In [2]:
```
import pandas as pd
import altair as alt
import matplotlib.pyplot as plt
import numpy as np
```

In [5]:
```
df_2019 = pd.read_csv('data_2019_S2.csv')

df_2017 = pd.read_csv('data_2017_S2.csv')

df = pd.concat([df_2017,df_2019])
```

In [6]:
```
def data(a):
    data = df.loc[df['Kategori']==a]
    return data
```

In [7]:
```
def plot_1(data,x,y,width):
    selector = alt.selection_single(encodings=['x', 'color'])
    bars = alt.Chart(data).mark_bar(opacity=0.8).encode(
        x=alt.X('N:Q',stack='normalize', title=x),
        y=alt.Y('Keterangan:O',title=y),
        color=alt.condition(selector, 'Tahun:O', alt.value('lightgray'))
    ).add_selection(
        selector
    )

    text = alt.Chart(data).mark_text(dx=-18, dy=3, color='white').encode(
        x=alt.X('N:Q', stack='normalize'),
        y=alt.Y('Keterangan:O'),
        detail='Tahun:O',
        text=alt.Text('N:O'),
        tooltip = ['Tahun','Keterangan','N','Satuan']
    ).interactive()
    return (bars+text).properties(width=width)
```

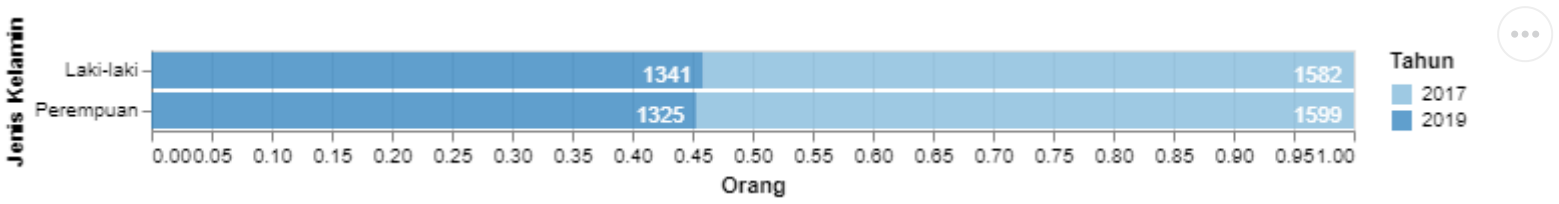
In [8]:
```
def plot_2(data,x,y,width):
    selector = alt.selection_single(encodings=['x', 'color'])
    bars = alt.Chart(data).mark_bar(opacity=0.8).encode(
        alt.X('Keterangan:O', title=y),
        alt.Y('N:Q',title=x),
        alt.Column('Tahun:O'),
        color=alt.condition(selector, 'Tahun:O', alt.value('lightgray')),
        tooltip = ['Tahun','Keterangan','N','Satuan']
    ).add_selection(selector
    ).interactive(
    ).resolve_scale(x='independent')

    return bars.properties(width=width
    )
```

Kependudukan Berdasarkan Jenis Kelamin

In [63]:
```
df_1 = data('Jenis Kelamin')
plot1 = plot_1(df_1,'Orang','Jenis Kelamin',600)
plot1
#plot1.save('jenis_kelamin.json')
```

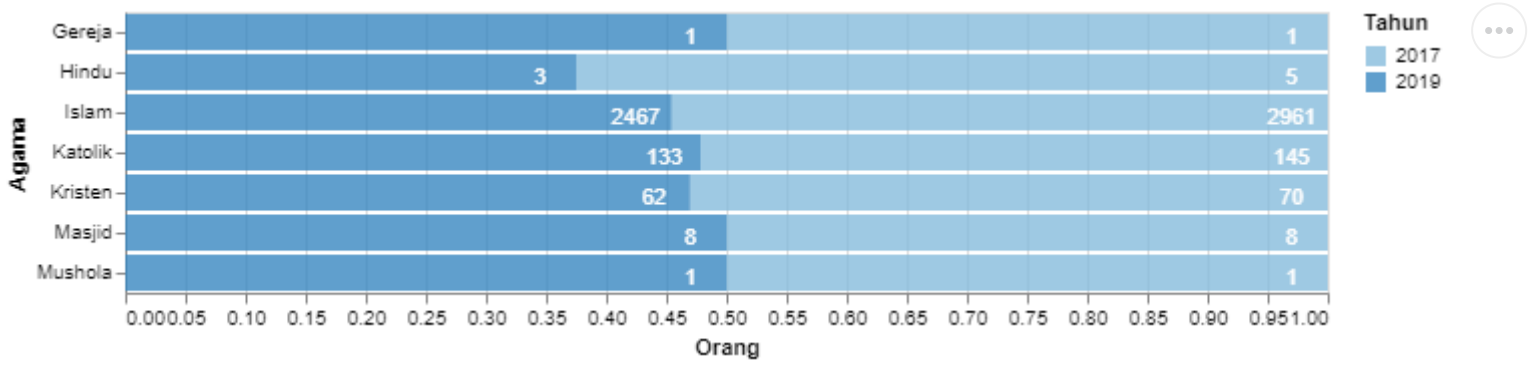
Out[63]:



Kependudukan Berdasarkan Agama

In [61]:
```
df_2 = data('Agama')
plot2 = plot_1(df_2,'Orang','Agama',600)
plot2
#plot2.save('agama.json')
```

Out[61]:



Kelompok Usia Pendidikan

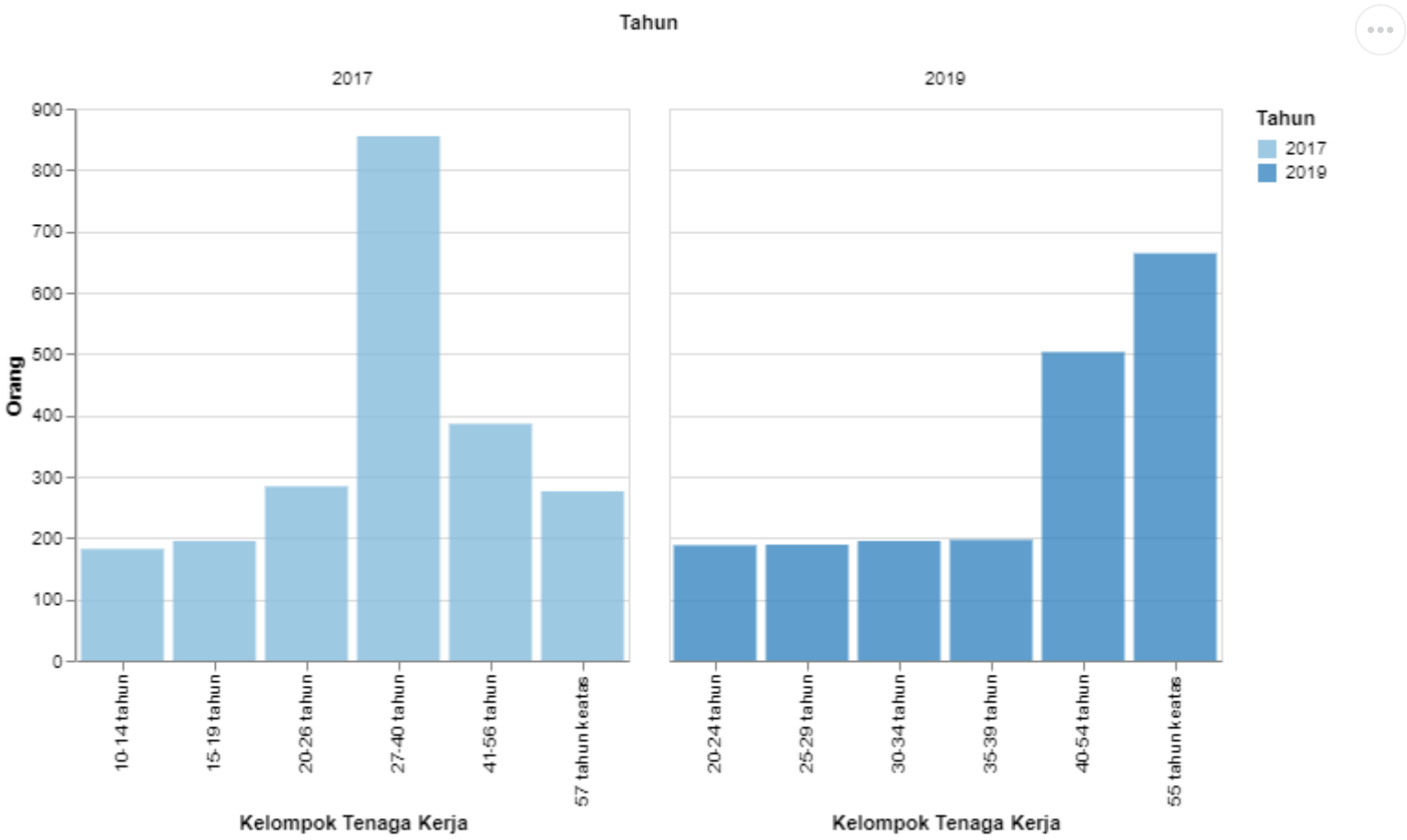
In [60]:
```
df_3 = data('Kelompok Pendidikan')
plot3 = plot_2(df_3,'Orang','Kelompok Pendidikan',300)
plot3
#plot3.save('usia_pendidikan.json')
```

Out[60]:

Kelompok Usia Tenaga Kerja

In [59]:
```
df_4 = data('Kelompok Tenaga Kerja')
plot4 = plot_2(df_4,'Orang','Kelompok Tenaga Kerja',300)
plot4
#plot4.save('usia_tenaga_kerja.json')
```

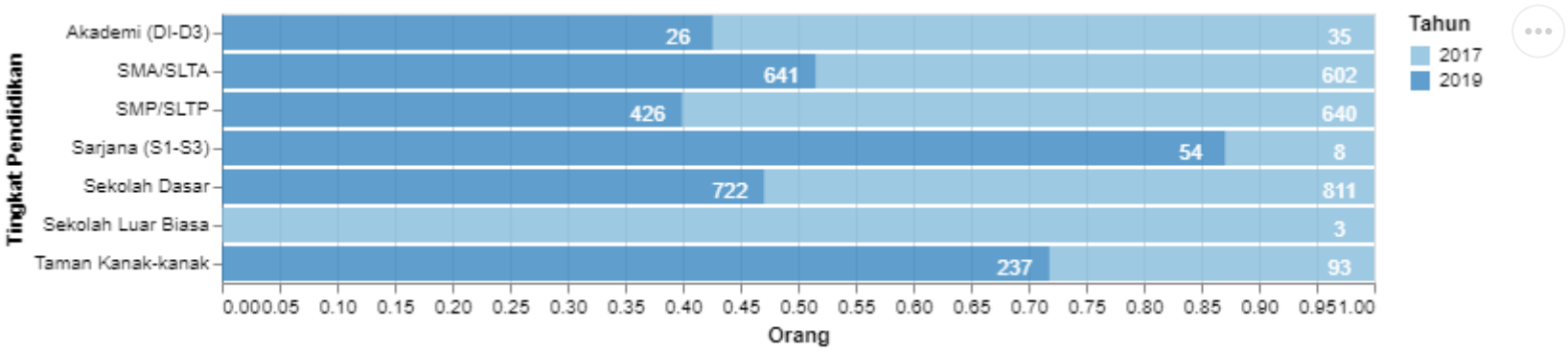
Out[59]:



Lulusan Pendidikan

In [58]:
```
df_5 = data('Penduduk menurut Tingkat Pendidikan')
plot5 = plot_1(df_5,'Orang','Tingkat Pendidikan',600)
plot5
#plot5.save('lulusan_pendidikan.json')
```

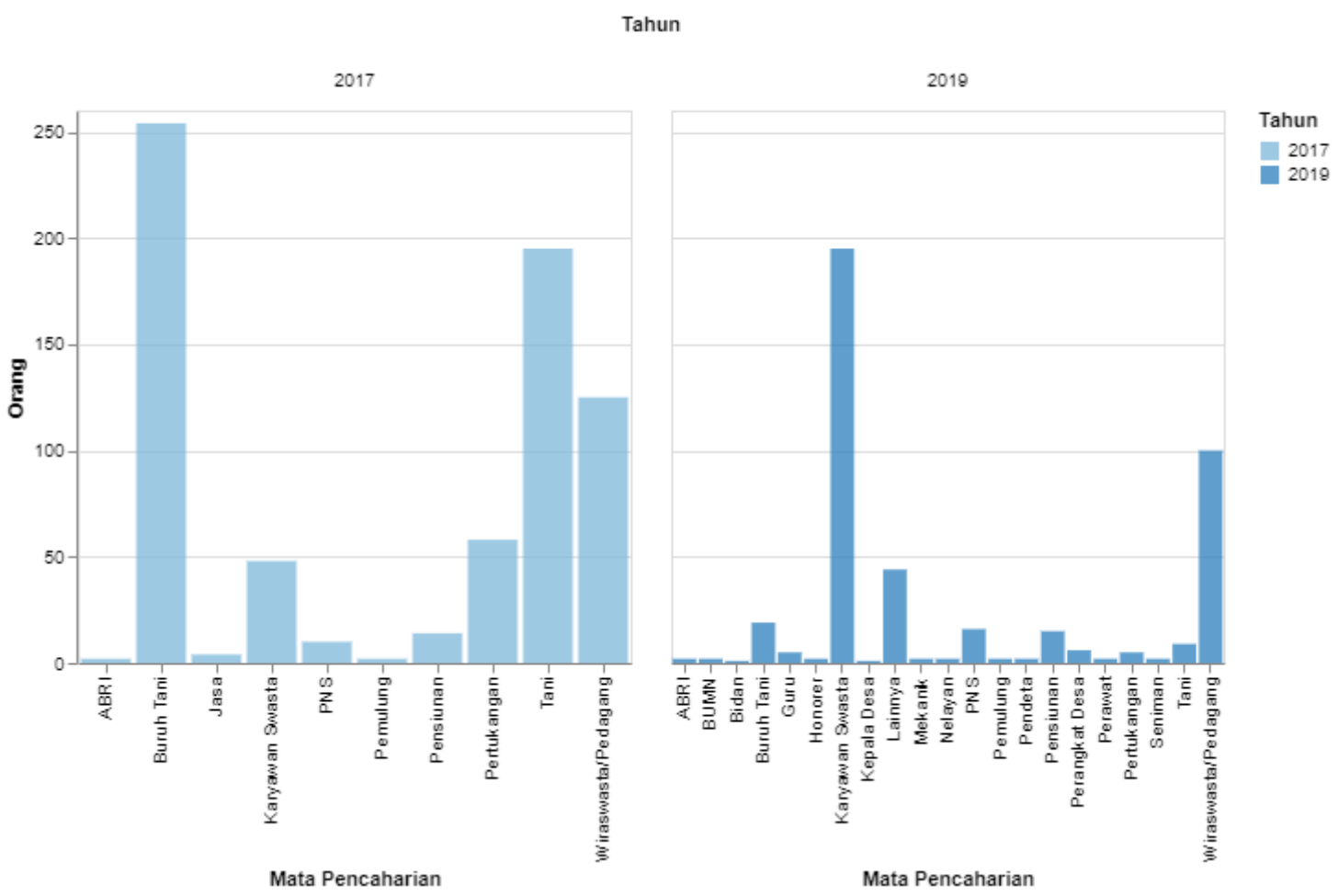
Out[58]:



Kependudukan Berdasarkan Mata Pencaharian

In [57]:
```
df_6 = data('Penduduk menurut Mata Pencaharian')
plot6 = plot_2(df_6,'Orang','Mata Pencaharian',300)
plot6
#plot6.save('mata_pencaharian.json')
```

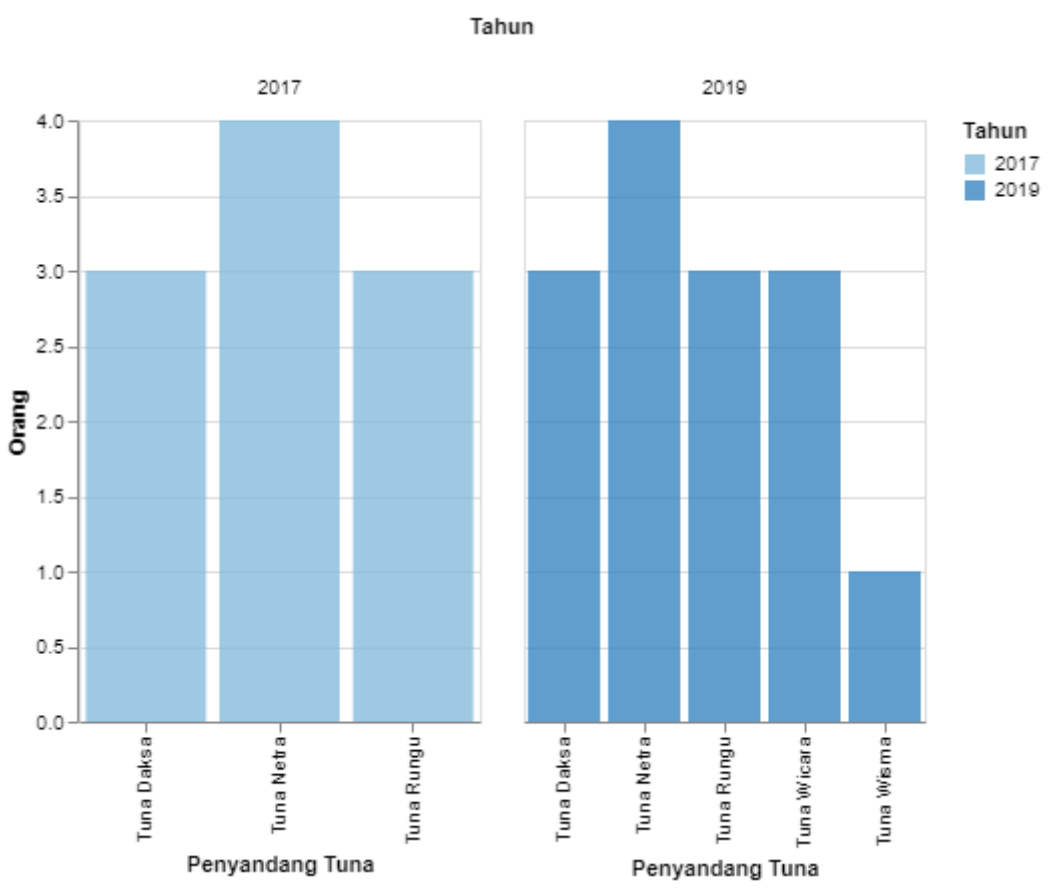
Out[57]:



Penyandang Tuna

In [55]:
```
df_7 = data('Penyandang Tuna')
plot7 = plot_2(df_7,'Orang','Penyandang Tuna',200)
plot7
#plot7.save('penyandang_tuna.json')
```

Out[55]:



Status Pernikahan

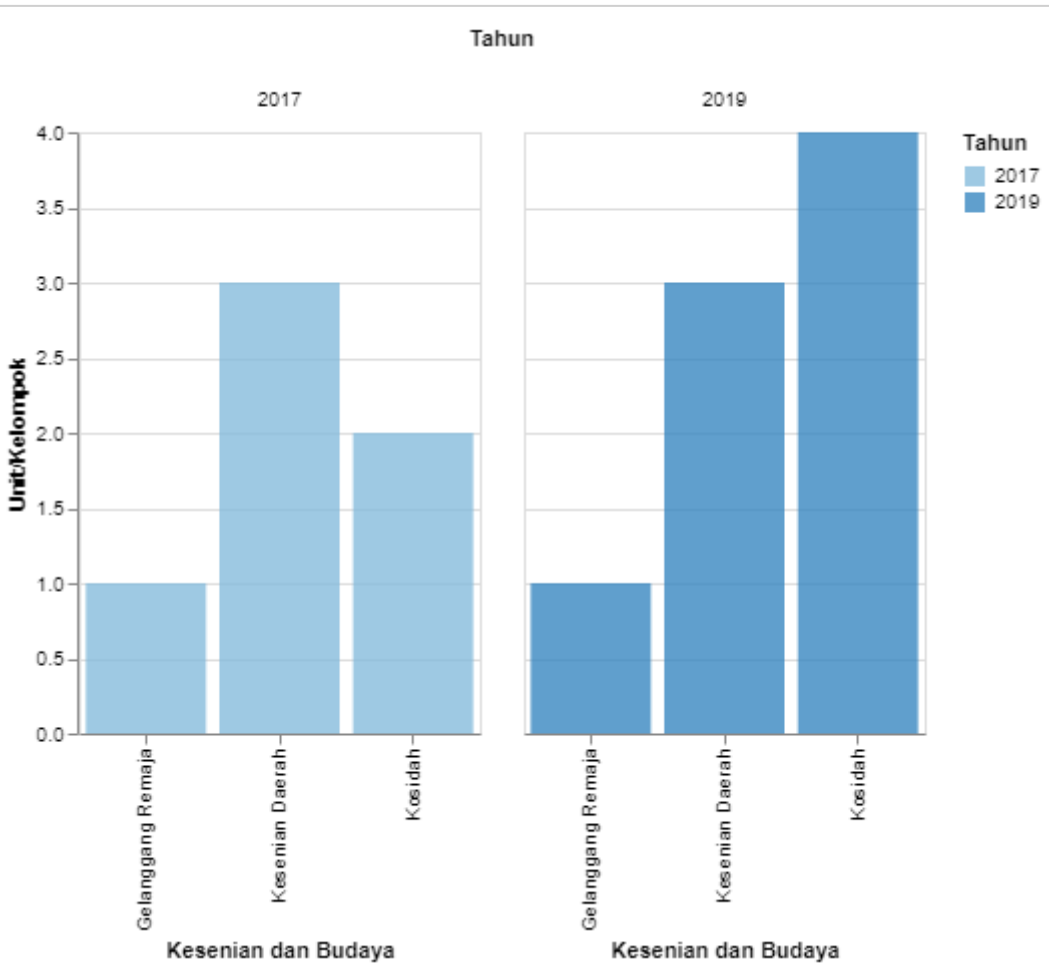
In [54]:
```
df_8 = data('Status Pernikahan')
plot8 = plot_2(df_8,'Orang','Status Pernikahan',200)
plot8
#plot8.save('status_pernikahan.json')
```

Out[54]:

Kesenian dan Budaya

In [51]:
```
df_9 = data('Kesenian/Kebudayaan')
plot9 = plot_2(df_9,'Unit/Kelompok', 'Kesenian dan Budaya',200)
plot9
#plot9.save('kesenian_kebudayaan.json')
```

Out[51]:

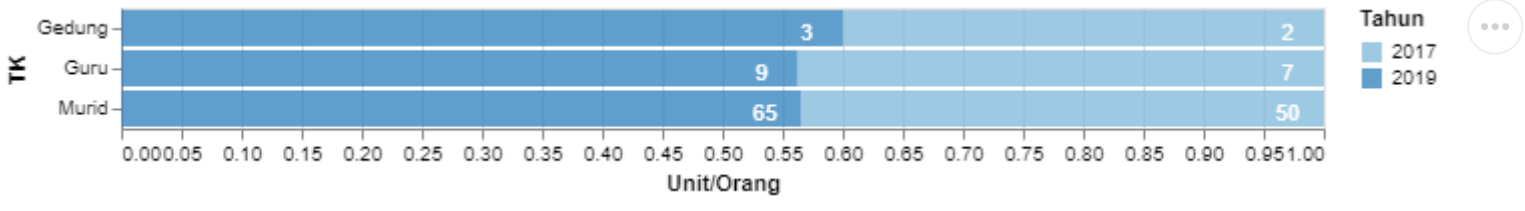


Pendidikan Umum

In [20]:
```
df_10 = df.loc[df['Data']=='Pendidikan Umum']
df_10_tk = df.loc[df['Kategori']=='TK']
df_10_sd = df.loc[df['Kategori']=='SD/MI']
```

In [52]:
```
plot10_1 = plot_1(df_10_tk,'Unit/Orang', 'TK',600)
plot10_1
#plot10_1.save('pendidikan_umum_tk.json')
```

Out[52]:



In [53]:
```
plot10_2 = plot_1(df_10_tk,'Unit/Orang', 'SD/MI',600)
plot10_2
#plot10_2.save('pendidikan_umum_sd.json')
```

Out[53]: