

DIAL - Malawi Health Post Allocation Optimization



Geographical overview- Malawi



Population Density



Health Post coverage



Cell Tower coverage



Cell phone usage



Population Density mapping



Long Term Population Movement



Short Term Population Movement



Geographical Over View of Malawi

Number of Regions

3

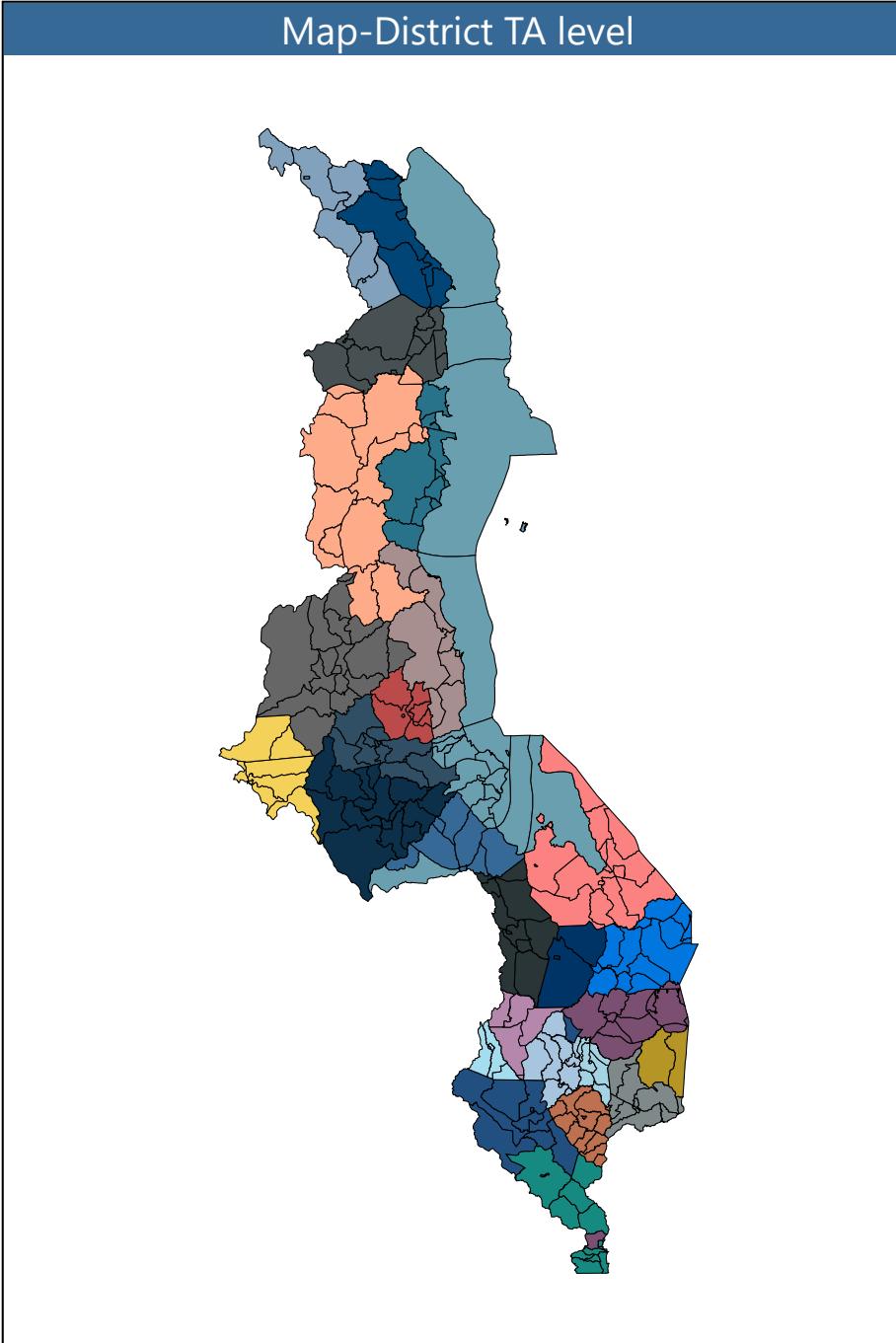
Number of Districts

28

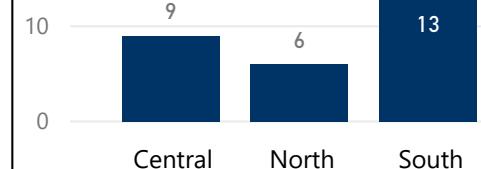
Number of TAs

255

District by number of TAs



Number of District by Region



List of TAs

TA
Balaka Town
Blantyre City
Chikwawa Boma
Chiradzulu Boma
Chitipa Boma
Dedza Boma
Dowa Boma
Karonga Town
Kasungu Boma
Kasungu National Park
Lake Chilwa
Lake Chiuta
Lake Malawi
Lake Malombe
Lengwe National Park
Lilongwe City
Liwonda National Park
Liwonde Town



Population - Malawi (World pop 2015)



Region

South

Central

North

Districts

All

District

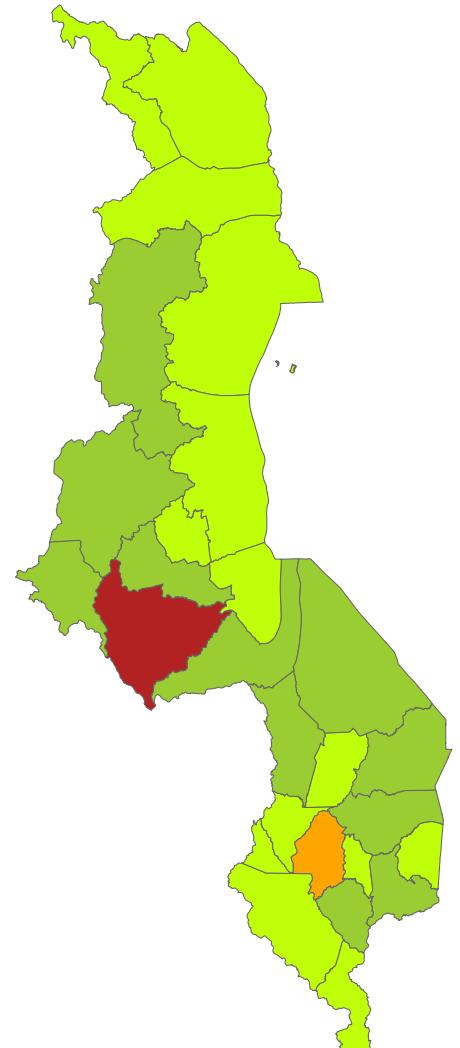
Balaka

District Population

740.16K

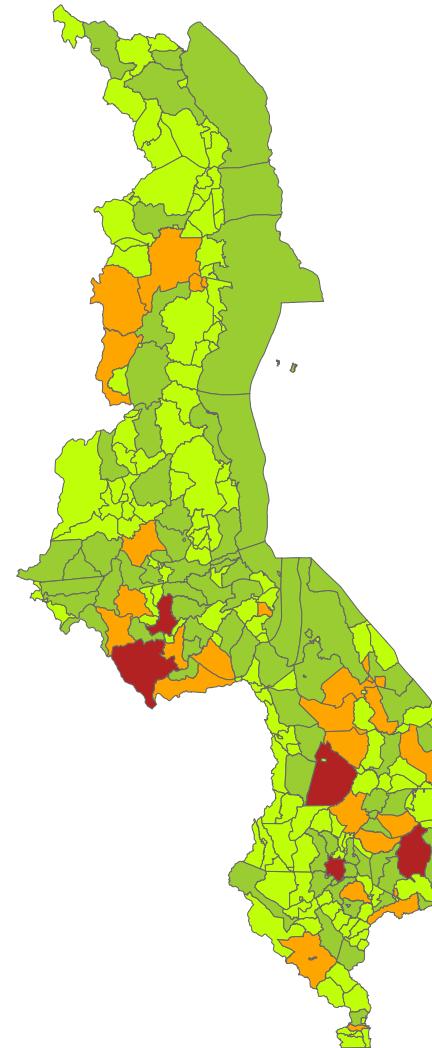
Population distribution Across District

- 1(<600k)
- 2(600k-1.2M)
- 3(1.2M-2M)
- 4(>2M)



Population Distribution across TA

- 1(<70k)
- 2(70k-140k)
- 3(140k-210k)
- 4(>210K)



TAs

All

TA

Balaka Town

TA population

67.86K



Health post coverage

Number of Health Post

864

Region

Central

North

South

Districts

All

TA

All

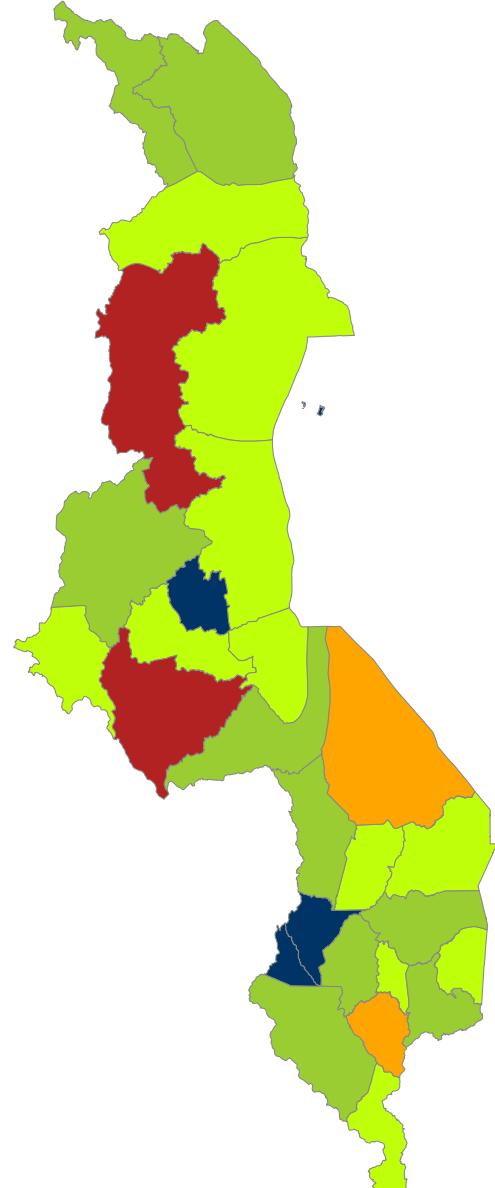
Health post status

Functional

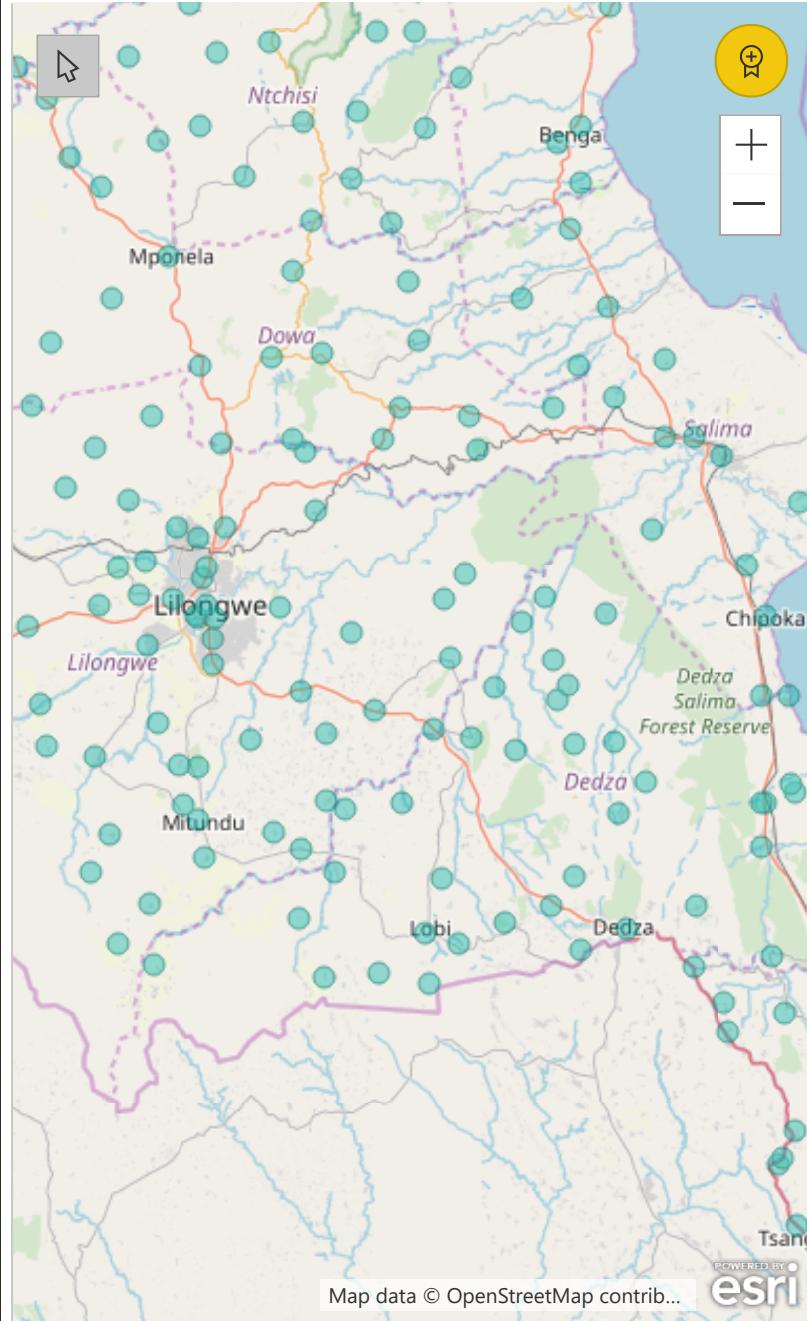
Non Functional

Number of Health post by District

- 1(0-15)
- 2(15-30)
- 3(30-45)
- 4(45-60)
- 5(>60)



Healthpost location



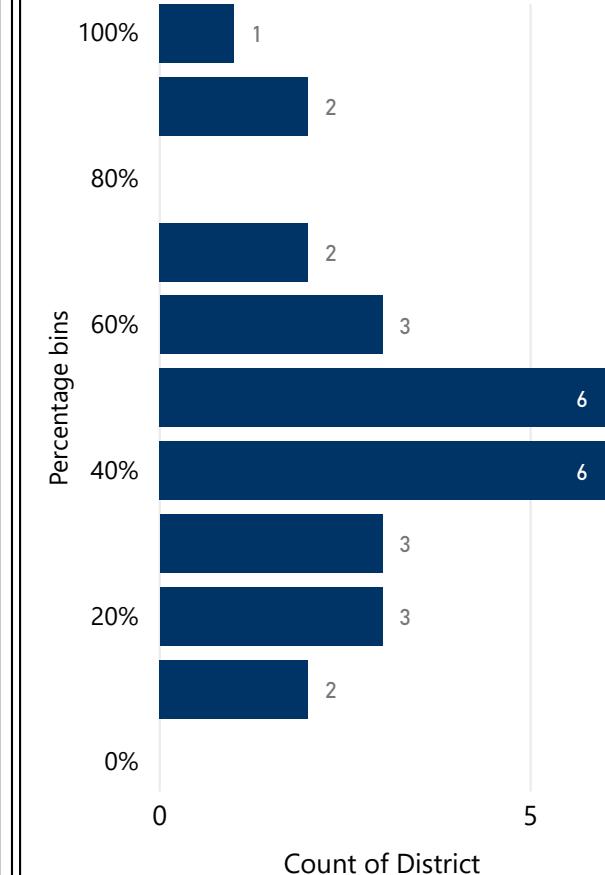
Area of the District

5,001.23

Health post Area covered

2,108.61

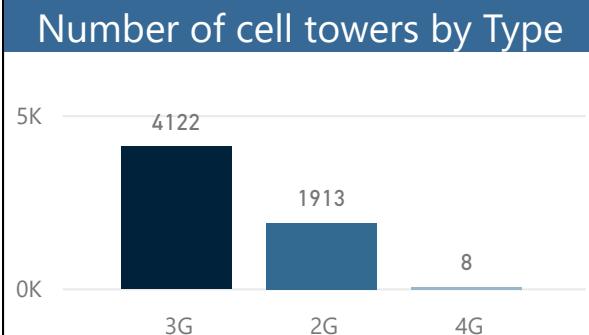
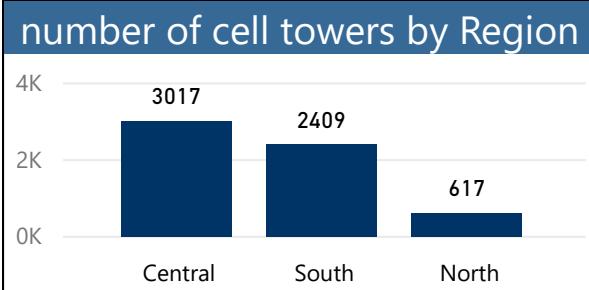
Number of District by Area covered (%)





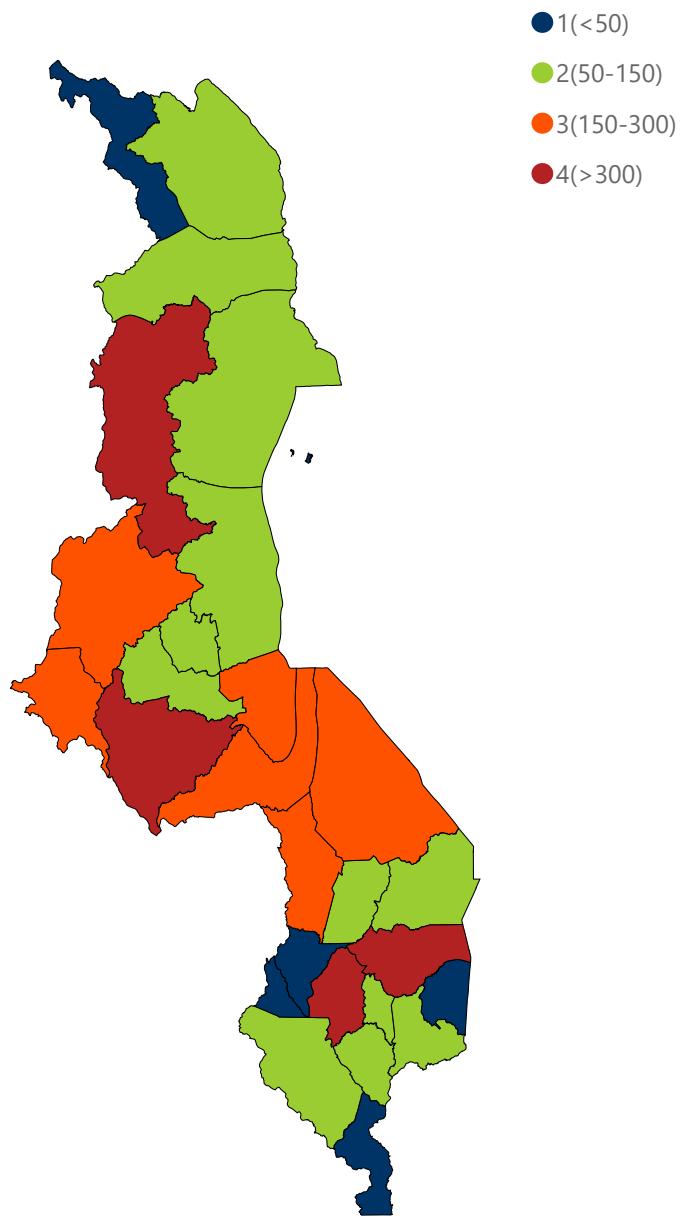
Cell tower coverage

Number of cell towers
6705



District
Balaka
Blantyre
Chikwawa
Chiradzulu
Chitipa
Dedza
Dowa

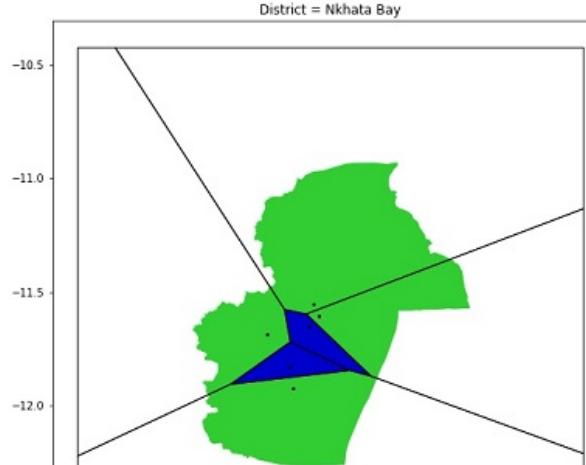
Distribution of Cell Towers across District



Distribution of cell towers by region



District Voronoi



Year

- 2016
- 2017
- 2018

Month

- January
- February
- March
- April
- May
- June

No of cell towers by TAs

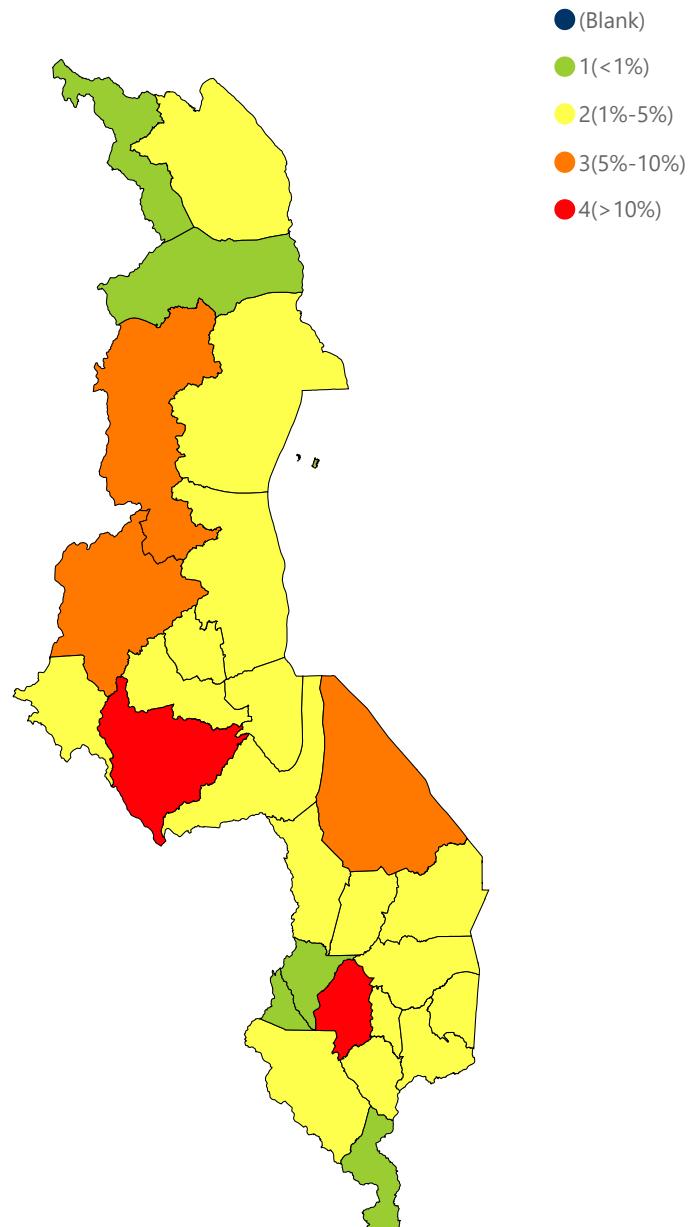
TA	Count of Towers
Lilongwe City	1622
Blantyre City	939
	619
Mzuzu City	241
Zomba City	132
Lake Malawi	99
TA Kapani	72
TA Malemia	68
Kasungu	60
Poma	



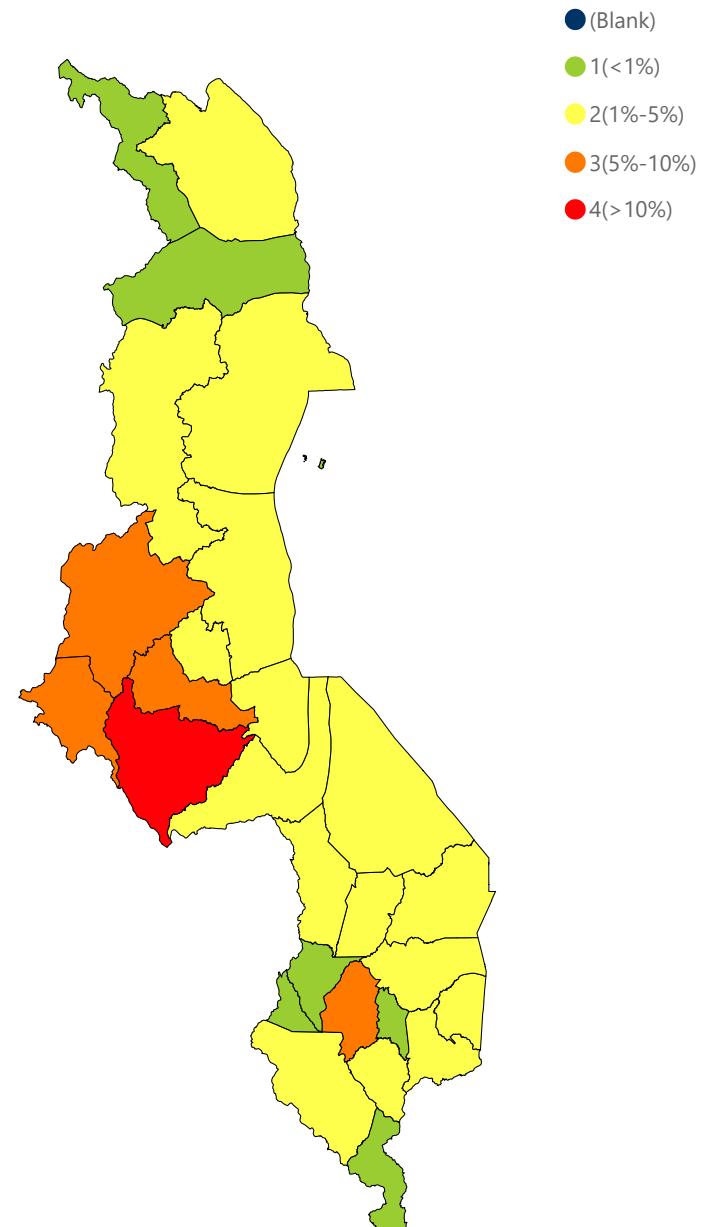
Cell Phone usage -Day



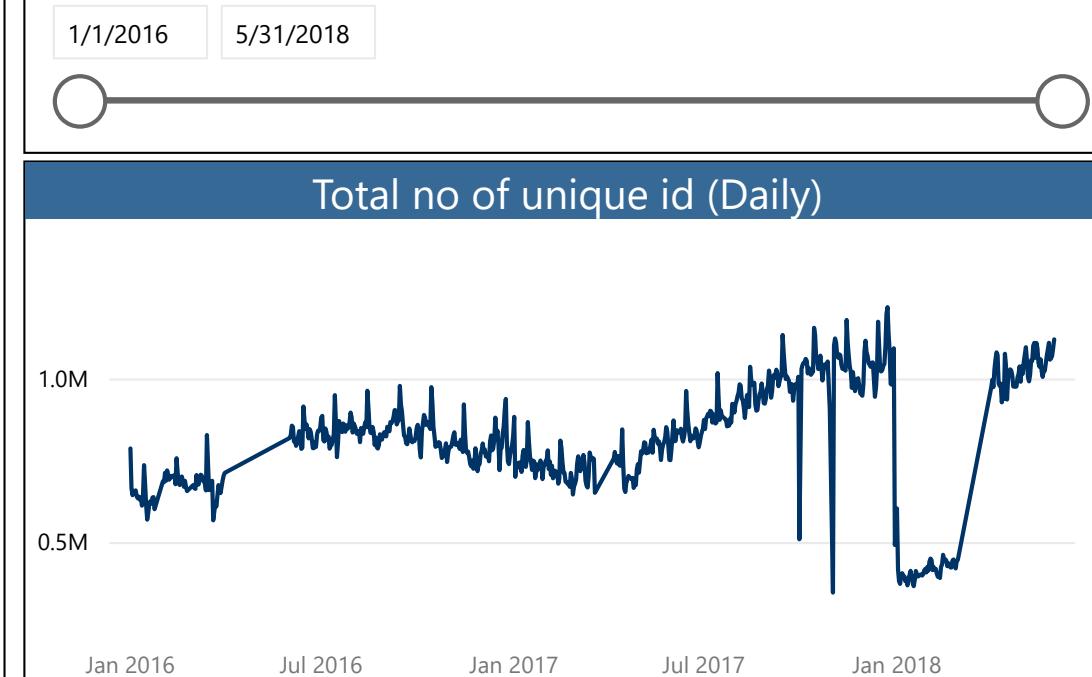
Total number of unique subscribers across...



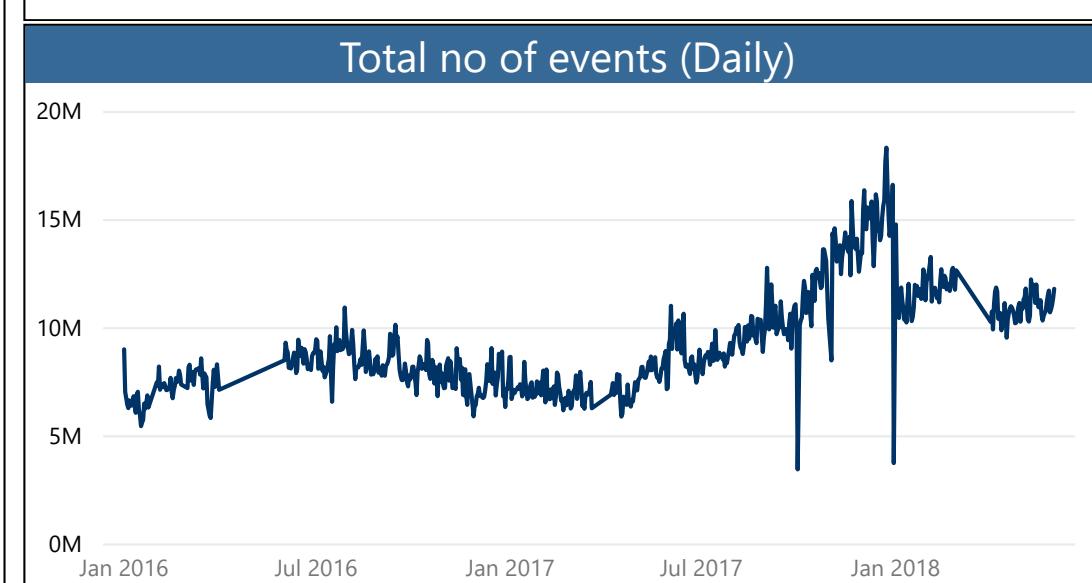
Total number of events across District



Date



Total no of unique id (Daily)



Total no of events (Daily)



Estimated Population Density (Maps)



Year

2016

2017

Region

North

Central

South

District

All

TA

Balaka Town

Estimates

437.83

Day

289.90

Night

301.34

Non Raining

275.72

Raining

290.51

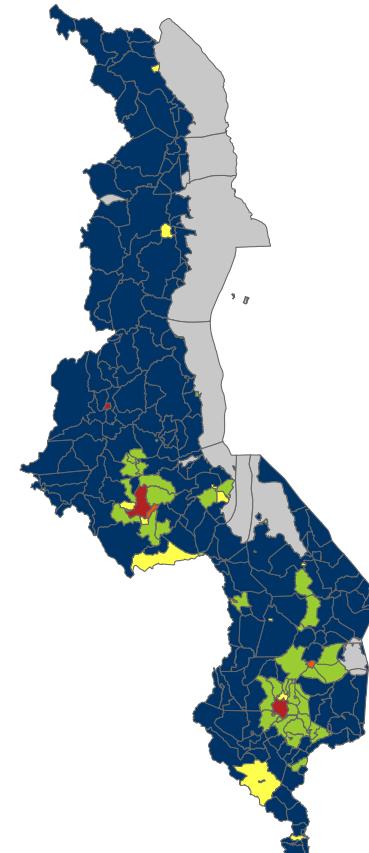
Weekday

287.06

Weekend

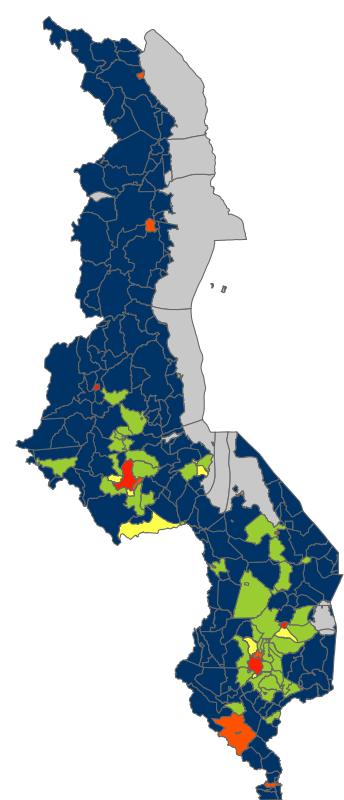
Population Density -Day

- 1(0-500)
- 2(500-1000)
- 3(1000-20...
- 4(2000-35...
- 5(> 3500)



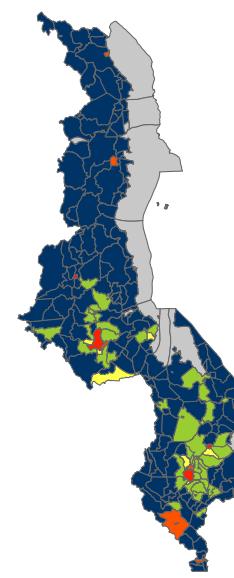
Population Density -Night

- 1(0-300)
- 2(300-600)
- 3(600-10...
- 4(1000-1...
- 5(> 1500)



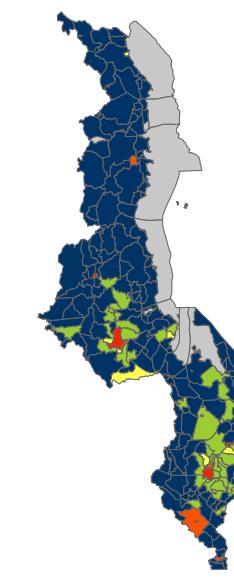
Population Density -Weekday

- 1(0-300)
- 2(300-600)
- 3(600-1000)
- 4(1000-1500)
- 5(> 1500)



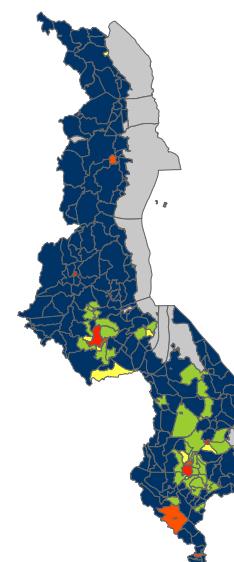
Population Density -Weekend

- 1(0-300)
- 2(300-600)
- 3(600-1000)
- 4(1000-150...
- 5(> 1500)



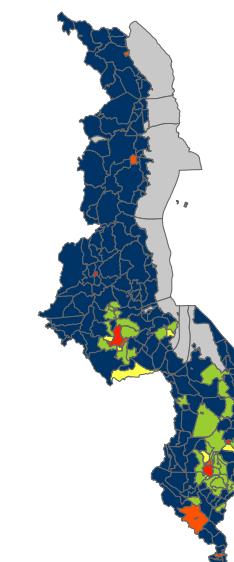
Population Density -Rainy

- rainy bin
- 1(<300)
- 2(300-600)
- 3(600-1000)
- 4(1000-150...
- 5(> 1500)



Population Density -Non Rainy

- non rainy bin
- 1(0-3000)
- 2(300-600)
- 3(600-1000)
- 4(1000-150...
- 5(> 1500)





Estimated Population Density



Year

2016

2017

Region

North

Central

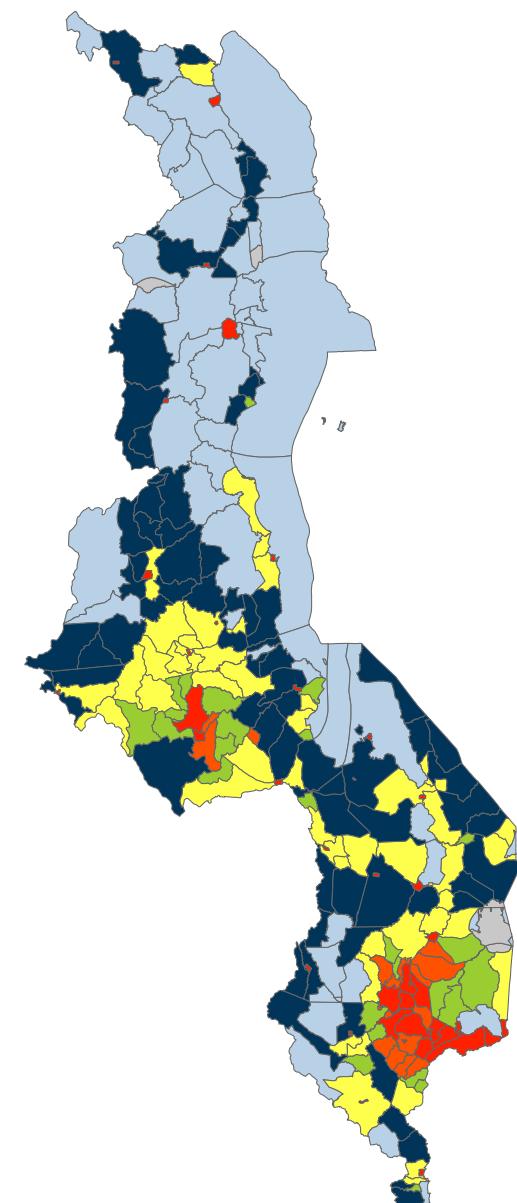
South

District

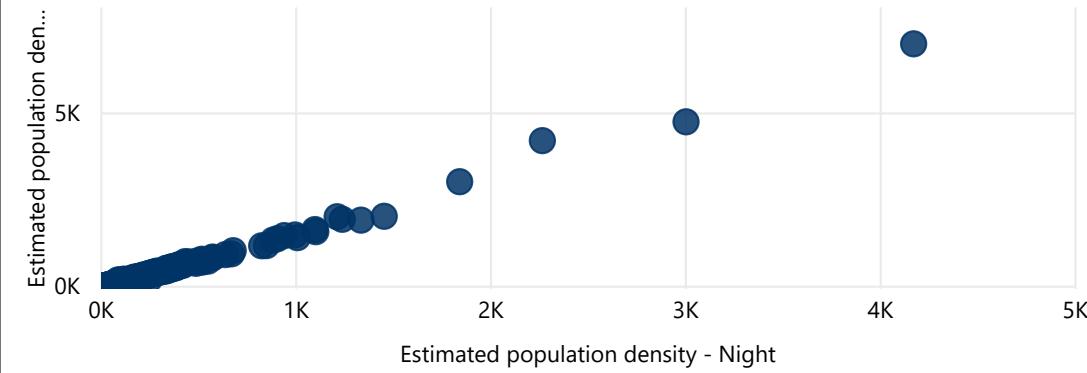
All ▼

Population Density Actual(World pop)

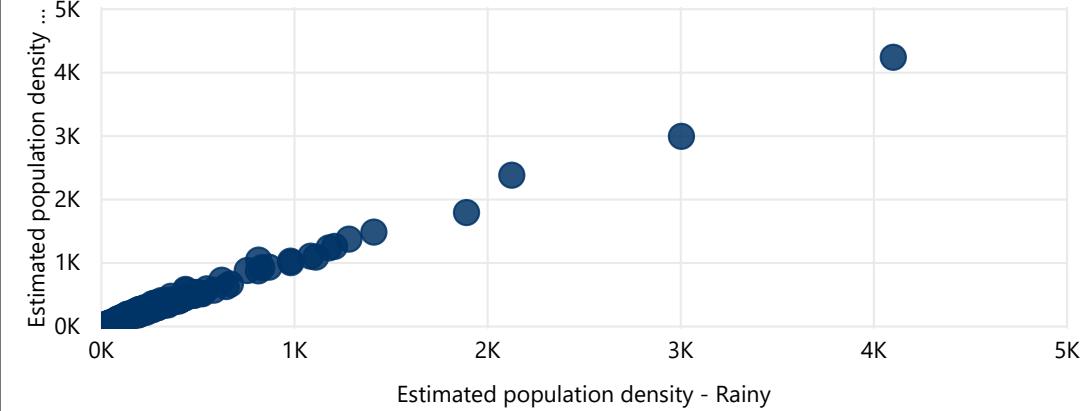
- 1(<100)
- 2(100-200)
- 3(200-300)
- 4(300-400)
- 5(400-500)
- 6(>500)



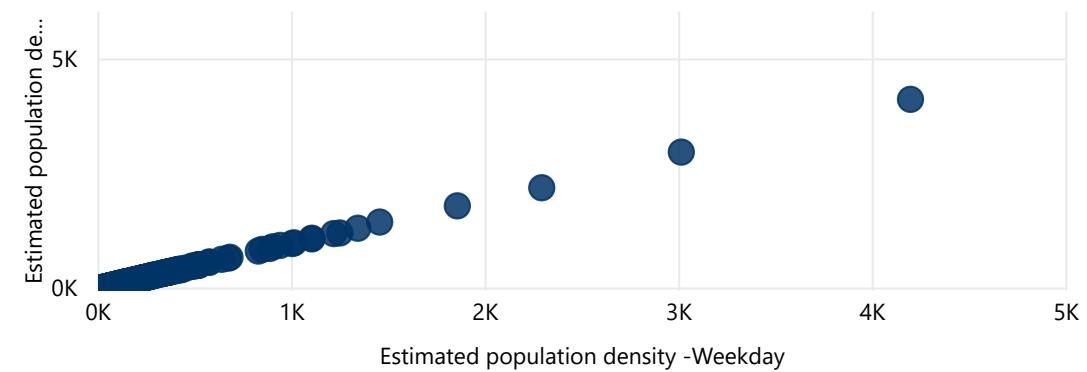
Day VS Night estimates



Rainy Vs Non Rainy estimates



Weekday Vs Weekend Estimates



TA

- Balaka Town
- Blantyre City
- Chikwawa Boma
- Chiradzulu Boma
- Chitipa Boma
- Dedza Boma
- Dowa Boma
- Karonga Town
- Kasungu Boma
- Kasungu National Park
- Lake Chiuta
- Lake Malawi
- Lake Malombe
- Lengwe National Park
- Lilongwe City
- Liwonda National Park
- Liwonde Town
- Luchenza Town
- Majete Game Reserve - Chikwawa
- Majete Game Reserve - Mwanza
- Majete Game Reserve - Neno
- Mangochi Town
- Mchinji Boma

Long term population movement



Region

- (Blank)
- Central
- North

Date

1/16/2016 5/16/2018

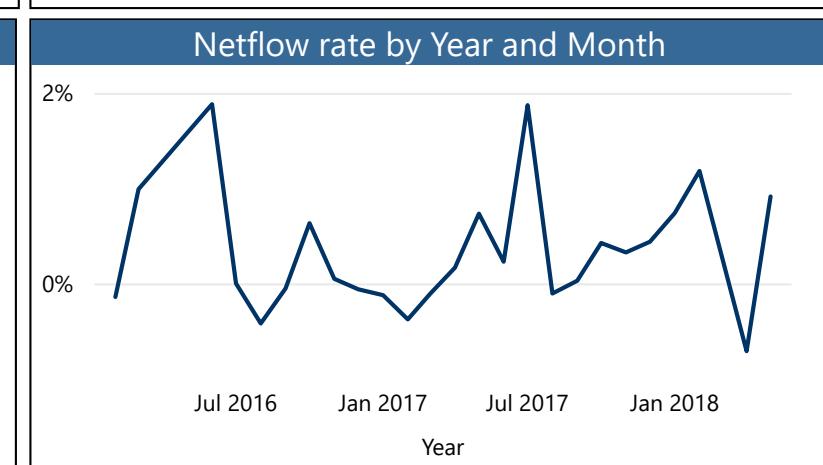
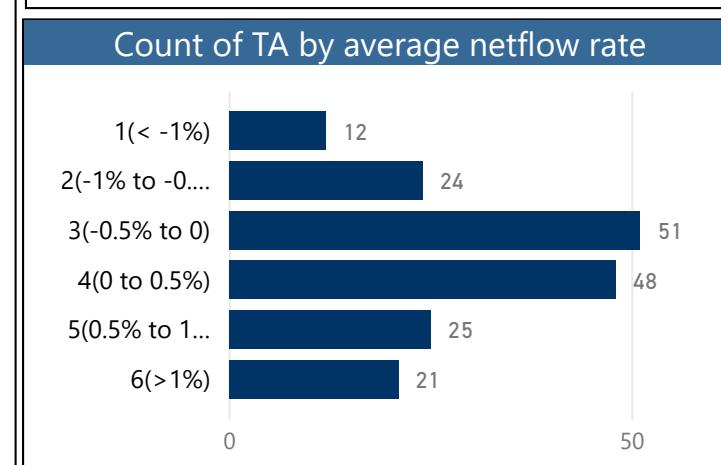
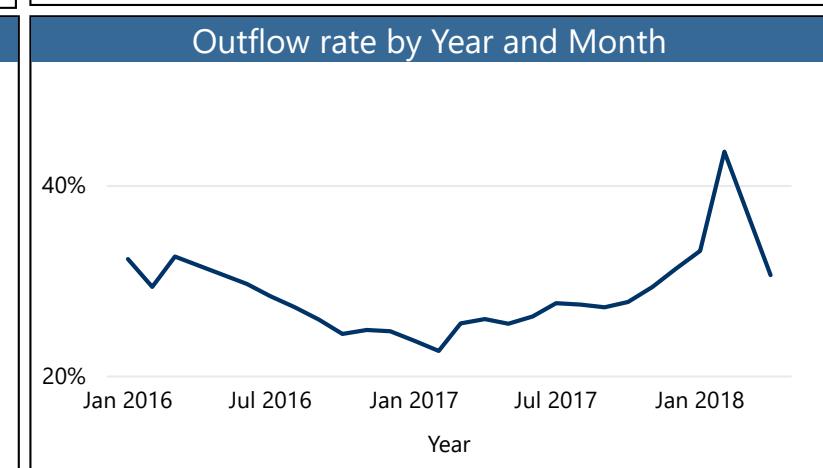
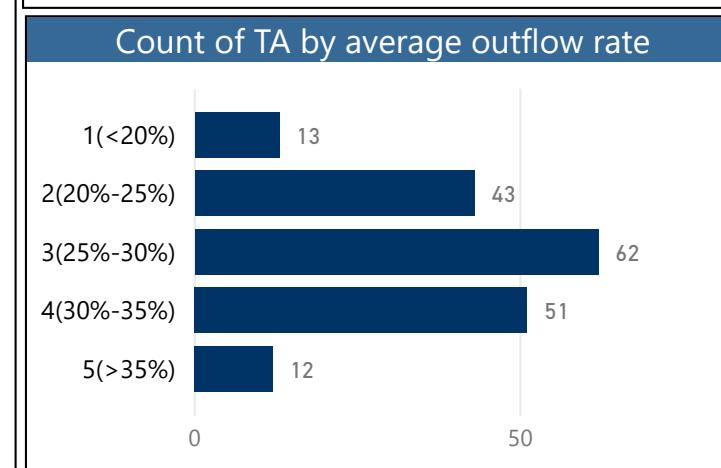
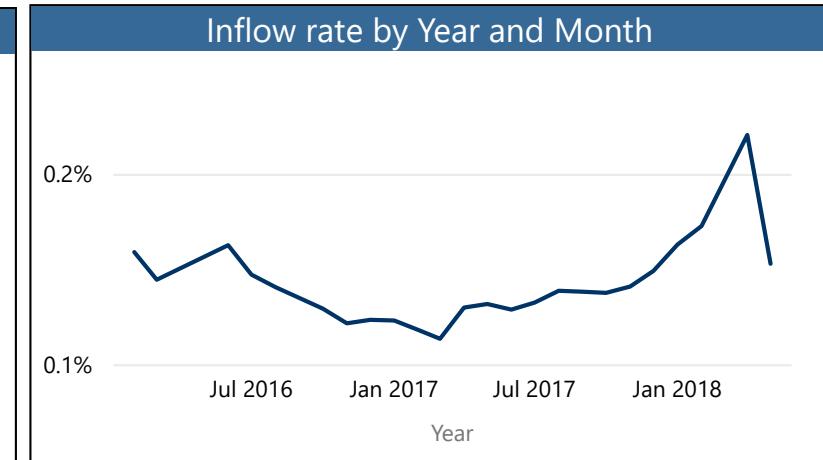
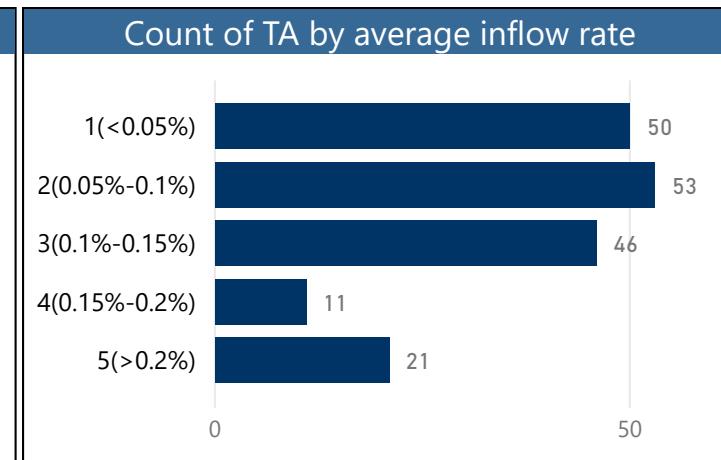
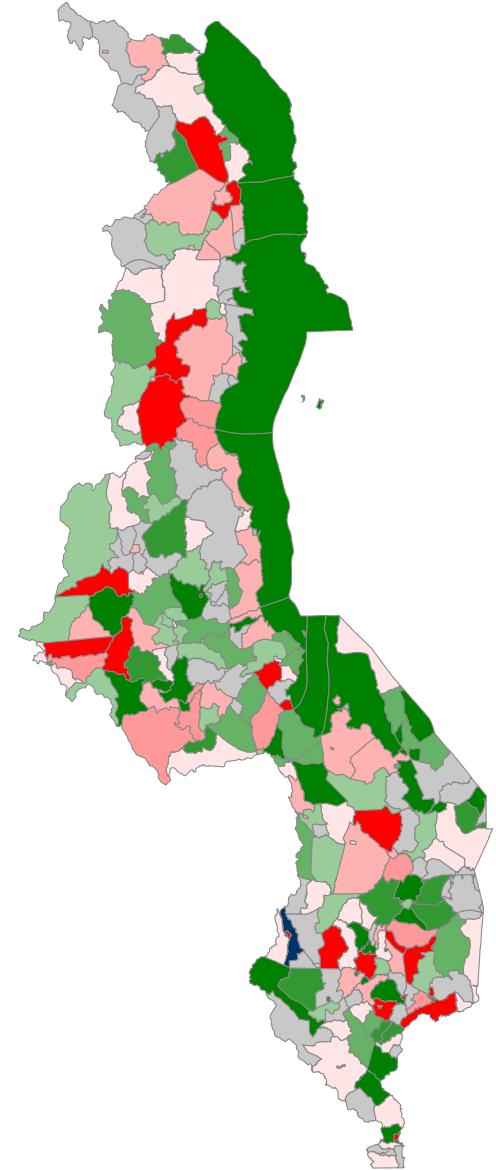
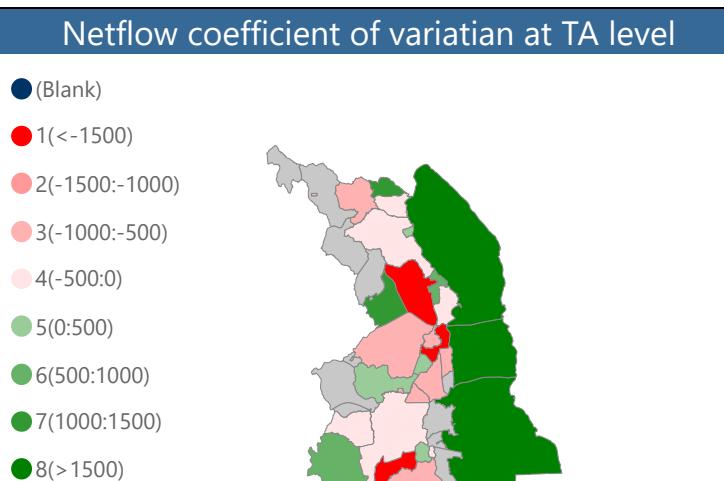
District

- (Blank)
- Balaka
- Blantyre
- Chikwawa
- Chiradzulu

TA

Balaka Town
Blantyre City
Chikwawa Boma
Chiradzulu Boma
Chitipa Boma
Dedza Boma
Karonga Town
Kasunqu Boma

< >





S

Short term Population movement



District

Balaka
Blantyre
Chikwawa
Chiradzulu
Chitipa
Dedza
Dowa
Karonga
Kasungu
Ilionawe

TA

Blantyre City
TA Chigaru
TA Kapani
TA Kuntaja
TA Kunthembwe
TA Machinjili
TA Somba

Location with maximum Number of people

Duration type

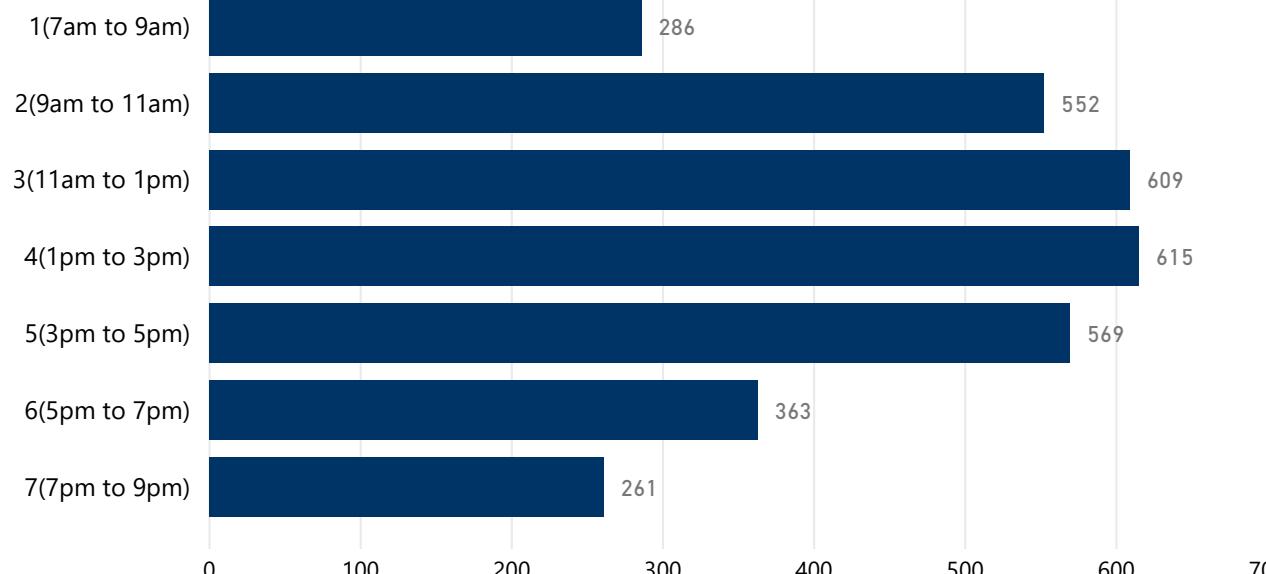
Weekday Non rainy
Weekend Non rainy
Weekday Rainy
Weekend rainy

Date

05/07/2018	05/10/2018
05/08/2018	05/11/2018
05/09/2018	

Number of people at each time slot

GVH ● n.a. (2465)



Address

DEVELOPMENT HOUSE, Henderson Street, Blantyre, Southern Region, Ma...

Dunduzu Road, Limbe, Blantyre, Southern Region, Malawi

Kenyatta Drive, Limbe, Blantyre, Southern Region, Malawi

