

**SUSTAINABLE URBAN TRAFFIC MANAGEMENT IN THIRD WORLD CITIES:
THE CASE OF BULAWAYO CITY IN ZIMBABWE**

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ABSTRACT

Urban transport is very crucial for the movement of goods and people which marks the backbone of the economy and sustainable development. Rapid urbanisation in developing countries has resulted in transport facilities and infrastructure failing to cope up with the huge demand and this resulted in traffic congestion, delays in movement, high travel costs, noise and air pollution and road carnage which negatively affected the rate of economic development. Traffic had to a greater extent contributed to global warming which is causing climate change thereby distorting the environment and undermining it for the future generations. This paper examines the rapid ownership of cars in Zimbabwe's second largest city of Bulawayo and how this is influencing the smooth flow of traffic. Traffic management is very crucial for the efficient movement of goods and people especially in the urban areas. The research examined how traffic management strategies helps improve the flow of traffic which in turn reduces congestion, environmental pollution and thereby creating a concussive working and traveling environment for sustainable development in developing countries. This research goes into detail in recommending how city planners can improve the road network, traffic and parking facilities to avoid inconveniencing road users as well as to reduce carnage on the roads. The proper planning of road networks in cities goes a long way in promoting sustainable development especially in developing countries. Environment protection is tackled also in the paper which highlights ways in which traffic affects the environment and how the damage can be reduced. Primary and secondary data were collected from the field, city council, government ministries and the Zimbabwe Republic Police and they were analysed and tabulated. Extensive literature review was also done on researches conducted in other countries. The research concluded that there is an increase in car ownership in the city of Bulawayo and this is posing traffic problems like congestion, delays in movement, road traffic accidents as well as polluting the environment.

Keywords: Traffic Management, Traffic Congestion, Public Transport, Peak Hour, Commuter Omnibus, Transport.

BACKGROUND OF THE STUDY

Urbanisation is increasing at an alarming rate with 50% of the world population expected to be living in urban areas by 2025 and more transformation is expected in developing countries (World Bank Report, 2003). This rapid urbanization in turn will affect sustainable development if not properly checked hence the need for sustainable urban traffic management. This huge increase in urban population has also resulted in rapid car ownership which causes traffic problems hence the need for proper traffic management solutions. Transport development is very crucial in cities for the movement of goods and people and there is therefore need for proper traffic management for the efficient running of the economy. Traffic management has a lot to do with the maneuvering of automobiles without interfering with each other and the other road users. During the working hours, most car owners will be hooked up with work and hence there is need for the provision of more parking spaces to avoid a situation whereby parked cars will encroach in the road as this will interfere with the moving traffic. Urban traffic causes problems like congestion, air pollution and noise pollution. According to Brierley (1962), traffic congestion is like a disease which if not treated will bring death to the heart of the city. Land value in the city centers will fall because of the lack of parking facilities. City decay is associated with poor traffic management measures and people have a tendency of running away from such cities as more productive time is lost because of traffic congestion and this also brings negative effects on people's emotional state.

Increase in urban transport also increases the level of air and noise pollution. UN-Habitat (2006) also emphasise the effects of traffic on environmental pollution in cities and towns which is a health hazard to human beings and animals. Pollution will undermine the use of resources for the benefit of future generations.

Transport planning in developing countries is very crucial since there is an increase in road carnages, delays in movement and traffic congestions. According to Willson (2001), there is a direct link between the levels of development and sustainability with transport planning with developing countries heavily affected due to inappropriate infrastructure to cater for the huge increase in traffic. Vuchic (2005) says the huge increase in car ownership also results in increase in traffic problems affecting both the developed and the developing countries as the traffic infrastructure is failing to cope up with the ever-increasing demand. This research tackles the issue of traffic management in relation to rapid urbanization as these two are inseparable as they complement each other.

RESEARCH METHODOLOGY

The research problem is that cities in developing countries are faced with problems of traffic congestion, declining efficient use of roads, high costs of traveling, increase in traffic accidents and pollution of the environment (Cracknell, 2000). The infrastructure in cities of developing countries is failing to cope with the rapid urbanization and increase in cars. A structured research on urban traffic trends in Bulawayo city was done. Primary data was collected through observation of the traffic flows, the parking bays, road intersections and the road infrastructure. Secondary data was collected from Bulawayo City Council, Zimbabwe Republic Police and some government publications. The research collected information pertaining to traffic flow, vehicle statistics, traffic congestion, parking and traffic management. Literature review was done on material done by other researchers in developing as well as developed countries. Poku-Boansi (2008) carried out a research in Ghana

on public transport by interviewing the public and motorists. This research employed the same technique though other research methods like key informants and focus group discussions were used in this research. Field observations were done to get the information from the field as well. Amos (2004) says the use of direct observation is effective in traffic research to get first hand information. Data was then analysed and tabulated.

AIMS AND OBJECTIVES OF THE STUDY

The aim of the study is to determine the general increase and sustainability of traffic in Bulawayo city against the available infrastructure.

The research has the following objectives:

- a) To establish the car statistics in Bulawayo city.
- b) To find out the available road and traffic infrastructure in Bulawayo city.
- c) To determine the traffic accidents and propose ways of reducing them.
- d) To evaluate the sustainability of public transport mechanisms in the city.
- e) To find out the challenges and problems caused by the increase in traffic in the city.
- f) To recommend the ways of improving sustainable traffic management in the city.

STUDY AREA

The research was conducted in Bulawayo which is the second largest city in Zimbabwe and is located about 439 kilometers away from Harare in the southwestern part of the country. It is renowned for its wide streets both in the Central Business District (CBD), industrial and residential areas. Before the melting down of the Zimbabwean economy in 2005, Bulawayo was a heavy manufacturing city which housed most of the big companies in the manufacturing sector. According to the Central Statistics Report (2002), the population of Bulawayo is estimated at 1.5 million. Bulawayo's geographical position within the Southern African region is very central. It link South Africa, Botswana, Zambia, Namibia and Mozambique with road, railway and air routes. Its location, occupying a midway position between the powerful economy of South Africa and the potentially strong economies of the Democratic Republic of Congo and Angola may prove to be a strategic and pivotal position in the long run and that's why heavy manufacturing was centered in the city of Bulawayo which in turn resulted in the construction of wider road links in the area. Being in the Matabeleland province, Bulawayo is strong centre for tourist attractions as it is surrounded by Hwange National Park, Matopos National Park, Khami ruins, social centers, cultural heritage sites and the famous Victoria Falls which is one of the Seven Wonders of the World. Figure 1 below is the map of Bulawayo CBD showing the roads and directions.

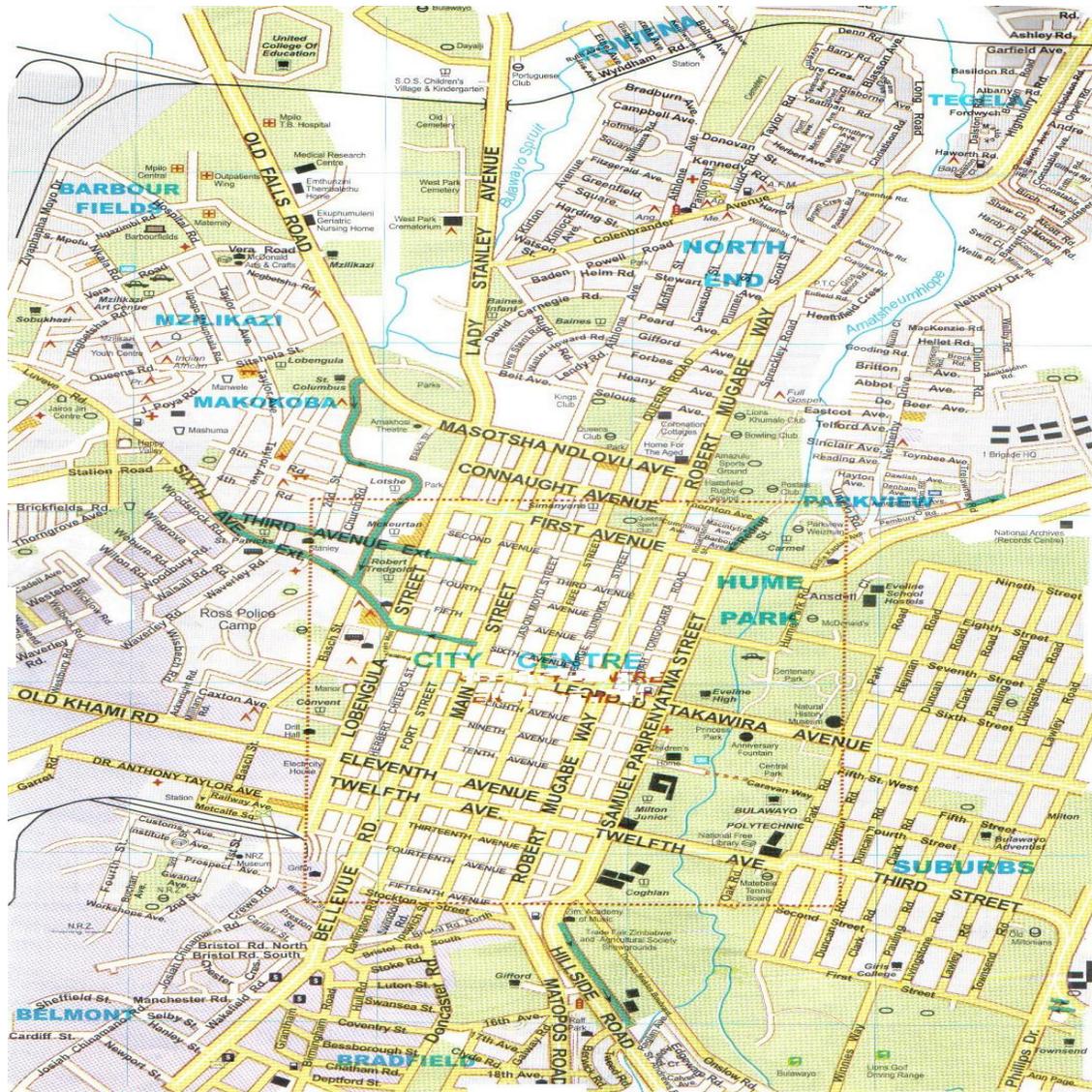


Figure 1: The Map of Bulawayo City

Source: www.googlemaps.com

CONCEPTUAL FRAMEWORK

Urban Traffic in Developing Countries

Talvitie (1997) says urban transport is very crucial because it facilitates the movement of people and goods which marks the backbone of economic growth and sustainable development of a country. Rapid urbanization has resulted in the increase in vehicles both for public and private use. Poku-Boansi (2003) says in Ghana most public transport is offered by the private sector in form of buses, minibuses and taxis due to the high demand of the transport service, but public transport is inadequate as commuters are seen loitering around desperately looking for transport to and from work.

Urban life is integrated with transport for both social and economic activities. Talvitie (1997) says transport planning process requires stakeholders which include individuals, benefit groups, planners and decision makers, but in developing countries most projects in transport planning and management excludes the ordinary road users. The department of international development (2000) highlights the need for government to fully participate in traffic management because it has an important role in the development of projects and decision making process.

Traffic Problems

Urban traffic faces many challenges which are mainly caused by rapid urbanization and an increase in car ownership which then influence both the flow of traffic and the environment. The main challenges are traffic congestion, pollution and road accidents. According to Knoflacher (2006), cities in the third world countries face traffic congestion which is mainly caused by the following factors:

- a) The urban set-up is not compatible with the traffic demands.
- b) The rate of car usage is high rather than using a car at some point, and then one has to walk or use public transport.
- c) Little budget is put on car maintenance by owners resulting in slow moving vehicles due to inefficiency.
- d) Inadequate traffic management measures.
- e) Flouting of traffic rules by motorists.
- f) Inadequate public transport.

Newman and Jeffrey (1999), highlights the negative effects of urban traffic as it contributes to accidents, noise and air pollution as well as traffic congestion on the roads. Traffic also contributes to global warming through the gases which are emitted.

In trying to curb traffic congestion by introducing road fees and public transport subsidies, this has created more transport problems and becomes more costly to those driving. More commuter omnibuses are now found in cities of developing countries and their recklessness driving is causing a lot of traffic congestion and more carnage on the roads (Detr, 1998).

The increase in car ownership means also an increase in the number of trips per person per day. This continuous movement of people causes more traffic jams and more parking spaces will be used during the process. According to Vuchic (2005), cities are dynamic hence there is also need to constantly modify transport systems in order to cope up with the changes.

Traffic Management

Most cities in developing countries try to adopt the traffic strategies of developed countries hence the designs are different and the strategy is not sustainable. There is need however to learn from the developed countries and develop strategies that suit the environment and designs. Thus traffic management in developing countries needs to be sustainable for the benefits of the locals. According to Baluja, (2004), traffic management and urban land use are inseparable as enough space need to be set aside for wider roads, parking, pedestrians and cyclists. Traffic management is the process of adjusting or adapting the use of an existing road system to meet specified objectives without substantial new road construction (Newman and Jeffrey, 1999).

Categories for traffic management include consideration of pedestrians, traffic surveys, prioritisation of public transport and street management through the control of parking.

One of the strategies for traffic management is consideration of pedestrians, visitors and occupants of the city, (Amos, 2004). Thus participatory approach is very crucial if traffic management programmes are to be effective. Urban areas are associated with economic activities and hence the policies of cities tend to be political since they serve the interests of a particular group. In most cases these policies are just imposed to the people. There is therefore need for stakeholder participation on issues of traffic management for effective implementation of the policies. The stakeholders include government, residents, motorists, donor community, industrialists and local authorities.

Knoflach (2006) says there is a huge increase in car ownership all over the world including the developing countries. Urban planners and traffic managers need to take into consideration this rapid change in traffic so that correct measures will be undertaken to curb the traffic problems. Vehicles ownership statistics can be analysed so that predictions can be done for future planning purposes.

Prioritisation of public transport is another useful strategy in traffic management and it has been adopted even in the developed countries, (Detr 1998). Public transport has the advantage that one vehicle will carry many passengers unlike a situation that every individual is driving. Too many drivers on the roads cause traffic congestion. In a way of promoting the use of public transport, private vehicles and vehicles with few passengers pay more at toll gates entering the city centre.

RESULTS AND FINDINGS

Car Ownership

According to the interviews held with the Bulawayo city council officials, the vehicle count for the city in 2005 was 104 809 with a steady rate of increase which is 5%. The traffic count is modeled by

$$\text{Total number of vehicle} = \frac{(1+r)^n - 1}{r}$$

Where: n is the number of years

r is the rate of increase which is 5%

Using the model above, the estimate of vehicles for 2012 will give the total number of vehicles in Bulawayo as 150 874. On the other hand, the huge influx of used Japanese cars in the country raised the estimate to 200 000 cars according to the Bulawayo city council officials.

According to the Department for International Development, (2000) there is a great increase in car ownership in developing countries especially in the urban areas. From a sample of 200 private cars taken in Bulawayo city, 120 (60%) are owned by individuals while 80 (40%) are business owned. Failure of the infrastructure to contain the traffic affects sustainable development in the city as the movement of goods and people will be affected too.

PUBLIC TRANSPORT

The location of low income housing on the western part of Bulawayo city has created the need for the public transport since this is far away from the city centre, industrial areas and employment opportunities. The main modes of public transport in Bulawayo are the buses, minibuses, trains, taxis and some illegal transport operators who just ply the routes without being registered. According to Shoup, (2005), public transport is the major transport system in the major cities and towns of developing countries. The increase in population means an increase in the demand of transport hence the introduction of public transport which is inadequate in the third world cities to cater for the huge volume of travelers. Traveling is no longer sustainable as the fares change during peak hours and if when it is raining which in the end drain the residents of their hard earned cash. Figure 2 below shows the mode of transport used in the city of Bulawayo.

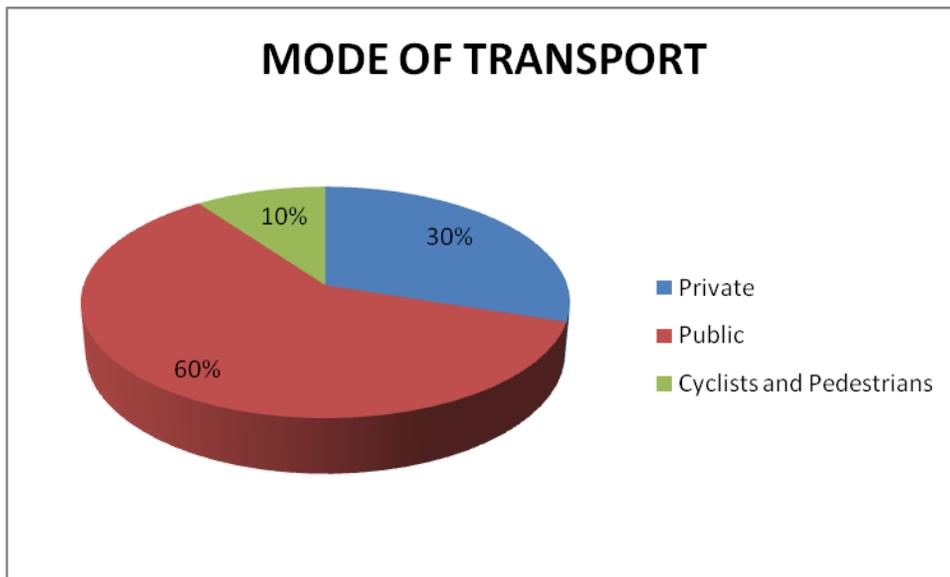


Figure 2: Mode of Transport used in Bulawayo City

From the pie chart above, out of the sample of 200 travelers interviewed in Bulawayo, 120 (60%) use public transport, while 60 (30%) use private vehicles and 20 (10%) are cyclists and pedestrians.

The pulling away of the Zimbabwe United Passengers Company (ZUPCO), a transport company wholly owned by the government of Zimbabwe from plying the urban routes had left the urban travelers stranded and resorting to the privately owned transporters who overcharge them and the carrying conditions are very poor. Many buses and minibuses routes are designed to link workplaces from residential areas. Some big companies, institutions, hospitals and government ministries offer transport to their workers and they pick them at the Bulawayo City Hall which is in the Central Business District (CBD). Commuters are diverting from buses to minibuses popularly known as combis since they are fast as compared to the buses and trains. Minibuses are privately owned and their service outcompete the buses and the train. They usually cover the short trips and because of their large numbers, they are usually readily available for the passengers. The carrying capacity of such type of public transport is supposed to be fourteen, but however they carry eighteen or sometimes twenty passengers. The minibuses are converted to carry many passengers and in most cases, four people will be squeezed in to each bench seat

which makes seating uncomfortable. The owners of the minibuses operate on aging vehicles where affordability and profitability is ensured but safety risks for passengers are high. Poku-Boansi (2003) also carried out a traffic research in Ghana and also shares the same sentiments that the private sector is dominating in offering public transport although they overcharge and the conditions for carriage are bad.

Another mode of public transport is the train. In Bulawayo, the National Railways of Zimbabwe (NRZ) offers the services for both movement of goods and people. Commuter trains are used in the high density areas which include Umganwini, Nketa, Thsabalala, Luveve and Magwegwe. People opt for the commuter trains because they are affordable as they charge 40% less than the buses and minibuses. Baluja (2004) also says train is the mode of public transport in India because of the huge volumes of people traveling.

According to Mirrilees et-a-l (1996), some of the disadvantages of using public transport are:

- a) Delays as there are many stops along the way because of picking and dropping passengers.
- b) Long queues for boarding the public transport.
- c) Overloading, recklessness driving and ill-treatment of passengers.
- d) Most public transport vehicles are very old and no longer efficient hence they have high risks of accidents.
- e) Some people may have boarding difficulties especially, the elderly, children and the disabled. There are fixed operating hours and that time may not be convenient to the public transport users.
- f) There are parking restrictions for destinations since they must stop at designated bus stops only and not an ordinary parking bay.

Parking

Traffic management cannot be separated from parking. Most cities are faced with the parking problems because of the huge increase in car ownership. The problems emanate from failure to allocate more parking spaces or the misuse of the parking facilities by motorists. Parking bays can be provided by business owners for customers and employees. Usually these parking bays will be labeled to avoid scrambling for the parking space. The structure of the city is ever changing and this will determine the need for the parking space. Newman and Jeffrey (1999) say since the motorization in the 1930s, parking has been a problem for urban planners, transport engineers and politicians. Some city councils tried to solve the problem of parking by introducing parking discs, but however this actually increased the problems. Parking space need to be provided close to the motorist's place of work to avoid walking a longer distance which will prompt driving hence the increase in traffic in the Central Business District (CBD). Private parking where some parking space is owned by individuals or companies is used in some countries, but this has been attributed to destroying the living space of cities since there will be huge demand of such space and some parking bays will be underutilized. Parking can be managed in terms of organizing the origins and destinations of the trips so that even movement will be programmed in terms of routes to be followed. Figure 3 below shows the number of parking bays in Bulawayo.

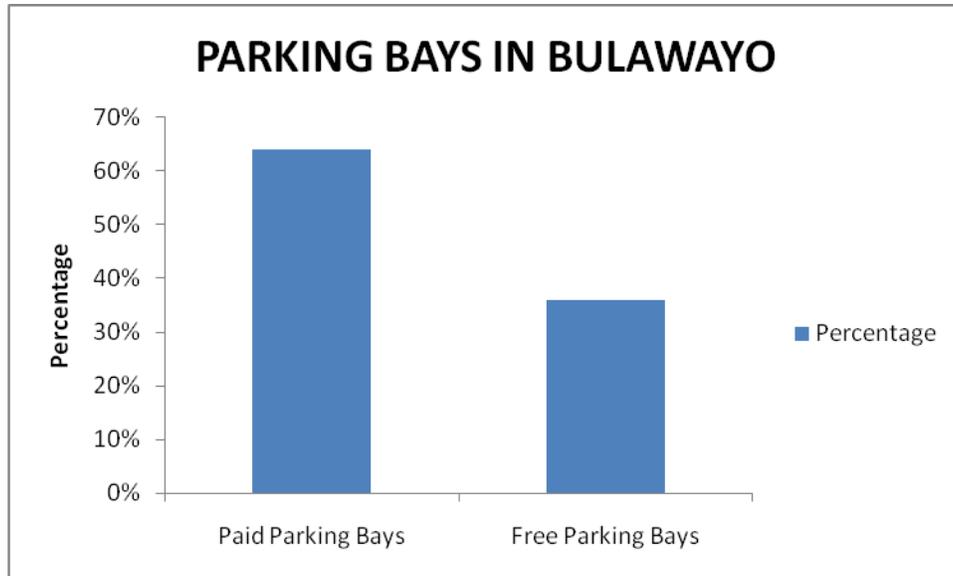


Figure 3: The number of parking bays in Bulawayo.

Of the 5000 parking bays in Bulawayo, 3200 (64%) are pre-paid and these are found in areas with high demand for parking space like banks, shops and public centers. 1800 (36%) of the parking bays are free and these mainly are located outside the Central Business District. Table 1 below shows the parking fees for the controlled parking bays.

Table 1: Parking zones and parking fees in Bulawayo City

PARKING TIME ZONE	PARKING FEES
30 Minute Zone	US\$ 0.76
1 Hour Zone	US\$ 0.60
2 Hours Zone	US\$ 0.48

The thirty minute zone has high demand of parking space and charges more than the others and this constitute 14% of all the parking bays in the city centre. The one hour zones are less congested and the two hour zones are parking bays in the middle of the main roads like Main Street, Jason Moyo Street and Leopold Takawira Street. They are used for parking by people who spend most of their times in offices as they park for longer hours. One hour parking bays constitute 20% of the parking in the city centre while the two hour parking zone is 30% of the parking bays in the city. Free parking space is provided mainly outside the CBD and it constitutes 36% of the parking bays. Talvitie (1997) says there is huge demand for parking in the Central Business District and parking in those areas is limited so that many motorists can use the parking space in turn. The photograph below figure 4, shows some of the free parking zones outside the CBD of Bulawayo city.



Figure 4: Free parking bays in Bulawayo city

Traffic Control

Roads account for most human and freight transport in urban areas. According to the UDG (2006), traffic control in developed countries is cost effective and follows clear guidelines which are different from that of developing countries. In Bulawayo city, most of the intersections are controlled by stop sign, give way sign, robot or roundabout. For the uncontrolled intersections, usually motorists give way to the traffic on the right side. On some sections of the road where small roads feed in a main road, precedence is given to vehicles on the main road. The table 2 below shows the types of intersections on roads leading to the city center.

Table 2: Types of road intersections in Bulawayo city

TYPE OF ROAD INTERSECTION	NUMBER
Robot Controlled	88
Roundabout Controlled	4
Uncontrolled	8

Traffic control can be in form of speed management. PROSPER (2006) says in European roads, speed management by computerized equipment proved to be effective in reducing accidents, accidents and pollution at some sections of the road. In Bulawayo Traffic Police sometimes enforce speed limits at designated points of the roads as they constantly move from one point to another. From the table above, there are 88 robot controlled intersections in Bulawayo, while four are controlled by roundabouts and eight are uncontrolled. The other intersections are controlled by GIVE WAY and STOP signs.

Traffic Safety

Developing countries are experiencing high rates of population growth and car ownership; hence there is a greater need for people to be mobile. These increases have resulted in a number of people being killed and injured in road accidents. According to the WHO report, (2004), Ethiopia has the highest rate of fatalities per vehicle in the world while Uganda is second. In Ghana and South Africa, pedestrians are the most vulnerable road users. Thus third world countries are on the lead in terms of traffic accidents. The traffic observations done in Bulawayo reviewed that the roads with huge volumes of traffic like Main Street, Fort Street, Robert Mugabe Avenue, Fife Street and Leopold Takawira Street experiences the highest numbers of traffic accidents especially at intersections controlled by STOP or GIVE WAY signs as motorists usually don't take precautions when crossing such busy roads. Robots at some controlled intersections were observed to be not working due to faults or power cuts, and these areas record a high number of accidents as well.

According to the Traffic Safety Council of Zimbabwe, the road traffic accidents statistics are shown below:

Table 3: 2010 and 2011 Zimbabwe National Accident Statistics

	2010	2011	CHANGE	PERCENTAGE CHANGE
ACCIDENTS	1964	2449	485	25%
KILLED	121	236	115	95%
INJURED	1192	1176	-16	-2%

Source: www.trafficsafety.co.zw

From the table above, the number of accidents increased by 25% while the number of people who were killed increased by 95% though the number of injured decreased by 2%. Thus rapid car ownership in the country is resulting in the increase in the number of accidents.

Table 4: Accidents in Bulawayo for 2011

DESCRIPTION	FREQUENCY
Number of accidents	391
People Killed	9
People injured	68
Accidents from mid-day to mid-night	285
Intersection collision	31
Accidents for private vehicles	262
Accidents for public service vehicles	17
Accidents for commercial trucks	4
Accidents for public transport	108

Source: www.trafficsafety.co.zw

From the table above, accidents in Bulawayo constitute 16% of the national accidents with 4% of the total people killed and 6% injured in accidents. 285 (73%) of the accidents occur between midday and midnight as these are the most times when people will be traveling. Uncontrolled intersections contribute a lot to the number of accidents in the city, with 31 (8%) of the accidents occurring at intersections which are uncontrolled or where traffic lights are not working. Accidents for private vehicles constitute 67% while that one for public transport is 27.6%.

Road safety in Zimbabwe is promoted by the Traffic Safety Council of Zimbabwe which is located in all the provinces and major cities and towns including Bulawayo. Zimbabwe Republic Police, (ZRP), Traffic Safety Council of Zimbabwe (TSCZ) and the Bulawayo City Council (BCC) highlighted the following ways they are using to reduce traffic accidents:

- a) Use of roundabouts at intersections which reduce the consequences of collision as compared to a normal intersection.
- b) Trees and boulders should be cleared from the sides of the road to reduce the impacts when cars veer off the road.
- c) Proper road signs which are visible must be erected on the roads sides.
- d) Improve road lighting in urban areas.
- e) Use of speed humps especially in residential areas as a well of controlling over speeding.
- f) Speed controls using speed cameras.
- g) Use of reflective materials for drivers, cyclists and pedestrians especially at night.
- h) Use of safety belts and sticking to road rules by both motorists and all road users.
- i) It's a requirement for all vehicles to have fire extinguishers.
- j) Defensive driver training as well as re-testing of public transport drivers every five years.

Akufaar (2003) researched in Kumasi, Ghana and concluded that high speeding is the main cause of traffic accidents in developing countries with pedestrians being the main victims. The problem of over speeding can be reduced by speed humps, speed trapping machines and rumble strips.

Traffic and the Environment

The transportation of people and goods marks the backbone of economic growth and sustainable development and hence the environmental effect of traffic is usually neglected as it is viewed as a threat to economic growth. Sustainable development is also based on the environment being it natural or man-made environment. Traffic movement is characterized by the demarcation of urban activities in terms of land use as people tend to live away from work, services and other urban facilities. This now prompts the movement of traffic and hence it influences the health, safety and attractiveness of the urban environment (Talvitie, 1997).

Fuel which is mainly used for automobiles is usually liquid and this has effects to the environment after combustion. Air pollution is one of the major impacts of traffic to the environment. In Zimbabwe, the Environmental Management Authority (EMA) regulates the pollution levels by setting pollution standards but the legislation is not tallying with the huge increase in vehicles in the country. Motor vehicle emissions are not regulated yet they contribute immensely to the pollution of the environment. Exhaust fumes affect the composition of the air and they contribute to the destruction of the ozone layer hence leading to global warming.

Another major concern of urban traffic is noise pollution. According to Mirrilees et-al (1996), noise is defined as unwanted or excessive sound in the wrong place and at the wrong time. Noise can be annoying and interfere with activities like work, studying, recreation or even sleeping. Too much of noise has got psychological effects. The major source of traffic noise is moving vehicles, construction and transportation vehicles, and vehicles in bad operation state. Much of the noise is mainly caused by the direct connection of the roads to the commercial areas, industrial areas and offices. The increase in the amount of traffic results in the increase in the amount of noise generated.

In Bulawayo, the observations done reviewed that there is much vehicle smoke during the peak hours that is 0600 hours to 1000 hours as this period is characterised by people rushing to work, schools and colleges. The same scenario is experienced during the 1500 hours to 1800 hours period as most people will be driving or travelling back home. These peak hours also showed a high level of noise pollution, air pollution and traffic congestion.

Disused vehicles which are just dumped anyhow are an eyesore to the built environment as it affects the aesthetic value of the cities and towns. These remains together with other vehicle lubricants and oils when washed away to water sources also causes water pollution which affect both humans and aquatic life. In the city of Bulawayo, these remains are mainly found in areas with home industries like Kelvin North, Sokusile Market in the western suburbs as well as Makokoba area.

Urban Traffic Strategy

Some of the recommendations for sustainable urban traffic management include:

- a) Improve the designs of road networks and make the streets smooth and wide.
- b) Improved pedestrian and cycling network designs which are cost effective.
- c) Parking management solutions.
- d) Enforce public transport policies.
- e) Road accident detention and prevention.
- f) Designing clear, safe and frequent crossing points.
- g) Proper and clear road signals and working traffic lights.
- h) Use of rounder about to reduce traffic jams and collisions at intersections.

CONCLUSION

Traffic management in cities of developing countries is crucial for sustainable development as it helps in the movement of people and goods. The research found out that there is a huge increase in car ownership in the city of Bulawayo as well as other cities in developing countries. This is posing a challenge to the efficient movement of goods and people which in turn is affecting sustainable development in the countries. Increase in traffic is also causing air, noise and environmental pollution which affect sustainable development. The current trends indicate that urban traffic management in developing countries is going to worsen and an active approach must be adopted as vehicle ownership is increasing and on the other hand little is being done to improve the infrastructure for sustainability. Projects in the city generate and attract traffic as most of the activities are concentrated in the city centre that's why there are traffic problems in the city center. Decentralization of activities to smaller cities and towns will help develop them as well as ease congestion in the big cities. The shortage of parking space especially in the CBD is on the increase which in turn affects the smooth flow of traffic when motorists want to access services like banks and shops. The parking infrastructure is failing to curb the huge increase in traffic in the city. Public transport still plays a crucial role in the movement of people in cities of developing countries and this is mainly provided by the private sector in form of minibuses and taxis. The operation of these private public transporters causes a lot of accidents, traffic congestion and bad commotion in the cities. Legislation must be put in place for urban traffic management as a way of promoting sustainable development and protecting the environment.

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