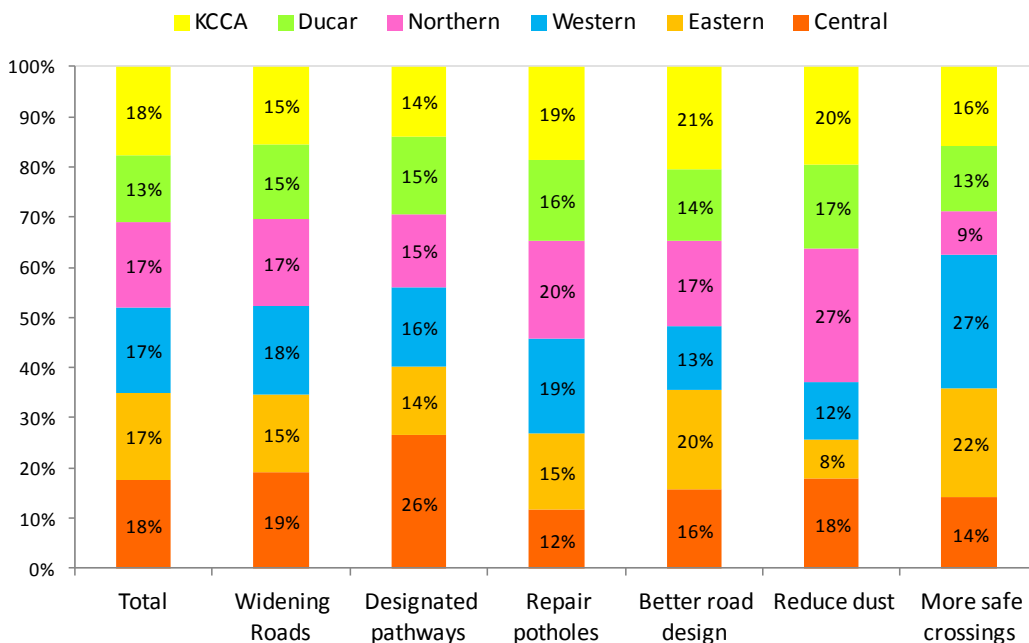
- Bus/matatu drivers have the lowest representation in the DUCAR region (4%). This is understandable given that DUCAR roads are generally less used by public transport providers compared to UNRA and KCCA roads covered by the survey.
- Motorcyclists and cyclists have the highest representation in the DUCAR region at 29% and 20% respectively. Their high presence in this region is due to the fact that they provide the main modes of public transport on DUCAR compared to bus/matatus.



**vii. Top three areas to prioritise for pedestrians on the Ugandan road network, disaggregated by region (simple average)**

There are 42 suggestions made and the top 10 suggestions have been selected for individual analysis while the other 32 have been grouped under 'others' in Table 6. Together, the ten suggestions represent 90% of the responses. The first six suggestions have been analysed by region and depicted as percentages. Findings are illustrated in a histogram chart format in Figure 2.4.

**Figure 2.4 – Graph showing top six improvements for pedestrians on Ugandan roads, analysed by region (simple average)**



Some important observations to note are:

- Widening roads is the top priority for improvement at 72%. Designated pathways and repairing of potholes came out as the second the third most important priorities at 43% and 41% respectively. These rankings suggest these issues should be given top priority in the delivery of services by designated road agencies.
- Widening of roads is a top priority for road users in the Central region at 19% followed closely by Western region at 18%.
- Designated pathways are an important priority among road users in the Central region at 26%. Reduction of dust is a higher priority in the Northern region at 27%.
- Safe crossings are a high priority in the Western region at 27%.

- Better road design is mentioned as top priority in the KCCA region at 21% followed closely by Eastern region at 20%.

**Table 6 – Table showing top ten improvements for pedestrians on Ugandan roads, analysed by region (simple average)**

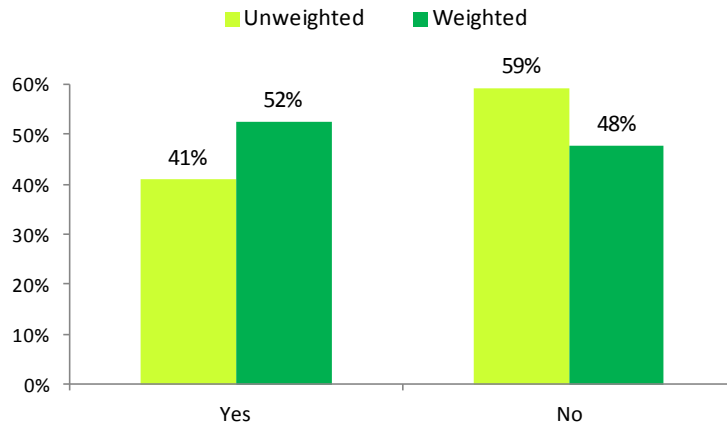
Attribute / Region	Total	Widening Roads	Designated pathways	Repair pothole	Better road design e.g. flyovers	Reduce dust	More safe crossings	More road signage	Better driving by motorists	Better traffic control by police	Construction of roads in the city	Others
<b>Total</b>	<b>2,817</b>	72%	43%	41%	24%	15%	15%	13%	10%	9%	8%	26%
Central	18%	19%	26%	12%	16%	18%	14%	17%	32%	11%	10%	5%
Eastern	17%	15%	14%	15%	20%	8%	22%	23%	21%	24%	25%	47%
Western	17%	18%	16%	19%	13%	12%	27%	18%	17%	22%	20%	9%
Northern	17%	17%	15%	20%	17%	27%	9%	14%	7%	12%	32%	14%
DUCAR	13%	15%	15%	16%	14%	17%	13%	11%	7%	3%	12%	12%
KCCA	18%	15%	14%	19%	21%	20%	16%	17%	16%	28%	1%	14%

#### viii. If felt safe while travelling on current road, disaggregated by region (simple and weighted)

There are only two possible answers for this question, i.e. “Yes” or “No”. The responses have been analysed for Western region only. For this question, only one region out of the six was analysed in order to reduce the great time and effort that would have otherwise gone into weighting all six regions. Manual weighting of questions is a painstaking process; fortunately we shall not face this constraint from next year onwards when the weighting shall be done using custom made software for the RUSS. It should be emphasised that there was no particular criteria used to select a region for weighting and that any region – be it Eastern, Central, Northern, Kampala or DUCAR – can in theory be analysed in exactly the same way. The same explanation holds for subsequent questions where only the Western region is discussed.

The findings have been compared as a simple and weighted average for this is a question of perception about an individual road. These have been illustrated in bar graph format in Figure 2.5.

**Figure 2.5 – Graph showing perception of safety by road users in the Western region (simple and weighted average)**



Some important observations to note are:

- There is a significant difference between the weighted and simple average responses. For example, positive perception of safety increases after weighting from 41% to 52%. Negative perception of safety decreases after weighting from 59% to 48%.
- In the Western region, there are slightly more road users who said 'Yes' to perceptions of safety while travelling (52%) than those who said 'No' (48%).

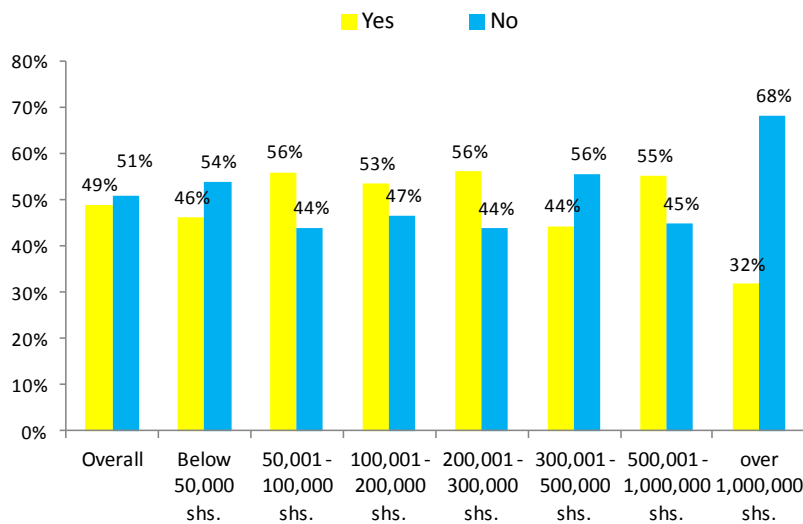




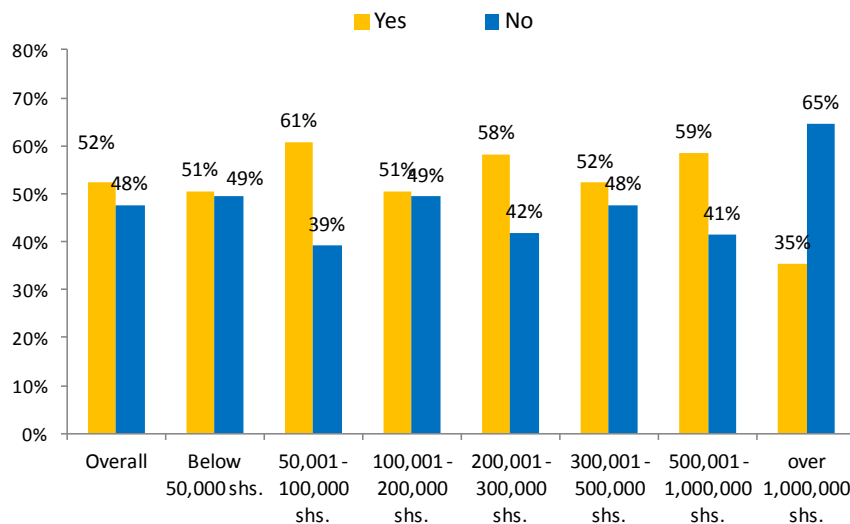
**ix. Willingness to pay road toll/levy, disaggregated by income band (simple and weighted)**

There are only two possible answers for this question, i.e. ‘Yes’ or ‘No’. The responses have been analysed according to income and depicted as percentages. The findings have also been compared as simple and weighted averages. The results are illustrated in bar graph format in Figures 2.6 and 2.7.

**Figure 2.6 – Graph showing willingness by road users to pay road toll/levy, according to income bracket (simple average)**



**Figure 2.7 – Graph showing willingness by road users to pay road toll/levy, according to income bracket (weighted average)**





Some important observations to note are:

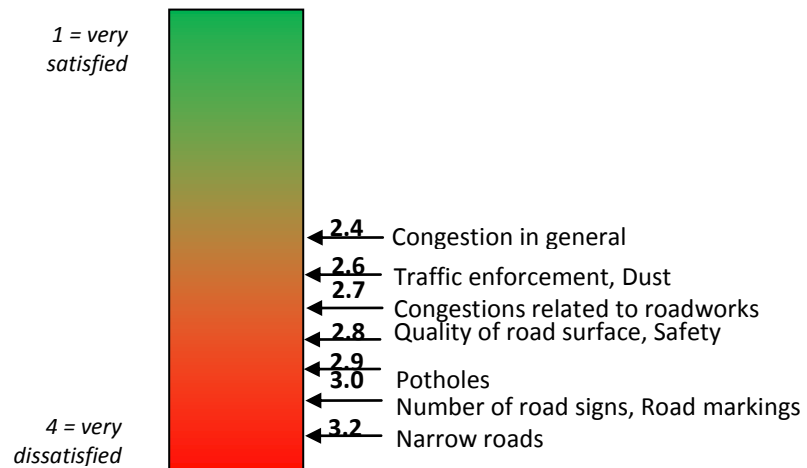
- Willingness to pay road toll/levy increases from 49% to 52% when weighted.
- Willingness to pay road toll/levy was lowest among people earning over 1 million shillings/month at 35%. This may be because people with higher incomes are in general more aware of media publicity about mismanagement of taxes and as a result are more cynical about paying taxes.

#### x. Rating of road on key attributes (simple and weighted)

Ratings on parameters such as quality of road surface, congestion and number of road signs, etc. were based on a 4 point scale where 1 indicated a very satisfied user, 2 a satisfied user, 3 a dissatisfied user and 4 a very dissatisfied user.

The findings have been compared as simple and weighted averages. Only one region – Western – was selected as the universe for this question. The findings are illustrated in a ‘thermometer’ format in Figures 2.8.

**Figure 2.8 – Graph listing key road attributes ordered by level of satisfaction ratings in the Western region (weighted average)**



Some important observations to note are:

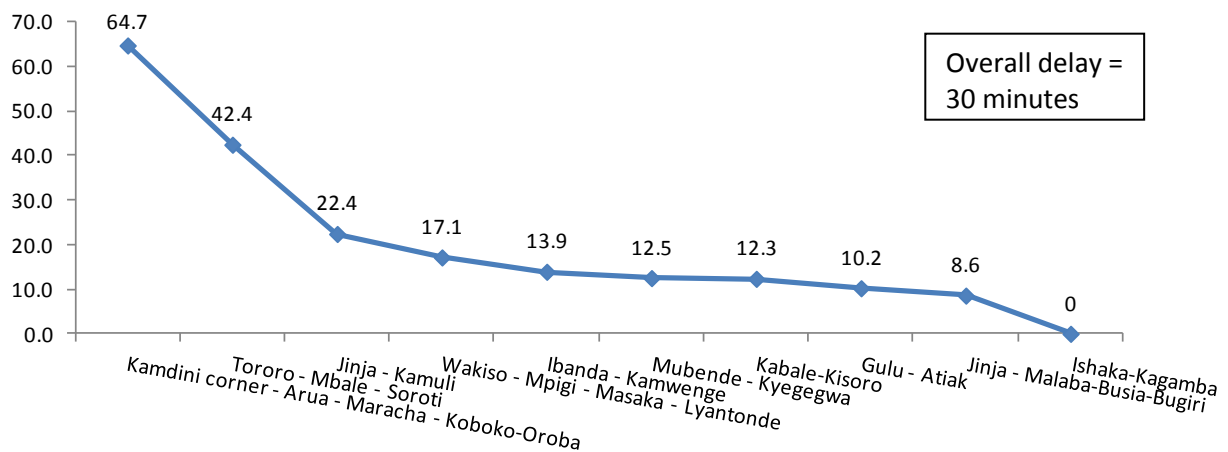
- Road users were most satisfied with the low level of road congestion (2.4), and then with traffic enforcement and dust (2.6) as the second most satisfactory road attribute.
- Narrow roads had the lowest level of satisfaction (3.2) among road users followed by road markings and number of road signs at 3.0.



**xi. Overall average length of delay experienced on roads with ongoing works (simple average)**

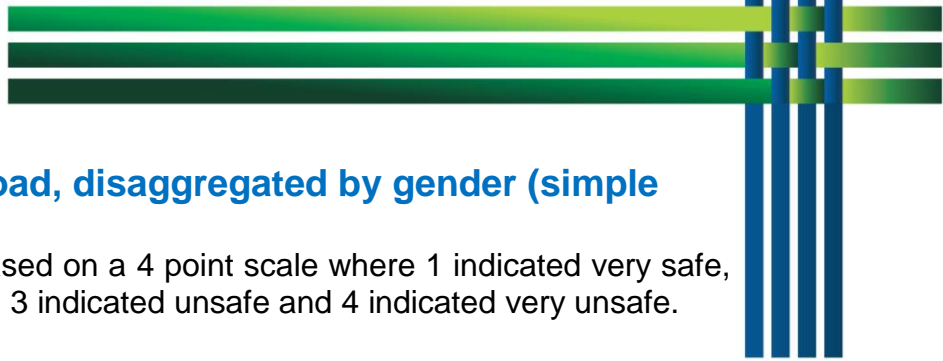
There were 11 roads with ongoing works in the selected sample, and road users confirmed that there were ongoing works on 10 of the roads at the time of the survey. The delays experienced by road users who were interviewed are shown (in minutes) in line graph format in Figure 2.9.

**Figure 2.9 – Graph showing average length of delay – in minutes - mentioned by road users on roads with ongoing works (simple average)**



Some important observations to note are:

- There was an overall average delay of 30 minutes reported by users on roads with ongoing works.
- Road users on the Kamdini corner to Oroba in the Northern region experienced the highest delay of 65 minutes.
- Surprisingly, users on the Ishaka to Kagamba road in the Western region experienced no delay at all despite ongoing road works at the time of the survey.

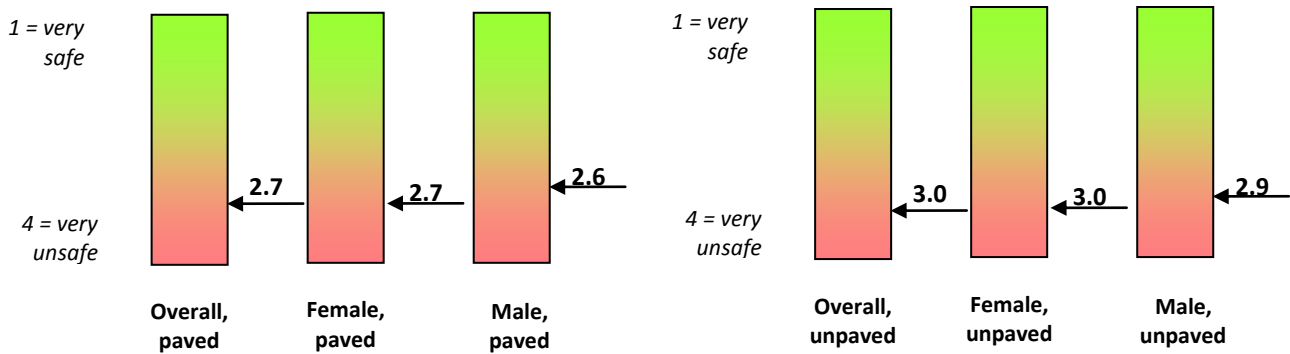


**xii. If safe on this road, disaggregated by gender (simple average)**

Ratings were based on a 4 point scale where 1 indicated very safe, 2 indicated safe, 3 indicated unsafe and 4 indicated very unsafe.

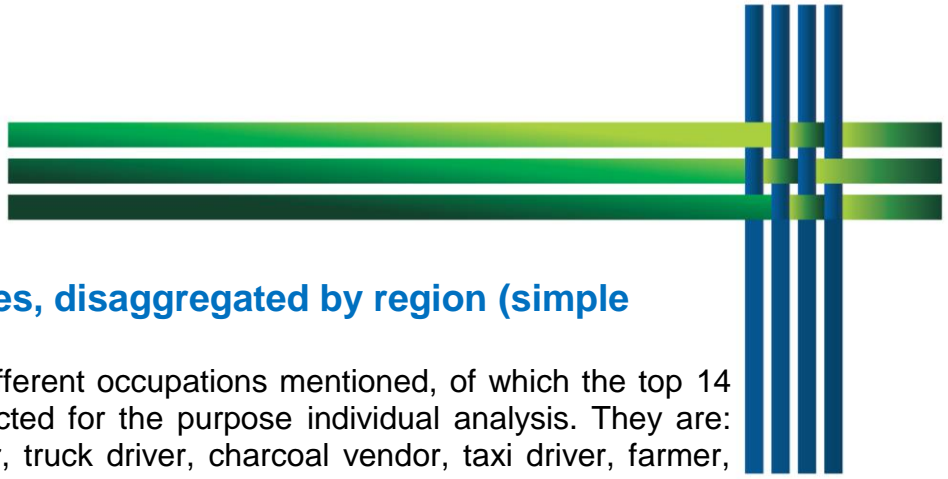
Ratings have been analysed by gender and also by the type of road pavement. Only one region – Western – was selected for analysis. The findings have been compared as a simple average. The results are illustrated in a ‘thermometer’ format in Figure 3.0.

**Figure 3.0 – Graph showing degree of safety felt by road users on road where interview was conducted analysed by gender in the Western region (simple average)**



Some important observations to note are:

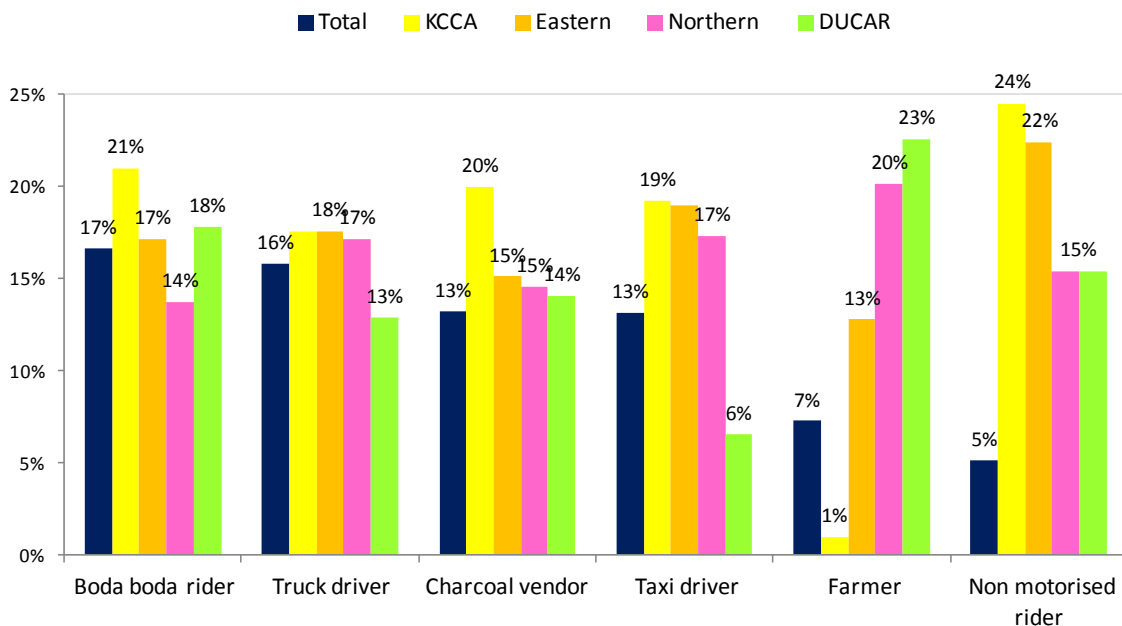
- The overall rating on safety for paved roads increases marginally from 2.7 to 2.6 for both males and females when the results are weighted.
- Female road users reported a lower degree of safety compared to males on both paved and unpaved roads.
- The level of perceived safety for paved roads is more than that for unpaved roads. This is expected since paved roads are generally in better condition which increases the perception of safety.



**xiii. Occupation types, disaggregated by region (simple average)**

There are 69 different occupations mentioned, of which the top 14 have been selected for the purpose individual analysis. They are: boda boda rider, truck driver, charcoal vendor, taxi driver, farmer, non motorised driver, bus driver, driver, teacher, student, unemployed, mechanic, nurse/doctor/pharmacist and accountant. Together, they account for 90% of the responses. The other 55 have been grouped under ‘others’ as shown in Tables 7a and 7b. The occupations have been analysed according to region – namely KCCA, Eastern, Northern and DUCAR - and depicted as percentages. Findings are illustrated in a histogram format in Figure 3.1.

**Figure 3.1 – Graph showing breakdown of top six occupations by region - KCCA, Eastern, Northern and DUCAR (simple average)**



Some important observations to note are:

- Farmers had the highest representation in the DUCAR region at 23% followed closely by the Northern region at 20%.
- Charcoal vendors had the highest representation in the KCCA region at 20%.
- Non motorised riders and boda boda riders had the highest representation in the KCCA region at 24% and 21% respectively.
- Truck drivers were evenly represented across the regions compared to other occupations. This is explained by their high mobility compared to the other groups.

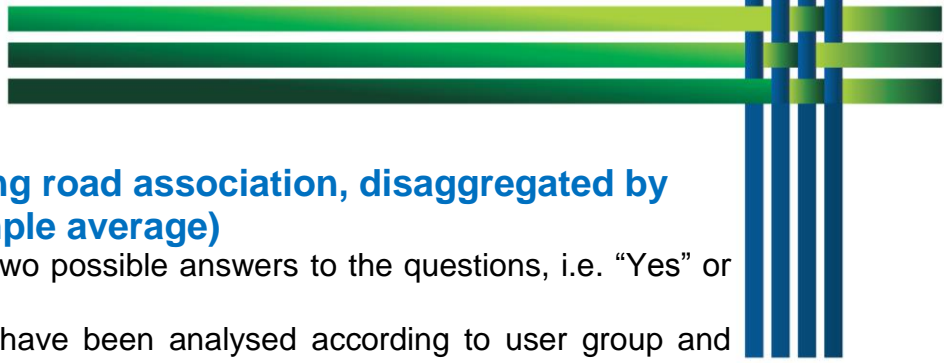


**Table 7a – Table showing breakdown of top six occupations by region - KCCA, Eastern, Northern and DUCAR (simple average)**

User group / Region	Total	Boda boda rider	Truck driver	Self employed	Taxi driver	Farmer	Non motorised rider	Bus driver
<b>Total</b>	<b>2817</b>	<b>467</b>	<b>444</b>	<b>371</b>	<b>370</b>	<b>204</b>	<b>143</b>	<b>124</b>
Kampala	495	21%	18%	20%	19%	1%	24%	18%
Eastern	488	17%	18%	15%	19%	13%	22%	18%
Northern	479	14%	17%	15%	17%	20%	15%	22%
DUCAR	375	18%	13%	14%	6%	23%	15%	2%

**Table 7b – Table showing breakdown of top six occupations by region - KCCA, Eastern, Northern and DUCAR (simple average)**

User group / Region	Total	Driver	Teacher	Student	Unemployed	Mechanic	Nurse/ Pharmacist /Doctor	Accountant	Others
<b>Total</b>	<b>2817</b>	<b>80</b>	<b>71</b>	<b>69</b>	<b>66</b>	<b>42</b>	<b>41</b>	<b>31</b>	<b>294</b>
Kampala	495	11%	11%	17%	5%	21%	15%	26%	20%
Eastern	488	18%	11%	6%	33%	10%	22%	13%	20%
Northern	479	34%	24%	25%	11%	14%	24%	26%	13%
DUCAR	375	8%	14%	14%	9%	24%	0%	13%	15%

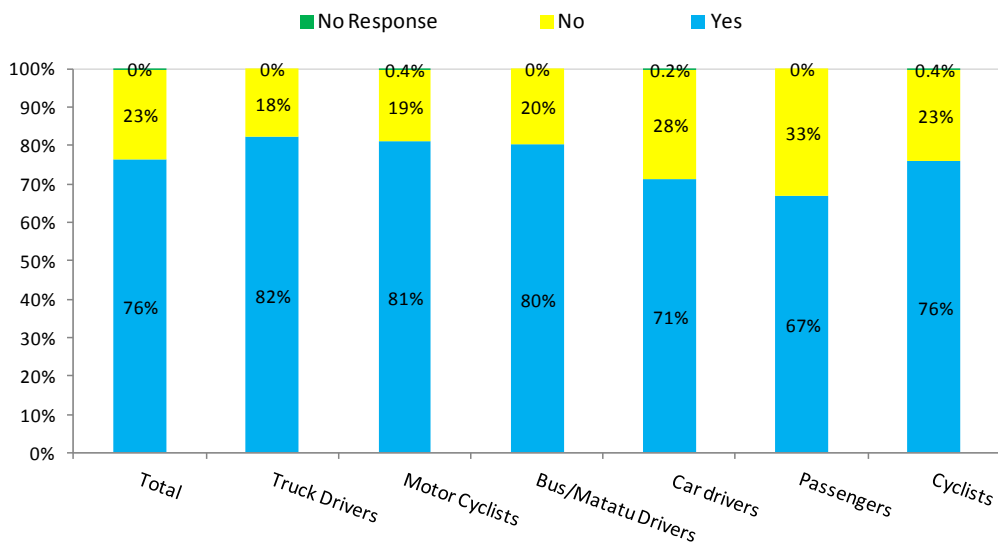


#### xiv. Interest in joining road association, disaggregated by user group (simple average)

There are only two possible answers to the questions, i.e. “Yes” or “No”.

The responses have been analysed according to user group and depicted as percentages. These are illustrated in ‘thermometer’ format in Figure 3.2.

**Figure 3.2 – Graph showing interest by different road user groups to joining road associations (simple average)**



Some important observations to note are:

- Approximately 3 out of every 4 road users (76%) indicated willingness to join a road user association.
- The interest was highest in the commercial driver category, namely, truck drivers at 82%, motor cyclists at 81% and bus/matatu drivers at 80%.
- Passengers indicated the lowest interest to join a road association at 67% followed by car drivers at 71%.

## APPENDIX - 1

### RUSS - Processes, options for interrogation of database and representations

Key:	About roads (R) or about respondents (Q) For Yes/No (A) and degree of satisfaction (B), use thermometer with rate quoted. For ranked lists (C) use descending histogram with result annotated, gridlines. For numeric results (D) such as delay time, use descending graph, gridlines. For banded responses (E) such as age, use 100% histogram, with %'s shown. For factual responses (F), enter text, no process. Averages : S = simple, W = weighted by daily traffic.										Basic type of diagram can be varied (with vertical and horizontal histograms for example)	
#	Question in short form	About	Choice s	Process needed						Averages		Representation
		R or Q	or sets	A	B	C	D	E	F	S	W	
<b>GENERAL</b>												
A	Gender	Q		A						S		Thermometer
B	User group	Q	6					E		S		Ranked list
C	Service provider	R							F	S		Fact
<b>JOURNEY DETAILS</b>												
1	Origin	Q							F	Txt		Fact
2	Destination	Q							F	Txt		Fact
3	Duration	Q					D				W	Histogram
4	Km	Q					D				W	Km
5	Purpose	Q	8			C					W	Histogram
<b>AS A PEDESTRIAN</b>												
6	Pedestrian satisfaction	Q			B					S		Thermometer
7	If dissatisfied, why	Q	13			C				S		Histogram
8	Rating of pedestrian safety	Q			B					S		Thermometer
9	Why so	Q	14			C				S		Histogram
10	How to improve pedestrian safety	Q	13			C				S		Histogram
<b>PASSENGER JOURNEYS</b>												





11	Mode	Q	7			C				S		Histogram
12	Fare or costs	Q					D			S		UGX
13	To other mode	Q	7			C				S		Histogram
14	Felt safe using this journey?	Q			A						W	Thermometer
15	Why so	Q	7			C					W	Histogram
<b>OVERALL ROAD EXPERIENCE</b>												
16	Rating of road satisfaction	Q				B					W	Thermometer
17	Why dissatisfied	Q	16			C					W	Histogram
18	How safe	Q				B					W	Thermometer
19	Why not safe	Q	16			C					W	Histogram
20	Rd experience changed +/-	Q				B					W	Thermometer
21	Why better	Q	14			C					W	Histogram
22	Why worse	Q	14			C					W	Histogram
<b>ROAD OWNERSHIP</b>												
23	Willing to pay toll	Q			A						W	Thermometer
24	Who looks after this road	Q			A					S		Thermometer
25	Heard about KCCA, UNRA, or	Q			A					S		Thermometer
26	How did you hear	Q	12			C				S		Histogram
27	What does KCCA, or, do	Q	x19			C				S		Histogram
<b>ABOUT THIS PARTICULAR ROAD</b>												
28	How often on this road	Q	7						E	S		100% Histogram
29	Changes felt on this road	R							E	S		100% Histogram
30	If improved, why	R	11			C				S		Histogram
31	If worsened,	R	13			C				S		Histogram



	why											
32	Ratings of this road	R	x11		B					S		Thermometer
<b>EFFECT OF ROADWORKS ON THIS JOURNEY</b>												
33	Extra time allowed	Q		A						S		Thermometer
34	Delay time	Q					D			S		Mins
35	Cause of delay	R	15			C				S		Histogram
36	Pass any roadworks	R		A						S		Thermometer
37	Any part of rd closed	R		A						S		Thermometer
38	Diverted?	R		A						S		Thermometer
39	Ongoing work at time	R		A						S		Thermometer
40	Temp signs present	R		A						S		Thermometer
41	Safety protection.	R		A						S		Thermometer
42	Congestion from rd wks	Q		A						S		Thermometer
43	Delayed by road works	Q		A						S		Thermometer
44	Length of delay	Q					D			S		Histogram
<b>ROAD SAFETY ON THIS ROAD</b>												
45	How safe on this road	Q			B					S		Thermometer
46	If unsafe, why so	Q	11			C				S		Histogram
<b>ROAD AGENCY RESPONSIBILITIES</b>												
47	Satisfaction with owner	Q	7		B						W	Thermometer
48	Top 3 priorities for owner	Q	18			C					W	Histogram
49	Performance ratings	Q	x8		B						W	Thermometer
<b>DEMOGRAPHICS</b>												
50	Age band	Q						E		S		100% Histogram
51	Occupation types	Q	6					E		S		100% Histogram
52	Education level	Q	10					E		S		100% Histogram
53	Income band	Q	10					E		S		100% Histogram



54	Tribe	Q	11						E		S		100% Histogram
55	People in household	Q							D		S		Number
<b>ROAD ASSOCIATIONS</b>													
56	Member of road associations	Q	x5	A								W	Thermometer
57	Interested to join assocn.	Q		A								W	Thermometer
			For each processes >	15	9	18	6	7	2	=		57	
Road or Region or All Uganda		Road owner	Roads with ongoing road works	Occupation			Income band			Gender	Age band	SELECT GROUP AND YEAR(S) TO ADDRESS ONE QUESTION	
Obligatory		Choose which ones to ask question of, or none :											