Análisis de activación de reglas de VRUs

Regla MovinPed escenario baja densidad

evaluar escenario y proporción de activación de forma genarl: Total de veces que en realidad se activó / Total activacion (si todos entran a la regla) - Dsagregado por VRU

```
fid=fopen('TxNodes-MovinPed-S11-V0-DEN-0.txt');
tline = fgetl(fid);
tlines = cell(0,1);
while ischar(tline)
    tlines{end+1,1} = tline;
    tline = fgetl(fid);
end
fclose(fid);

%for j=1:3:(length(tlines)-3)
j=1;
LD_Nodes = [str2num(tlines{j}) ; str2num(tlines{j+1}) ; str2num(tlines{j+2}) ; str2num(tlines{
```

```
ind2 = zeros(4,20);
ind3 = zeros(4,20);
ini_T = min(LD_Nodes(:,1));
for i=1:length(LD_Nodes)
    ini_n = LD_Nodes(i,1)-ini_T+1;
    fin_n = LD_Nodes(i,2)-ini_T;
    delta_t=fin_n-ini_n;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        if LD_Nodes(i,4)>= 1 %((delta_t*10)-1)
            ind3(LD_Nodes(i,3),ini_n:fin_n)= ind3(LD_Nodes(i,3),ini_n:fin_n)+1;
        end
    end
end

% Bikenode -> 1
% Bicyclenode -> 2
% Pednode -> 3
% Car -> 4

ind2
```

```
ind2 =
    27    28    28    28    28    28    28    29    30    30    30    30    30 ···
    35    36    36    36    36    36    38    38    38    37    37    38    38
   102   102   102   102   102   102   102   102   102   102   102   102   102
    44    44    43    43    44    43    43    43    43    43    41    42    42
```

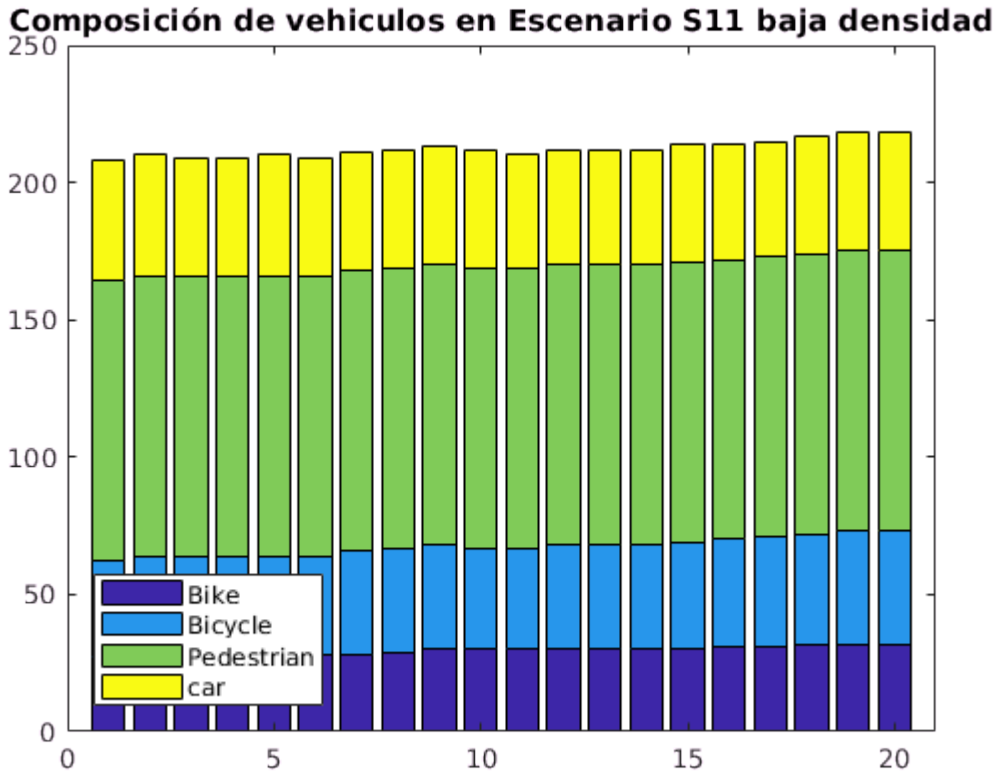
```
sum(ind2)
```

```
ans =
   208   210   209   209   210   209   211   212   213   212   210   212   212 ···
```

```
mean(sum(ind2))
```

```
ans = 212.2500
```

```
figure (1)
bar(ind2','stacked')
title('Composición de vehiculos en Escenario S11 baja densidad');
legend('Bike','Bicycle','Pedestrian','car','Location','SouthWest');
xlim([0 21])
```




```
ind3
```

```
ind3 =
    27    28    28    28    28    28    28    29    30    30    30    30    30 ···
    35    36    36    36    36    36    38    38    38    37    37    38    38
    29    29    29    29    29    29    29    29    29    29    29    29    29
     0     0     0     0     0     0     0     0     0     0     0     0     0
```

•

```
sum(ind3)
```

```
ans =
    91    93    93    93    93    93    95    96    97    96    96    97    97 ···
```

•

```
mean(sum(ind3))
```

```
ans = 96.4500
```

Proporción de nodos transmisores (en los 20 seg de simulación) / nodos en el escenario

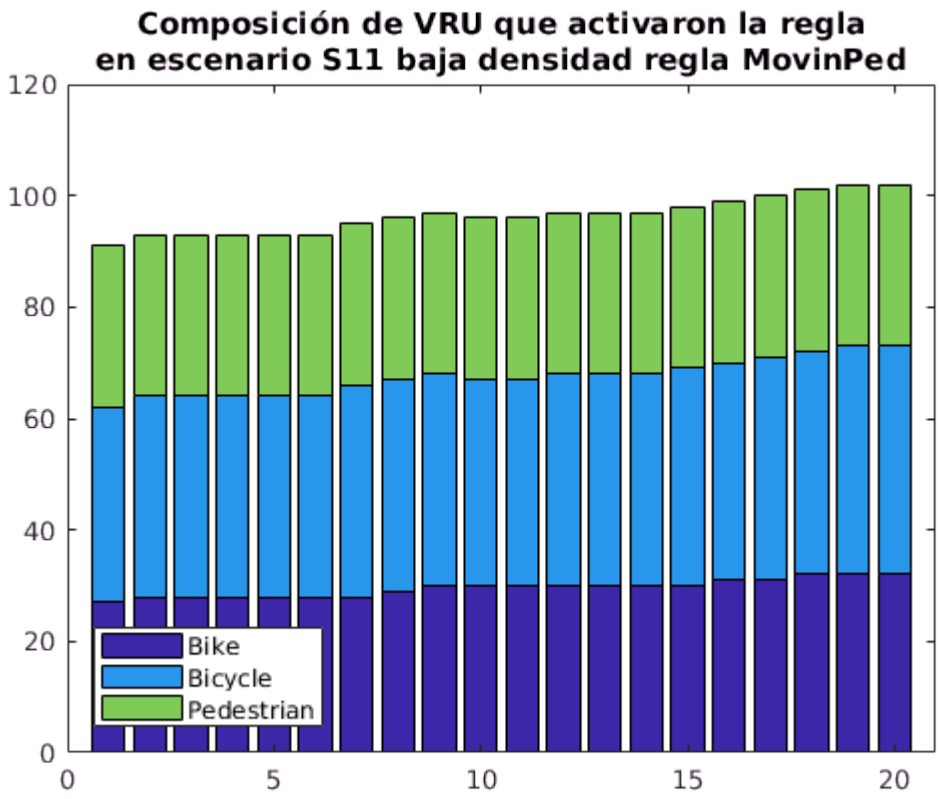
```
ind3./ind2
```

```
ans =
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000 ···
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000
    0.2843    0.2843    0.2843    0.2843    0.2843    0.2843    0.2843    0.2843
         0         0         0         0         0         0         0         0
```

```
mean((ind3./ind2),2)
```

```
ans =
    1.0000
    1.0000
    0.2843
         0
```

```
figure (2)
bar(ind3','stacked')
title({'Composición de VRU que activaron la regla','en escenario S11 baja densidad regla Movir
legend('Bike','Bicycle','Pedestrian','Location','SouthWest');
xlim([0 21])
```



Regla MovinPed escenario alta densidad

```
fid=fopen('TxNodes-MovinPed-S11-V0-DEN-1.txt');
tline = fgetl(fid);
tlines = cell(0,1);
while ischar(tline)
    tlines{end+1,1} = tline;
    tline = fgetl(fid);
end
fclose(fid);

%for j=1:3:(length(tlines)-3)
j=1;
LD_Nodes = [str2num(tlines{j}) ; str2num(tlines{j+1}) ; str2num(tlines{j+2}) ; str2num(tlines{
```

```
ind2 = zeros(4,20);
ind3 = zeros(4,20);
ini_T = min(LD_Nodes(:,1));
for i=1:length(LD_Nodes)
    ini_n = LD_Nodes(i,1)-ini_T+1;
    fin_n = LD_Nodes(i,2)-ini_T;
    delta_t=fin_n-ini_n;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        if LD_Nodes(i,4)>=((delta_t*10)-1)
            ind3(LD_Nodes(i,3),ini_n:fin_n)= ind3(LD_Nodes(i,3),ini_n:fin_n)+1;
        end
    end
end

% Bikenode -> 1
% Bicyclenode -> 2
% Pednode -> 3
% Car -> 4

ind2
```

```
ind2 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
   212   212   212   212   212   212   212   212   212   212   212   212   212
    78    78    77    76    76    76    76    75    75    75    74    74    73
```

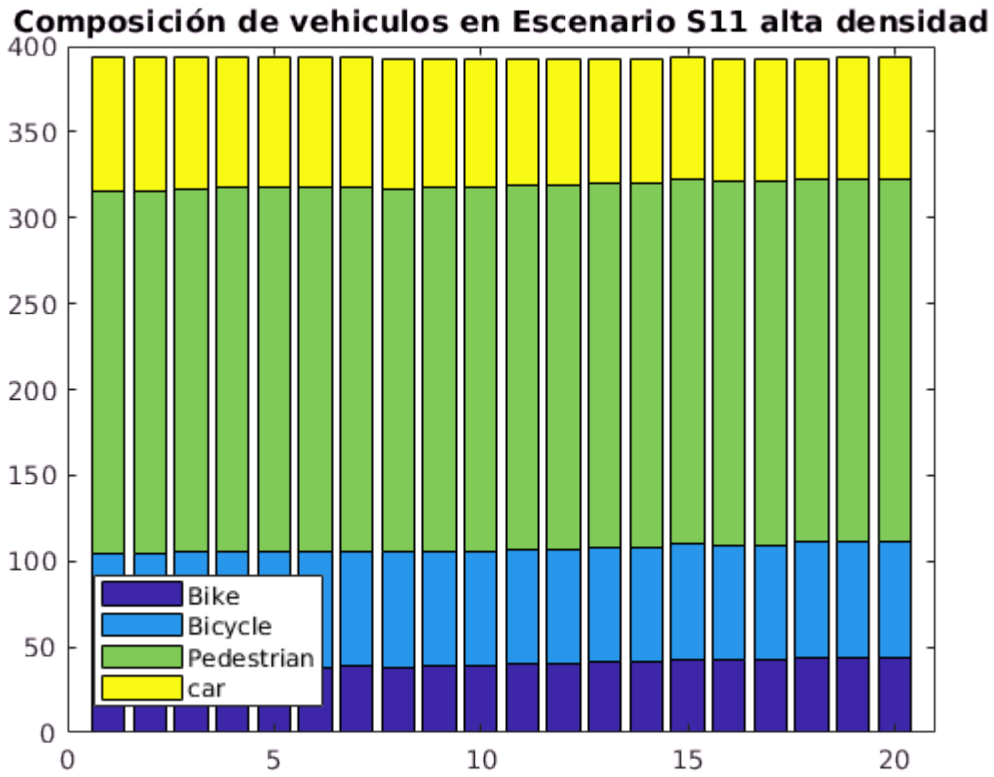
```
sum(ind2)
```

```
ans =
   394   394   394   394   394   394   394   392   393   393   393   393   393 ···
```

```
mean(sum(ind2))
```

```
ans = 393.4000
```

```
figure (3)
bar(ind2','stacked')
title('Composición de vehiculos en Escenario S11 alta densidad');
legend('Bike','Bicycle','Pedestrian','car','Location','SouthWest');
xlim([0 21])
```




```
ind3
```

```
ind3 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
     0     0     0     0     0     0     0     0     0     0     0     0     0
     0     0     0     0     0     0     0     0     0     0     0     0     0
```

•

```
sum(ind3)
```

```
ans =
   104   104   105   106   106   106   106   105   106   106   107   107   108 ···
```

•

```
mean(sum(ind3))
```

```
ans = 107.2500
```

Proporción de nodos transmisores (en los 20 seg de simulación) / nodos en el escenario

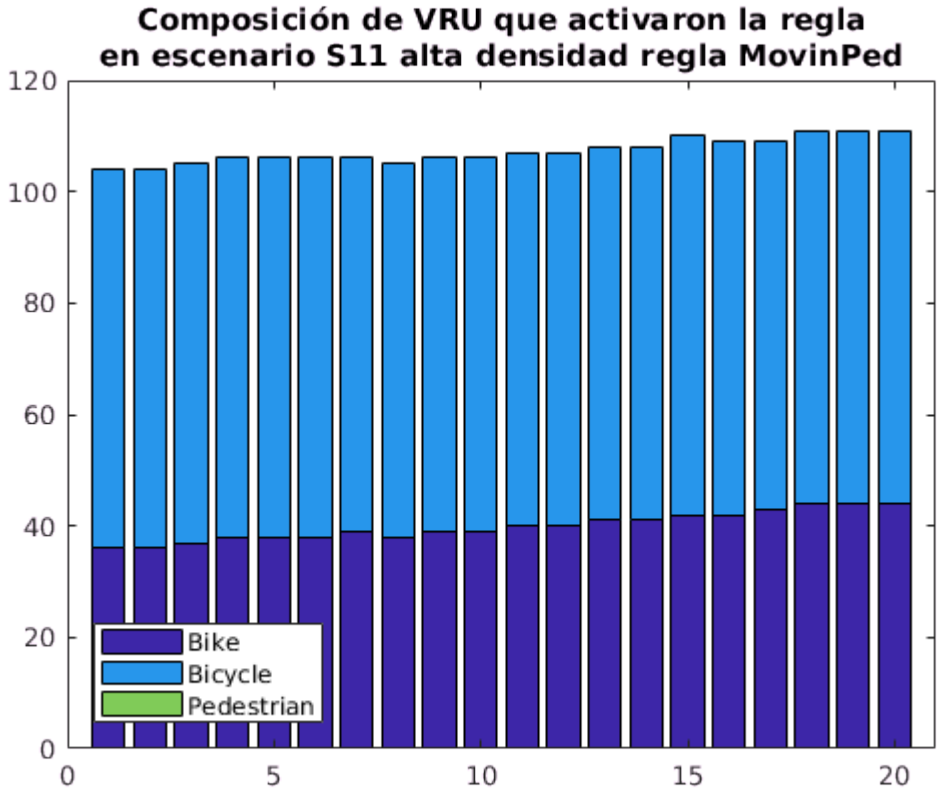
```
ind3./ind2
```

```
ans =
     1     1     1     1     1     1     1     1     1     1     1     1     1 ···
     1     1     1     1     1     1     1     1     1     1     1     1     1
     0     0     0     0     0     0     0     0     0     0     0     0     0
     0     0     0     0     0     0     0     0     0     0     0     0     0
```

```
mean((ind3./ind2),2)
```

```
ans =
     1
     1
     0
     0
```

```
figure (4)
bar(ind3','stacked')
title({'Composición de VRU que activaron la regla','en escenario S11 alta densidad regla Movir
legend('Bike','Bicycle','Pedestrian','Location','SouthWest');
xlim([0 21])
```



Regla OnStreet escenario baja densidad

```
fid=fopen('TxNodes-OnStreet-S11-DEN-0.txt');
tline = fgetl(fid);
tlines = cell(0,1);
while ischar(tline)
    tlines{end+1,1} = tline;
    tline = fgetl(fid);
end
fclose(fid);

%for j=1:3:(length(tlines)-3)
j=1;
LD_Nodes = [str2num(tlines{j}) ; str2num(tlines{j+1}) ; str2num(tlines{j+2}) ; str2num(tlines{
```

```
ind2 = zeros(4,20);
ind3 = zeros(4,20);
ini_T = min(LD_Nodes(:,1));
for i=1:length(LD_Nodes)
    ini_n = LD_Nodes(i,1)-ini_T+1;
    fin_n = LD_Nodes(i,2)-ini_T;
    delta_t=fin_n-ini_n;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        if LD_Nodes(i,4) >= floor((delta_t*10)*0)+9 % ((delta_t*10)-1)
            ind3(LD_Nodes(i,3),ini_n:fin_n)= ind3(LD_Nodes(i,3),ini_n:fin_n)+1;
        end
    end
end

% Bikenode -> 1
% Bicyclenode -> 2
% Pednode -> 3
% Car -> 4

ind2
```

```
ind2 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
   212   212   212   212   212   212   212   212   212   212   212   212   212
    78    78    77    76    76    76    76    75    75    75    74    74    73
```

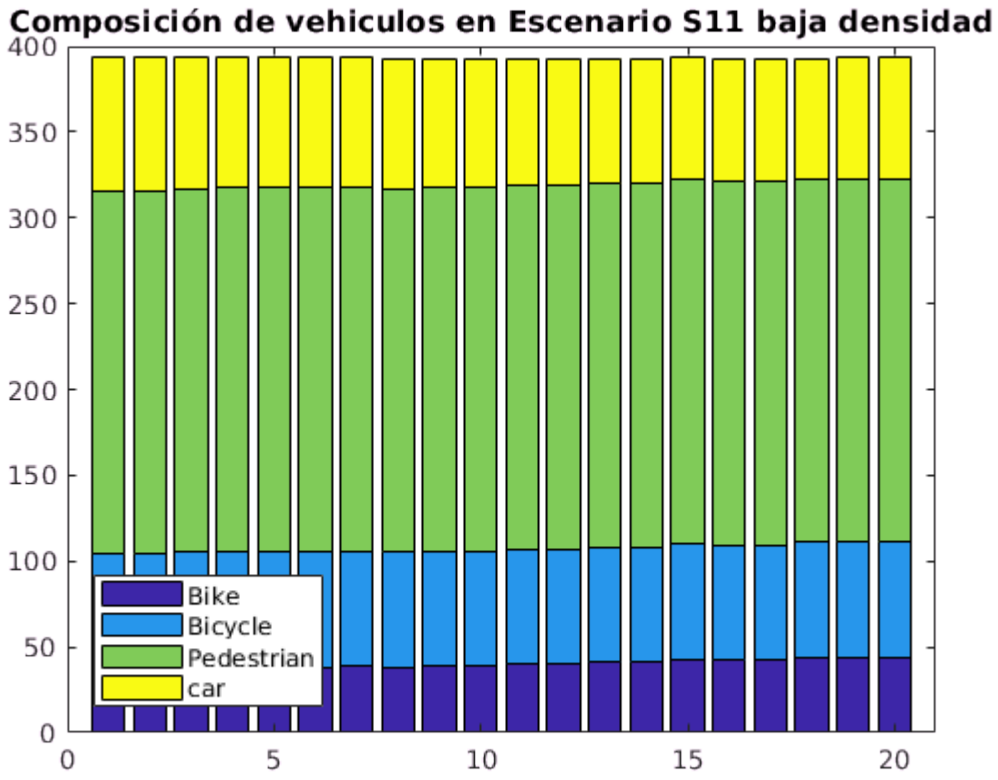
```
sum(ind2)
```

```
ans =
   394   394   394   394   394   394   394   392   393   393   393   393   393 ···
```

```
mean(sum(ind2))
```

```
ans = 393.4000
```

```
figure (5)
bar(ind2','stacked')
title('Composición de vehiculos en Escenario S11 baja densidad');
legend('Bike','Bicycle','Pedestrian','car','Location','SouthWest');
xlim([0 21])
```




```
ind3
```

```
ind3 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
    17    17    17    17    17    17    17    17    17    17    17    17    17
     0     0     0     0     0     0     0     0     0     0     0     0     0
```

```
sum(ind3)
```

```
ans =
   121   121   122   123   123   123   123   122   123   123   124   124   125 ···
```

•

```
mean(sum(ind3))
```

```
ans = 124.2500
```

Proporción de nodos transmisores (en los 20 seg de simulación) / nodos en el escenario

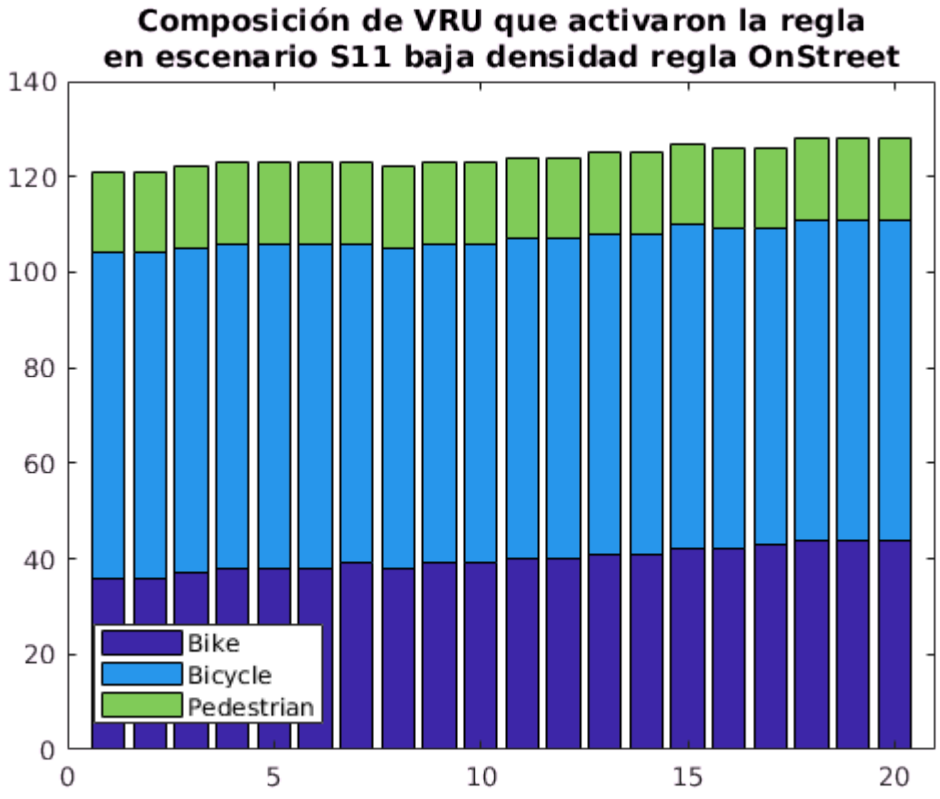
```
ind3./ind2
```

```
ans =
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000 ···
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000
    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802
         0         0         0         0         0         0         0         0
```

```
mean((ind3./ind2),2)
```

```
ans =
    1.0000
    1.0000
    0.0802
         0
```

```
figure (6)
bar(ind3','stacked')
title({'Composición de VRU que activaron la regla','en escenario S11 baja densidad regla OnStr
legend('Bike','Bicycle','Pedestrian','Location','SouthWest');
xlim([0 21])
```



Regla OnStreet escenario alta densidad

```
fid=fopen('TxNodes-OnStreet-S11-DEN-1.txt');
tline = fgetl(fid);
tlines = cell(0,1);
while ischar(tline)
    tlines{end+1,1} = tline;
    tline = fgetl(fid);
end
fclose(fid);

%for j=1:3:(length(tlines)-3)
j=1;
LD_Nodes = [str2num(tlines{j}) ; str2num(tlines{j+1}) ; str2num(tlines{j+2}) ; str2num(tlines{
```

```
ind2 = zeros(4,20);
ind3 = zeros(4,20);
ini_T = min(LD_Nodes(:,1));
for i=1:length(LD_Nodes)
    ini_n = LD_Nodes(i,1)-ini_T+1;
    fin_n = LD_Nodes(i,2)-ini_T;
    delta_t=fin_n-ini_n;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        if LD_Nodes(i,4) >= floor((delta_t*10)*0.1) % ((delta_t*10)-1)
            ind3(LD_Nodes(i,3),ini_n:fin_n)= ind3(LD_Nodes(i,3),ini_n:fin_n)+1;
        end
    end
end

% Bikenode -> 1
% Bicyclenode -> 2
% Pednode -> 3
% Car -> 4

ind2
```

```
ind2 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
   212   212   212   212   212   212   212   212   212   212   212   212   212
    78    78    77    76    76    76    76    75    75    75    74    74    73
```

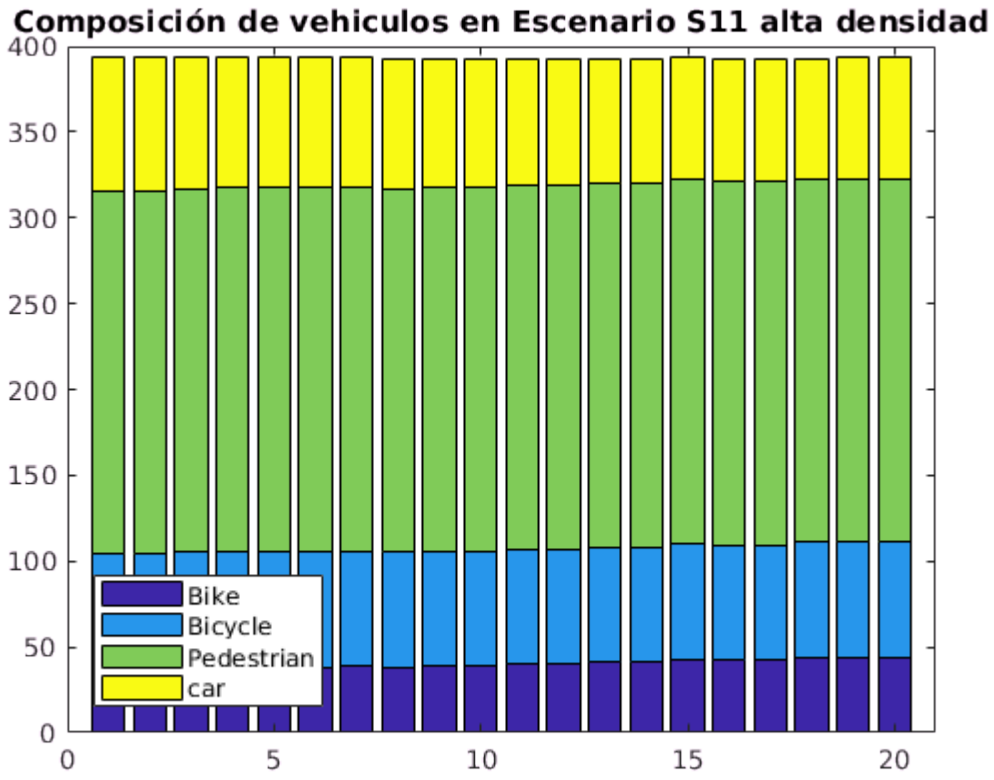
```
sum(ind2)
```

```
ans =
   394   394   394   394   394   394   394   392   393   393   393   393   393 ···
```

```
mean(sum(ind2))
```

```
ans = 393.4000
```

```
figure (7)
bar(ind2','stacked')
title('Composición de vehiculos en Escenario S11 alta densidad');
legend('Bike','Bicycle','Pedestrian','car','Location','SouthWest');
xlim([0 21])
```




```
ind3
```

```
ind3 =
    36    36    37    38    38    38    39    38    39    39    40    40    41 ···
    68    68    68    68    68    68    67    67    67    67    67    67    67
    17    17    17    17    17    17    17    17    17    17    17    17    17
     0     0     0     0     0     0     0     0     0     0     0     0     0
```

•

```
sum(ind3)
```

```
ans =
   121   121   122   123   123   123   123   122   123   123   124   124   125 ···
```

```
mean(sum(ind3))
```

```
ans = 124.2500
```

Proporción de nodos transmisores (en los 20 seg de simulación) / nodos en el escenario

```
ind3./ind2
```

```
ans =
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000 ···
    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000
    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802    0.0802
         0         0         0         0         0         0         0         0
```

•

```
mean((ind3./ind2),2)
```

```
ans =
    1.0000
    1.0000
    0.0802
         0
```

•

```
figure (8)
bar(ind3','stacked')
title({'Composición de VRU que activaron la regla','en escenario S11 alta densidad regla OnStr
legend('Bike','Bicycle','Pedestrian','Location','SouthWest');
xlim([0 21])
```