

Traffic and Transportation in Nigeria

Chris Joslin – School not available

Grade Level (Req.): 9th-12th grade	Content Area (Req.): World Geography	Unit (Opt.):
Connections to Other Disciplines (Opt.):		
<ul style="list-style-type: none"> • • • 		
Time Frame (Req.): 4-5 days	Goal (Req.): To gain knowledge about foreign transportation systems and be able to compare to the United States.	
	Objective (Req.): Students will understand traffic and transportation problems Nigerians face.	
Materials Needed (Req.):	New Vocabulary (Opt.):	
<ul style="list-style-type: none"> • Masking tape • Blank maps of Nigeria with city names • Nigerian map with airports, railroads, and highways (for teacher’s answer key) • Nigerian population map; Nigerian topography map • Student interviews (refer to the lesson plan “Getting to Know You and Others”) • Pencils/Paper or Notebook • Photos of Nigerian vehicles 	<ul style="list-style-type: none"> • • • • • 	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): How is Nigerian transportation different from transportation in the US?		
<p>Instructional Sequence/Procedure (Req.):</p> <ol style="list-style-type: none"> 1. I. Writing or Oral Brainstorming: What kinds of problems do we face in our own traffic? If the age group that you are working with does not drive, ask them to think of problems that they have seen riding with their parents or relatives. What kinds of traffic problems could arise in the developing world/Nigeria? Ask questions about driving in the US and some of the differences around the world. Give examples of different signs and driving laws: British drive on the left-hand side, roundabouts, and other oddities from US driving methods. 2. Discuss the logical way to travel on roads. Ask for examples of people breaking the “norm” on driving in the US, and ask why these things are that way. Examples: A farmer drives a truck out into a field. Why? To get corn loaded from a combine. A driver decided to make a U-turn. Why? He/she missed the turn. Speed limits, why do we follow them? For fear of getting a ticket, fine, etc. 3. II. (These activities can be done prior to or following lessons on population distribution. If done prior to population, the inquiry questions can center on discovering clues on the transportation maps that would predict high population centers. If done after information on population was discussed, the question could be to decide where money would be most effectively spent to repair or construct new highways, airports or rail lines.) On a map of Nigeria locate the following cities and mark them with a symbol that would indicate an airport (airplane or geometric symbol): Abuja, Calabar, Enugu, Jos, Lagos, Maiduguri, Benin City, Port Harcourt, Yola, Makurdi, 		

Ilorin, Kaduna, Sokoto, Kano. Brainstorm why airports would be located in these cities. Is one area more highly serviced than another? What may be the reason for this?

4. On the same map of Nigeria draw lines between the following cities indicating rail lines: Lagos to Kano, Port Harcourt to Kaduna with a spur to Maiduguri starting 50 miles WSW of Jos, Zaria to Kaura Namoda, Kano to Nguru. Brainstorm why railways would be in these areas. Through what type of terrain does each lie?
5. On the same map draw lines and label as interstate highways (carriageways or divided highways) from these cities: Lagos to Ibadan, Ibadan to Benin City, Enugu to Port Harcourt. Brainstorm again why these highways would be of importance and how they would impact the economy.
6. Compare this map to a population map. What conclusions can you draw? Did the population map reflect the need for transportation? Compare this map to a vegetation/topography map. What conclusions can you draw? Did the topography map give any indications as to why transportation routes are located where they are? Looking at the population distribution, topography and climate maps, where would money be most wisely spent in Nigeria? For repair on existing roads, railways or airports or the construction of new ones?
7. III. For 2-3 days or longer, have the students keep individual travel journals that list the following: date/time, purpose of trip, mode of transportation, miles driven/walked/bicycled, road conditions (excellent, good, poor, under construction). Have them compare their travel experience with what they might find in Nigeria by using the student interviews located in the "Getting to Know You and Others" lesson plan. Compare the modes of transportation that students in their community use to get to school to the ways students in Nigeria get to school. Have them write up their reflections on what this information tells them about the culture of the US compared to that of Nigeria.
8. IV. Using the photos of cars, buses, taxis and danfos in Nigeria, have the students look for pictures of taxis and buses in their community. Compare and contrast transportation in Nigeria to that in their community. What factors would account for the similarities? What factors would account for the differences? Use a Venn diagram to illustrate this.
9. Divide the class into small groups. Assign each group a country or region of the world. Countries may vary but include countries from all continents and socioeconomic levels (for example: Australia, Chile, Costa Rica, France, India, Italy, Japan, Kenya, Syria). Have each group look for modes of transportation in encyclopedias or National Geographic magazines. Compare Nigeria to other African countries; to other Third World countries; to European, Asian, and Central/South American countries. What similarities can be found? Is transportation related to wealth, population, climate or topography? Have each group present their findings to the class. Build a graph that compares types of transportation, population, size of the country, Gross National Product, length of roadways and railways.
10. Discuss the role transportation plays in our lives. Use a "spider" with the theme "transportation" in the middle. Ask the students to think of categories of transportation, such as air, rail, highway, city, etc. Ask the students to think of what types of vehicles use each type of transportation (airlines, air freight, truck, semis, tankers, refrigerator trucks, freight trains, passenger trains, city buses, school buses, intracity buses, taxis, private cars and vans, bicycles, foot, motorcycles, mopeds).
11. Divide the students into groups of two or three, have them brainstorm the role of each type of transportation, i.e. recreational, transportation of goods vs. people on airlines and what benefits are gained from each.
12. Compare the use of transportation in Nigeria. What does the lack of reliable modes of transportation mean to Nigeria in relationship to the role it plays in the US? What does the use of recreational vehicles say about the US in comparison to Nigeria? How does the lack or abundance of transportation systems affect a country's progress/wealth/health?
13. VI. Before starting this activity be sure to emphasize safe speeds. This activity will illustrate what traffic is like in Nigeria. Other than actually going there and experiencing it, the students will be able to describe some of the frustrations and problems of traffic in Nigeria. The traffic in Nigeria

is controlled but under-controlled and when enforced it still has problems. The biggest problem for Nigerian traffic is the cost and maintenance of traffic lights. The electrical service in Nigeria is unreliable and unpredictable so often times the limited number of traffic lights are not working.

14. Use tape to make a four lane road with a median that would fit your entire class comfortably.
15. The first activity will show what traffic might be like in an uncontrolled situation. Each student will be given an assignment to do once the whistle has been blown. Assign a number of students to the following motions: stop, slow down, turn to the left or turn to the right, or turn around. Discuss with students what problems occurred. After discussing, repeat the activity to see if the students can find an alternative to running into each other such as communication (hand signals, horns, talking), waiting for each other, taking turns, going outside of the "road" area, etc. After the second time is tried ask the students to think about what we use to control traffic flows in the US. Traffic lights and stop signs do some of the work, but as we know, some people still do not always follow them. Another activity you could do is for the teacher to be a police officer and stop selected students giving them a "shakedown". Ask questions such as "Why is your tail light out?" or "May I see your driver's license?" After completing this activity discuss the problems that developed along the roadside disrupting the flow of traffic.
16. Use tape creating an intersection where two roads intersect. This activity is to show how traffic lights aid in the flow of traffic. Appoint a student to act as a traffic light. That person will decide which road may cross the intersection. This demonstrates the controlled traffic situation found in the US.
17. The next activity is to experiment with a four way uncontrolled intersections using four students. At first, allow the students to approach the intersection (at safe speeds) all at the same time. They will either collide in the center or slow down to allow others to pass through the middle. Then add four more students for a total of eight. Keep adding four students at a time until the entire class has participated.
18. Ask what things we use to control traffic at intersections. Have one person serve as a traffic officer and allow them to dictate how the traffic will flow. Mention that you notice how orderly the traffic can flow with a traffic officer. If the traffic is still not flowing well, suggest things they could do to improve traffic flow and safety.
- 19.
- 20.

Formative Evaluation (Req.): Class participation and discussion

Assessment (Req.): 1) After the activity debrief the class by asking them to write about the activity. Ask them what their role in the activity was, what they thought was hard to do, what was frustrating, what could be done to make it easier or safer, etc. 2) Have the students design a transportation system for Nigeria for the future. It must include the following elements: how climate will affect it, how topography will affect it, how much it will cost the individual traveling. With the use of maps and/or other props, have the students present their proposal to the class. This activity could include artwork and three-dimensional models.

Iowa Core Curriculum Standards Used (Req.):

- Geography, grade 9-12: Understand the use of geographic tools to locate and analyze information about people, places, and environments.
- Geography, grade 9-12: Understand how physical and human characteristics create and define regions
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Common Core Curriculum Standards Used (Opt.):

- Speaking and Listening, grade 6-12: Engage effectively in a range of collaborative discussions (one-on-one, in groups and teacher-led) with diverse partners on specific grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
- Writing, grade 6-12: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
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NGS Standards Used (Req.):

- How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective
- How to analyze the spatial organization of people, places, and environments on Earth's surface
- Physical and human characteristics of places
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Five Themes of Geography Used (Req.):

- Place
- Human-Environmental Interaction
- Movement
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School District Standards and Benchmarks (Opt.):

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21st Century Universal Constructs (Opt.): Critical Thinking, Complex Communication, Collaboration, Creativity

Other Disciplinary Standards (Opt.):

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Other Essential Information (Opt.):

Other Resources (Opt.):

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BACKGROUND INFORMATION

CLIMATE AND TERRAIN

Motorized travel in Nigeria can be a challenge. It is limited by several factors. Lack of resources make improvement and repair of roads, boat docks, airports and railways difficult. Topography is another restrictive factor. The arid areas to the north are much different from the tropical rain forest in the south and delta area with each area having unique problems. Being the furthest from oil supply, the north often suffers from lack of fuel. Lack of funding to bridge many of the small rivers limits travel in the Delta region to boats. Nigeria's climate is also a factor. Many roads have little or no effective drainage; very few have culverts or side ditches. With frequent heavy downpours during the rainy season (April to October) many roads become impassable, as the water has no place to go. This causes flooding that erodes the roadways. Without funds to maintain roads, many are in a constant state of disrepair. (Refer to lessons on topography and climate.)

Adding to the weather and terrain, roads typically have few or no speed limit signs or warning signs to alert the motorist of curves, hills, intersections or problems with the road itself such as large potholes or eroded road beds.. Law enforcement is minimal except for sporadic roadblocks of armed policemen who check for registrations and other "irregularities".

CAR OWNERSHIP

Few people own private cars. The cost of maintenance is prohibitive to most Nigerians. If long distance transportation is needed, most will likely hire a car and driver for the day or for an out-of-town trip. The car usually belongs to the driver or to a business. The drivers are skilled but rarely licensed since licenser is non-existent. Another way to travel is to stand by the side of the road until someone in a car or truck stops. Early in the morning and late in the afternoon, at points of intersections of main roads, there can be a long line of people standing at strategic spots, usually a wide spot in the road. These are commuters who are waiting for rides. Private cars will stop and a price will be negotiated for the ride. This informal system of carpooling has two benefits. The rider gets to his/her destination and the driver receives some money for his (rarely her) trouble in making transportation costs less. Traveling for recreational purposes is limited to those in the highest wage brackets.

INTERSTATE TRAVEL

What are called "interstate" highways in the U. S., are called carriageways in Nigeria. There are not many miles of divided highways in Nigeria. The primary routes go from Lagos to Ibadan, Ibadan to Benin City, and Port Harcourt to Enugu. There is no speed limit on them and very few access ramps. It is common to see cars and vans driving through the median to cross into oncoming traffic in order to make a left turn. It is also common for many breakdowns. Drivers uproot small clumps of vegetation from the ditches and place them on the roadway in order to

warn traffic to merge around the stalled vehicle much like triangular warning signs used by truck drivers in the U.S. Drivers passing the stalled vehicle often create a slowdown. Other drivers avoid this slowdown by driving through the median, often a small ditch 2- or 3-feet deep, and proceeding along the left shoulder of oncoming traffic. If oncoming traffic is thin, the drivers often drive in the inside lane. Those oncoming vehicles must then merge into the right lane and/or the outside shoulder. Once past the obstruction the cars are driven back through the median to the correct side of the road.

As with city traffic, the horn is the most used tool on the car. One honk lets the car ahead of you know you want to pass, another honk is given after passing to let them know you appreciated their attention while you were passing. Horns are also honked to show irritation and to warn other drivers and/or pedestrians that may be in a direct line of contact. Driving without honking the horn is considered discourteous and dangerous.

TRAVELING AT NIGHT

Driving at night is only for the brave - or foolhardy - for two reasons. First, it is not considered manly (very few women drive in Nigeria or, if they do, they don't drive very long distances) to drive with one's lights on lest they put stress on the battery or show that one's eyesight is not good. Second, armed bandits are frequently on the carriageways and on other main roads at night. With very few overhead lights, the lack of headlights and the potential for armed robbery makes night driving very stressful as well as imprudent.

MASS TRANSPORTATION

Buses run between most major cities. Formal and informal bus depots located at the edge of the city closest to the city of destination. Passengers congregate at the location during the morning and negotiate a price. Once a bus has enough passengers going to a certain destination, the bus will leave. If there is not enough daylight left to travel safely, some buses will delay departure until the next day or travel only part of the distance before stopping for the evening. Passengers must provide their own food and sleeping arrangements. Often the buses are filled beyond recommended capacity. Buses are owned privately or by companies who run them primarily for their employees.

Another inter-city mode of transportation is a small truck commonly called a "mammy wagon." These are used to carry goods from city to city, but they often fill up any extra space with passengers. These trucks are colorfully decorated with sayings painted on the sides such as "Jesus saves. Slow down, save lives." All prices are negotiable. Riding on a mammy wagon is cheaper than a bus but is not as comfortable. (Comfort in either mode of transportation is relative!)

CITY TRANSPORTATION

In-town transportation comes in a variety of forms. Modes of transportation include, taxis, taxivans commonly called "danfos," private cars that are hired out by the day with a driver, personal family cars, scooters, and by foot. All fares are negotiable depending upon the number in the

party and the distance to be traveled. Fares are also dependent on whether the passengers are Nigerian or foreigners. The average taxi is a small car, which seats four people and the driver. A danfo is a van which seats seven people and the driver. This does not mean that more people will not be accommodated; often both taxis and danfos carry as many passengers as can squeeze into the vehicle. Danfos have an additional staff member. He is the "conductor" who arranges fare agreements and keeps track of delivery points. He is often to be seen holding onto the frame of the van while hanging out the door in order to locate potential fares. Taxis and danfos charge an average of 25-50 Naira (= U.S.\$0.25-\$0.50) per rider. Scooters operate in the evening in certain locations. They often do not use their headlights, but due to limited traffic they are able to navigate relatively safely. They are used for short distances, and charge 10 Naira (U.S.\$0.10) per rider, and they can hold up to two passengers in addition to the driver.

AIR TRAVEL

Nine airlines have regularly scheduled flights between Lagos, Kano, Abuja, Enugu, Jos, Kaduna, Maiduguri, Yola, Calabar, and Port Harcourt. Airfares vary from \$25 to \$40 but since the average household income is only \$300 per year, very few Nigerians can afford to fly. Travel to Europe is even more cost prohibitive at \$1000-\$1500, a full three to five years income! There are three international airports, Lagos, Kano and Abuja, none of which had been sanctioned for travel by the U.S. government due to lack of security as well as lack of maintenance. Recent events have indicated the Lagos airport (Murtala Mohammed International) is being reconsidered for the reopening of service by U.S. air carriers in the near future.

RAIL TRAVEL

Rail travel is erratic and often undependable. There are 3500 kilometers (2187.5 miles) of rail lines with the main routes from Lagos to Kano, Port Harcourt to Kaduna with a spur to Maiduguri, Zaria to Kaura Namoda, and Kano to Nguru. The average price per trip is \$25 to \$40. Spare parts are difficult to find, so when lines, engines or cars are in need of repair the rails may be shut down for several months.

Transportation and the Movement of People in Nigeria

some tentative notes

By Brennan Kraxberger

There is some variation by region. This is at least partly due to income differentials between the North and the South. Since the Southern part of the country is generally more prosperous, people typically have more budgetary income to devote to transportation. Another indicator of this regional difference in the movement of people is the frequency of scooters and small motor-bikes in the northern part of Nigeria. Informal, intuitive observations in Jos and Kano (northern cities) and Abeokuta, Ibadan, and Benin City (southern cities) as well as discussions with Professors Mike Filani and Stanley Okafar at the University of Ibadan indicate that scooters and motorcycles are much more commonly used in the northern half of the country. These observations on motorized bikes are also relevant to non-motorized bicycles. Rural people in the North are much more likely to rely on bicycles for part of their transportation needs. This reliance on bicycles is influenced by a complex set of economic, cultural, and environmental factors. As mentioned earlier, economic inequality and poverty are more pronounced in the North, making bicycles much more affordable when compared with cars. Also, the physical environment of the North is savanna. Savanna regions have widely spaced trees and less dense undergrowth when compared with the forested regions of the South. These characteristics make the North more amenable to the use of bicycles. This is not to say that people in the northern part of the country do not make use of cars, only that they have a relatively greater reliance on bicycles for their daily transportation needs.

With respect to road travel, it is important to evaluate the extent and quality of the road network. In terms of the extent of the road network, the federal government has done much in the last fifteen years to improve the coverage of Nigeria's road system. One outstanding example is the work of the Directorate of Food, Roads, and Rural Infrastructure (DIFFRI), which in the late 1980's embarked on a campaign to construct approximately 60,000 kilometers of new rural roads. As can be seen from a tour of rural areas, many roads that have been constructed are in a terrible state of disrepair. As with so many things in post-oil-boom Nigeria, many rural (and urban) roads have not received adequate maintenance. Poorly-maintained roads are particularly problematic in the rainy season (approximately March to October). In fact, some rural areas are only accessible by car in the dry season. July field trips on Nigeria's Jos Plateau proved these points well enough. Many rural roads in the Plateau region cannot be safely travelled at speeds exceeding 25 to 30 miles per hour. The slow rate of travel is necessary given the large and frequent potholes that mark the many rural roads. Certain stretches of rural roads are so bad that motorized vehicles have bypassed the original roadway to form new dirt tracks. Other portions of rural roads have been reduced to one lane. The road network of the Jos Plateau is indicative of the poor state of maintenance of many rural roads. Even though a good network of colonial-era roads existed (partly due to the intensity of mining activity on the plateau), many of these roads have not been maintained in the post-independence period. Proper maintenance is critical

because rainstorms can be tremendously intense. Thus, small areas of road decay can very rapidly expand under the forces of erosion and weathering in the rainy season. Much of the problems associated with the erosion of roadways are compounded by the lack of adequate drainage infrastructure (which also makes driving hazardous during heavy rains). While Nigerians are not forced to address maintenance problems derived from recurrent freezing and thawing (like temperate areas of the United States), they do have to deal with intense seasonal rain.

Although urban roads are in better condition than most rural roads, maintenance of roads is also a problem in the cities. Since the collapse of oil prices in the early 1980's and implementation of a Structural Adjustment Program in 1986, state budgets have been extremely tight. Fiscal austerity has also been exacerbated by corrupt military regimes that have funnelled state revenues into non-productive projects (often contracted to firms owned by military leaders) or foreign bank accounts. Although almost all urban roads are paved (Nigerians often say "tarred"), many have large pot holes or large sections where pavement has been eroded. An interesting scene in the city of Ibadan is the activity of informal road repair crews. Young men can often be seen filling city pot holes with dirt and rocks. In return for their unsolicited service, road users often tip these unofficial public workers. The work of these brave maintenance crews notwithstanding, Nigerian urban roads can still be very rough. The important point to note is that aside from uncomfortable travel, poor urban roads can cause bottlenecks in traffic and contribute to traffic congestion.

















Another issue that directly relates to urban transportation is city planning. While the extent and effectiveness of planning in Nigerian cities varies to some extent, most urban areas are forced to deal with city regions where no formal planning was conducted. Hence, transportation routes are often confined to pre-existing routes that may not always follow optimum courses. A dramatic example of planning done after development occurred in the city of Ibadan in the 1980's. Under military direction, city workers bulldozed swaths of houses and businesses, making way for new streets. While this action probably improved traffic flow in certain parts of the city, it clearly violated the human rights of the people affected by the removal process.









One final area will be discussed on the issue of urban transportation. It is that of cost of transportation. Relative to the early 1980's when cars were relatively inexpensive, many people in Nigeria have trouble purchasing cars. As a result, there is presently a thriving market in Nigeria for used cars, many of them imported from other parts of the world (like Europe). Given the cost of new cars (and imported used cars), many people fix cars that would be discarded in more affluent societies (see pictures of "Mechanic Village" in Jos). One other aspect of Nigerian urban transportation is the notable lack of public transportation. While there have been several different programs and agencies established in the post-1988 period, government efforts to provide public transportation have been mostly failures. Thus, those without cars requiring long-distance urban transportation are forced to turn to the private sector. Taxis, "danfos" (small vans that hold about 10-15 people), and scooters provide urban transportation for many urban residents. One final issue to consider with respect to cost of transportation is the cost of fuel. It is ironic indeed that an oil-rich country such as Nigeria often has a scarcity of fuel. Two factors contributing to a discontinuous supply of oil are the reduced production capacity of Nigerian refineries and price controls imposed by the federal government. Low refining capacity means that Nigeria often has to import much of its petrol. Artificial price controls have led to the

expansion of a black market in gas, making it difficult to find gas in certain places (especially the North) and at certain times.

It now remains to say a few words about inter-regional and inter-city transportation. First, most internal transportation is via land. Internal air traffic is low relative to a country like the United States. Second, many inter-urban land linkages are in good condition relative to rural-rural linkages.

TRANSPORTATION

			
Rural road	Traffic	Highway with toll booths	Police kiosk on a busy street corner
			
Traffic			Car with pioneer logo
			
License plate	Vans are often used as taxis.	Taxis squeeze as many people as possible into them.	Motor scooters are often used as "taxis" for one or two people.
			
Buying gas at a gas station.	Fuel is commonly purchased from vendors along the	Cars are often pushed so that the driver may "pop" the clutch to	Buying a new tire

	side of the road after a price has been negotiated.	get them started.	
 <p>Car body shop Cars we would "junk" can often be made to look like new.</p>	 <p>Car repair shop</p>	 <p>Car parts</p>	 <p>Trucks are used to transport vegetables from the plateau region to the south until the southern crops are ready to harvest.</p>
 <p>When a vehicle breaks down, tufts of sod and grass are placed behind the vehicle to warn oncoming drivers.</p>	 <p>Tow trucks cruise the highways in search of broken down vehicles. They may drive on the wrong side of the road to reach the disabled vehicle.</p>	 <p>Drivers need to be alert because animals roam freely about the city.</p>	 <p>Roundabouts are located at some intersections.</p>