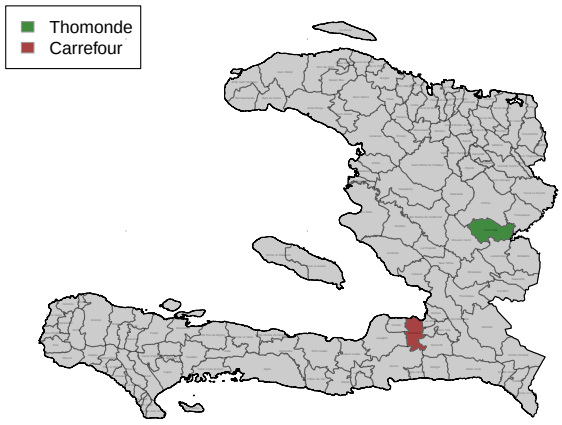
Issues raised at Haiti project meeting (Apr 11, 2014)

Joe Brew

Does Carrefour's southern boundary extend to the sea?

No. Carrefour is border by Jacmel to the south and Kenscoff to the southeast.



[1]

How many police districts are there in Carrefour?

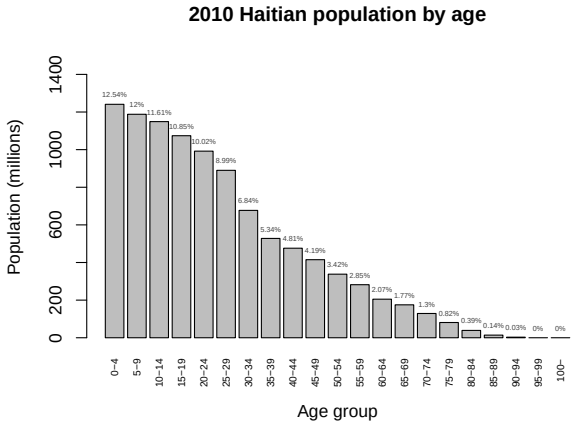
No clear answer. Given that its part of the département de l'ouest, Carrefour falls under the the DDO branch of the PNH (national police). I called to ask about subdivisions within Carrefour and was told that the police districts operate under sous-commisariats at the neighborhood level (ie, independent of anu municipal boundaries, such as those of Carrefour).

What is the unemployment rate?

The unemployment rate is 27.4%. Among women, it is 32.1% (23.4% among men). Unemployment is greatest among young people (61.9% for 15-19 year-olds and 50% among 20-24 year-olds). Unemployment in the Port-au-Prince metropolitan area is 45.%. [2]

What will we miss out on if we choose a small age range?

If we exclude those 50 years of age or older, we miss out on 12.8% of the total population, or 27.2% of the adult population (defined here as older than 19). If we exclude those 55 years of age or older, we miss out on 94.% of the total population (20% of the adult population). If we exclude those 60 years of age or older, we miss out on 6.5% of the total population (13.9% of the adult population). If we exclude those 65 years of age or older, we miss out on 4.5% of the total population (9.5% of the adult population).



[3]

What is our operational definition for "urban" and "rural"?

The Institut Haïtien de Statistique et d'Informatique uses the definitions for "rural" and "urban" devised by the 1997 Echantillon-Maître d'Enquêtes Multiples.[4] Essentially, all 8 non-metropolitan départements are divided into two: their urban and rural parts. I can find no further references to the what constitutes rural/urban in their approach.

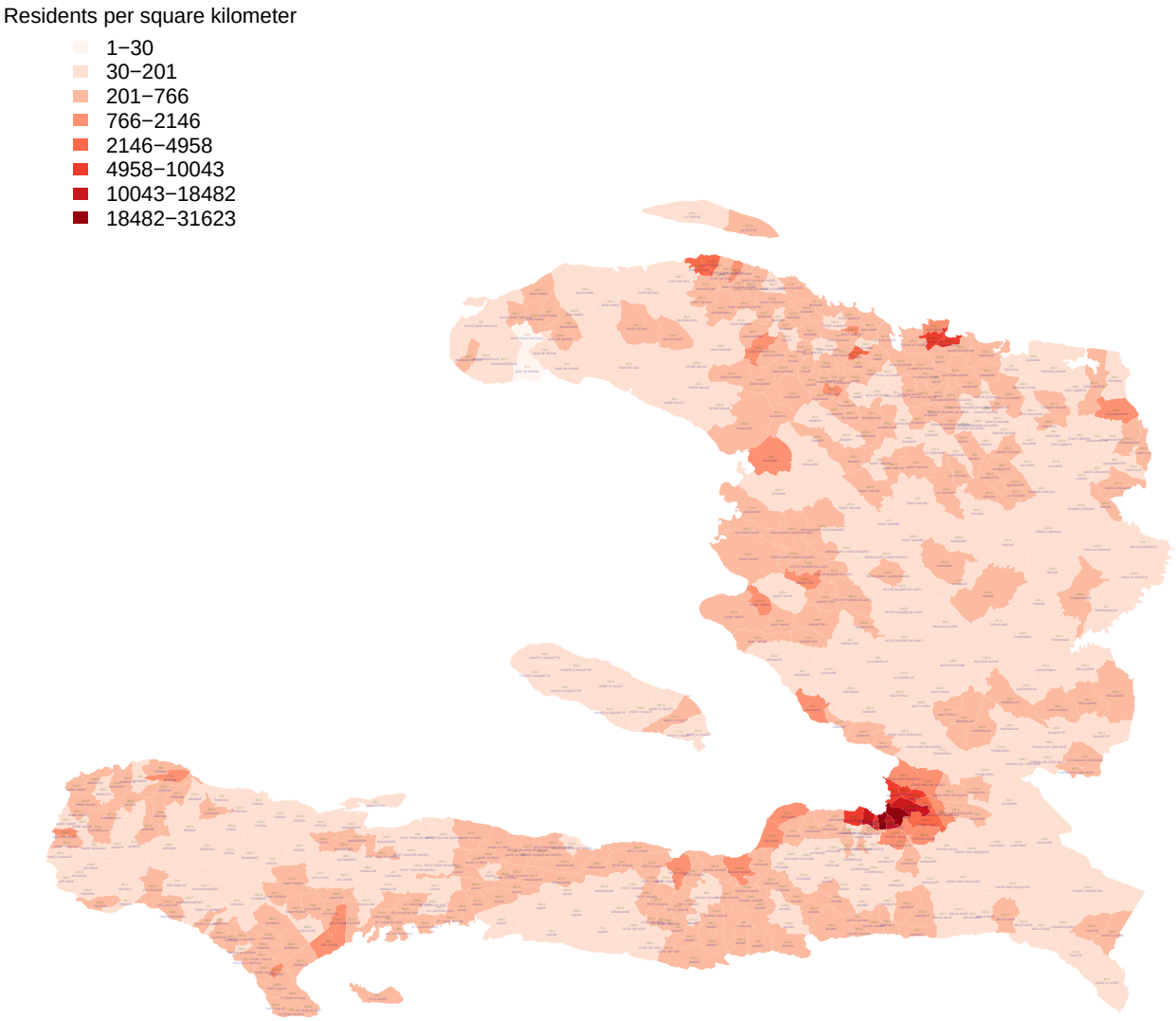
However, I've mapped population density at the commune level (next page), which should at least give a pretty good idea of which areas can be considered urban/rural.

[1] Shapefile obtained from Global Administrative Boundaries Database, version 2: `http://www.gadm.org/country`, `andmodifiedinR`

[2] "Force de travail", p. 322. `http://www.ihsi.ht/pdf/ecvh/ECVHVolumeI`

[3] `http://esa.un.org/unpd/wpp/unpp/panel_population.htm`

[4] `http://www.ihsi.ht/pdf/EBCM/Methodologie_EBCM.pdf`



[5]

R Code

```
> load("E:/workingdirectory/gis/haiti/haiti0.RData")
> map0 <- gadm
> load("E:/workingdirectory/gis/haiti/haiti1.RData")
> map1 <- gadm
```

[5] Shapefile and population density obtained at: http://www.gvsu.edu/haitiwater/links-to-gis-data-for-haiti-9.htm

```
> load("E:/workingdirectory/gis/haiti/haiti2.RData")
> map2 <- gadm
> load("E:/workingdirectory/gis/haiti/haiti3.RData")
> map3 <- gadm
> map3$color <- adjustcolor("black", alpha.f=0.2)
> map3$color[which(grepl("Carrefour", map3$NAME_3)==TRUE)] <- adjustcolor("darkred", alpha.f=0.75)
> map3$color[which(grepl("Thomonde", map3$NAME_3)==TRUE)] <- adjustcolor("darkgreen", alpha.f=0.75)
> plot(map3, border=adjustcolor("black", alpha.f=0.5),  col=map3$color)
> labelpos <- data.frame(do.call(rbind, lapply(map3@polygons, function(x) x@labpt)))
> names(labelpos) <- c("x","y")
> map3@data <- data.frame(map3@data, labelpos)
> map3$labelpos <- labelpos
> map3$labelposx <- labelpos$x
> map3$labelposy <- labelpos$y
> zippy <- unique(sort(map3$NAME_3))
> zippy <- as.character(zippy)
> map3$text <- 1
> for (i in zippy){map3$text[which(map3$NAME_3 == i)] <- i }
> text(labelpos$x, labelpos$y, label=map3$text, cex=0.1, col=adjustcolor("black", alpha.f=0.4))
> library(maptools)
> library(maps)
> library(RColorBrewer)
> library(classInt)
> mapDen <- readShapePoly("E:/workingdirectory/gis/haiti/popDensity/Haiti_ADM3_stats.shp")
> plot(mapDen)
> summary(mapDen)
> plotvar<-(mapDen$POP_DENS)^(1/4.5)
> nclr<- 8 # number of bins (3-8)
> min<- floor(min(plotvar))
> max<- ceiling(max(plotvar))
> breaks<- (max-min) / nclr
> plotclr<- brewer.pal(nclr, "Reds")
> class<- classIntervals(plotvar, nclr, style ="fixed", fixedBreaks=seq(min, max, breaks))
> colcode<- findColours(class, plotclr)
> colcode2<-gsub(",","-", gsub("[[]|[)]|[]]","", names(attr(colcode, "table"))))
> colcode3 <- round(as.numeric(unlist(strsplit(colcode2, "-")))^4.5, digits=0)
> colcode4 <- c()
> for (i in seq(1, length(colcode3),2)){
+   colcode4[i] <- paste0(colcode3[i], "-", colcode3[i+1])
+ }
> colcode5 <- colcode4[seq(1, length(colcode4),2)]
> ### Plot the Map
> plot(mapDen, border=FALSE, fill=TRUE, col=colcode)# ONCE YOUVE DEFINED PLOT VAR
> ###Add a Legend
> legend("topleft",
+        legend = colcode5,
+        title= "Residents per square kilometer",
+        fill=attr(colcode, "palette"),
+        cex= 0.56, bty="n", border=FALSE)
> plot(map0, border=adjustcolor("black", alpha.f=0.3), add=TRUE)
> plot(map1, border=adjustcolor("black", alpha.f=0.3), add=TRUE)
> plot(map2, border=adjustcolor("black", alpha.f=0.3), add=TRUE)
> plot(map3, border=adjustcolor("black", alpha.f=0.3), add=TRUE)
> labelpos <- data.frame(do.call(rbind, lapply(mapDen@polygons, function(x) x@labpt)))
```

```
> names(labelpos) <- c("x","y")
> mapDen@data <- data.frame(mapDen@data, labelpos)
> mapDen$labelpos <- labelpos
> mapDen$labelposx <- labelpos$x
> mapDen$labelposy <- labelpos$y
> zippy <- unique(sort(mapDen$POP_DENS))
> zippy <- as.character(zippy)
> mapDen$text <- 1
> for (i in zippy){mapDen$text[which(mapDen$POP_DENS == i)] <- i }
> text(labelpos$x, labelpos$y, label=round(mapDen$text, digits=1),
+      cex=0.1, col=adjustcolor("black", alpha.f=0.4))
> zippy2 <- unique(sort(mapDen$COMMUNE))
> zippy2 <- as.character(zippy2)
> mapDen$COMMUNE <- as.character(mapDen$COMMUNE)
> mapDen$text2 <- 1
> for (i in zippy2){mapDen$text2[which(mapDen$COMMUNE == i)] <- i }
> text(labelpos$x, labelpos$y, label=mapDen$text2, ,
+      cex=0.5, col=adjustcolor("black", alpha.f=0.4))
> ########UN POP
> unPop <- read.csv("E:/workingdirectory/haiti/meeting2014-04-11/unPopulation2012.csv", skip=16)
> unPop <- unPop[which(unPop$Major.area..region..country.or.area.. == "Haiti" &
+                        unPop$Reference.date..as.of.1.July. == 2010),]
> unPop <- unPop[colnames(unPop[which(grepl("X",colnames(unPop)))])]
> row.names(unPop) <-NULL
> unPop <- as.data.frame(t(unPop))
> colnames(unPop) <- "number"
> unPop$age <- row.names(unPop)
> row.names(unPop) <- NULL
> unPop <- unPop[which(unPop$age != "X80."),]
> mybp <- barplot(as.numeric(gsub(" ", "", unPop$number)),
+                 names.arg=gsub("[.]", "-", gsub("X", "", unPop$age)),
+                 cex.names=0.6,
+                 las=3,
+                 xlab="Population (millions)", ylim=c(0, 1500))
> text(x=mybp[,1], y=as.numeric(gsub(" ", "", unPop$number))+50,
+      label = paste0(round(as.numeric(gsub(" ", "", unPop$number)) /
+        sum(as.numeric(gsub(" ", "", unPop$number)))*100, digits=2), "%"),
+      cex=0.55, col=adjustcolor("black", alpha.f=0.75))
> unPop$age2 <- as.numeric(gsub(" ", "", unPop$number))
> save.image("E:/workingdirectory/haiti/meeting2014-04-11/mapAndDensity.RData")
>
```