First Order Mapping of Primary and Secondary Road Network

Road Data - Ghana (GH)

Metadata - Final version

August 2009

1 GEODATABASE CONTENT

The geodatabase for Ghana data (***GH_Data.mdb***) contains 5 features classes:

1. GH_Roads *(polyline)*
2. GH _Adm1 *(polygon)*
3. GH _Adm2 *(polygon)*
4. GH _Adm3 *(polygon)*
5. GH _Cities *(point)*

All feature class are in Geographic Coordinate System, WGS 84

2 GH_ROADS CONTENT

Note: the attributes of GH_Roads are the same as the Excel spreadsheet (***GH_Data.xls***)

2.1 ATTRIBUTES

NB	Name	Description	Type	Size	Decimal	Possible value
1	UNIFORM_ID	ID of the link	Numeric	5		≥ 0 et ≤ 99999
2	ADM2_NAME	Name of the 1st level of administrative division (region)	String	50		
3	ADM2_CODE	ID of the administrative division	Numeric	3		≥ 0 et ≤ 999
4	ADM3_NAME	Name of the secondary administrative division (district)	String	50		
5	ADM3_CODE	ID of the secondary administrative division	Numeric	3		≥ 0 et ≤ 999
6	ROAD_ID	ID of the road	Numeric	4		≥ 0 et ≤ 9999
7	ROAD_NAME	Name of the road	String	50		
8	START_NODE	Name of the locality where the link starts	String	50		
9	END_NODE	Name of the locality where the link finishes	String	50		
10	LINK_NAME	Name of the link	String	100		[ROAD_NAME].[START_NODE]-[END_NODE]
11	ROAD_TYPE	World Bank functional classification	Numeric	2		1, 2 or 3 (see Table 2 below)
12	LOCAL_CLS	Local classification	Numeric	2		1, 2 or 3 (see Table 3 below)
13	LENGTH	Length of link (km)	Numeric	5	2	≥ 0 et ≤ 99999

NB	Name	Description	Type	Size	Decimal	Possible value
14	ROAD_WIDTH	Width of road (m)	Numeric	3	2	
15	SURF_TYPE_CODE	Classification of surface type	Numeric	2		2, 3 or 4 (see Table 4 below)
16	SURF_TYPE_VALUE	Value of surface type	String	30		
17	SURF_TYPE_SOURCE	Source of surface type	String	50		
18	ROAD_COND_CODE	Classification of road condition	Numeric	2		1, 2, 3, 4 or 5 (see Table 5 below)
19	ROAD_COND_VALUE	Value of road condition	String	20		
20	ROAD_COND_SOURCE	Source of road condition	String	50		
21	LANE_NB	Number of lanes	Numeric	2		

2.2 DESCRIPTION OF THE ATTRIBUTES

The attributes highlighted in the previous table are described more precisely below:

When a numeric data is unknown, it's value is **-99**

7 - Name of the road (ROAD_NAME): Local name of the road.

Table 1 – Codification of local name of the road

Description	Name
National Roads (N)	N + number
Inter-Regional Roads (IR)	IR + number
Regional Roads (R)	R + number

8/9 - Start Node and End Node (START_NODE and END_NODE)

The following abbreviations where used :

jct = junction

bnd = boundary

11 - World Bank functional classification (ROAD_TYPE):

- Level 1: Primary roads are those that constitute the higher network and that are located outside an urban area. These roads link the national capital to major provincial cities, or to agglomerations playing a major economic or social role, or to crucial agglomerations in the transportation system to terminals, such as ports. This level also includes major roads to neighbouring countries.
- Level 2: Secondary roads are collector segments to primary roads. They can be constituted by regional roads or by classified rural roads. These roads connect to major department cities, or to cities playing a relevant economic, social or tourist role. The mobility level is lower than a primary road since these roads are designed for lower speed and shorter distances.

- Level 3: Tertiary roads are local or rural segments with low traffic. Their construction requires lower design standards, since they are used to connect residential areas to commercial zones and to upper road levels.

Table 2 – Codification of World Bank functional classification

Classification	Code
Primary	1
Secondary	2
Tertiary	3

12 - Local classification (LOCAL_CLS): Administrative classification of the country.

Table 3 – Codification of local classification

Classification	Description	Code
Primary	National Roads (N)	1
Secondary	Inter-Regional Roads (IR)	2
Tertiary	Regional Roads (R)	3
Unclassified	Not surveyed classified roads	-99

15/16 - Type of surface (SURF_TYPE_CODE and SURF_TYPE_VALUE)

Table 4 – Codification of the type of road surface

CODE	Type of surface (VALUE)	Local description
1	Concrete	*None*
2	Asphalt	Flexible Asphalt
3	Surface Treatment Pavements	Bituminous surface treated
4	Gravel Roads	Gravel surfaced
5	Earth Road	*None*

17 - Type of surface source (SURF_TYPE_SOURCE): Source of the type of surface

The source of the data is the Ghana Highway Authority of Ministry of Transportation, (**Ghana Highway Authority**). The data are published in the “Road Condition Report” for year 2008 by the Pavement Maintenance Management Program. The quality of the Ghana Highway Authority data is good.

18/19 - Condition of the road (ROAD_COND_CODE and ROAD_COND_VALUE)

Table 5 – Codification of the condition of the road

CODE	Condition of the road (VALUE)	Definition (in accordance with the kind of surface)			Local description
		Recovered	Stabilized	Not-Stabilized	
1	Very good	New or rebuilt	New or rebuilt	New or rebuilt	*none*
2	Good	Requires low or no maintenance, such as preventive treatment of cracks sealing	Requires just a slight surface preparation or sporadic gravel addition	Requires low or no surface preparation	Good
3	Fair	Deformed structure which requires reparations without removing the existing paving	Requires a new layer of gravel	Requires reshaping the surface as well as the maintenance of the drainage system	Fair
4	Poor	Requires a partial reconstruction	Requires a partial reconstruction	Requires a partial reconstruction	Poor
5	Very poor	Requires a complete reconstruction	Requires a complete reconstruction	Requires a complete reconstruction	*none*

20 - Road condition source (ROAD_COND_SOURCE):

The source of the data is the Ghana Highway Authority of Ministry of Transportation, (**Ghana Highway Authority**). The data are published in the “Road Condition Report” for year 2008 by the Pavement Maintenance Management Program. The quality of the Ghana Highway Authority data is good.

2.3 Data Coverage

The following table shows the data coverage (expressed in percentage of total length covered) per functional class (ROAD_TYPE)

Table 6 – Data Coverage

RD_TYPE	DATA COVERAGE			
	ROAD_WIDTH	***AADT***	***SURF_TYPE***	***ROAD_COND***
Primary	97,5%	0,0%	100,0%	98,6%
Secondary	83,7%	0,0%	98,8%	92,9%
Tertiary	88,1%	0,0%	99,3%	95,6%
TOTAL	90,5%	0,0%	99,5%	96,1%

3 GH_ADM1 CONTENT

This feature class represents Ghana

3.1 ATTRIBUTES

NB	Name	Description	Type	Size	Decimal	Possible value
1	PERIMETER	Perimeter in km	Numeric	12	6	≥ 0 et ≤ 9999999
2	AREA	Area in km^2	Numeric	12	6	≥ 0 et ≤ 9999999

4 GH_ADM2 CONTENT

This feature class represents the region of Ghana

4.1 ATTRIBUTES

NB	Name	Description	Type	Size	Decimal	Possible value
1	PERIMETER	Perimeter in km	Numeric	12	6	≥ 0 et ≤ 9999999
2	AREA	Area in km^2	Numeric	12	6	≥ 0 et ≤ 9999999
3	ADM2_NAME	Name of the region	String	50		
4	ADM2_CODE	Code of the region	Numeric	2		

5 GH_ADM3 CONTENT

This feature class represents the district of Ghana

5.1 ATTRIBUTES

NB	Name	Description	Type	Size	Decimal	Possible value
1	PERIMETER	Perimeter in km	Numeric	12	6	≥ 0 et ≤ 9999999
2	AREA	Area in km^2	Numeric	12	6	≥ 0 et ≤ 9999999
3	ADM2_NAME	Name of the region	String	50		
4	ADM2_CODE	Code of the region	Numeric	2		
5	ADM3_NAME	Name of the district	String	50		
6	ADM3_CODE	Code of the district	Numeric	2		

6 GH_CITIES CONTENT

This feature class represents the cities of Ghana

6.1 ATTRIBUTES

NB	Name	Description	Type	Size	Decimal	Possible value
1	CITY_NAME	Name of the city	String	50		
2	R_CAPITAL	Capital of region	String	50		
3	D_CAPITAL	Capital of district	String	50		