

Análisis de activación de reglas de VRUs

Regla MovinPed escenario baja densidad

```
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{j+3})];
```

```
Total_act=[];
ind_ac=1;
Real_act=[];

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+1;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        Total_act(ind_ac,LD_Nodes(i,3))=delta_t*10;
        Real_act(ind_ac,LD_Nodes(i,3))=LD_Nodes(i,4);
        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
        ind_ac=ind_ac+1;
    end
end

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

```
anom =

[]
```

ind2

```
ind2 =

    27    28    28    28    28    28    28    29    30    30    30    30    30 ...
    36    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
    45    44    43    43    44    43    43    43    43    43    41    42    42
```

•

```
sum(ind2)
```

```
ans =  
    210    210    209    209    210    209    211    212    213    212    210    212    212 ...
```

•

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

```
ans = 212.3500
```

```
sum(Total_act)
```

```
ans =  
    5920    7580   20400    8570
```

•

```
sum(Real_act)
```

```
ans =  
    4670    5981   19265         0
```

•

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

A stacked bar chart showing the distribution of vehicle types across 20 categories. The y-axis represents a count or frequency, ranging from 0 to 250. The x-axis is labeled with indices from 0 to 20. The legend identifies four categories: Bike (dark blue), Bicycle (light blue), Pedestrian (green), and car (yellow). The total height of the bars is relatively constant, around 210-220 units. The 'Bike' category is the largest in each bar, followed by 'Pedestrian', 'Bicycle', and 'car'.

Category Index	Bike	Bicycle	Pedestrian	car
0	10	10	100	45
1	10	10	100	45
2	10	10	100	45
3	10	10	100	45
4	10	10	100	45
5	10	10	100	45
6	10	10	100	45
7	10	10	100	45
8	10	10	100	45
9	10	10	100	45
10	10	10	100	45
11	10	10	100	45
12	10	10	100	45
13	10	10	100	45
14	10	10	100	45
15	10	10	100	45
16	10	10	100	45
17	10	10	100	45
18	10	10	100	45
19	10	10	100	45
20	10	10	100	45

```
%[ Bikenode , Bicyclenode , Pednode, Car]
sum(Real_act)./sum(Total_act)
```

```
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{j+3})];
```

```

Total_act=[];
ind_ac=1;
Real_act=[];

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+1;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        Total_act(ind_ac,LD_Nodes(i,3))=delta_t*10;
        Real_act(ind_ac,LD_Nodes(i,3))=LD_Nodes(i,4);
        if LD_Nodes(i,4) > delta_t*10

            end
            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
            ind_ac=ind_ac+1;

        end
    end

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

```

```
ind2
```

```

ind2 =
    37    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 =
   395   394   394   394   394   394   394   392   393   393   393   393   393 ...

```

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

```
ans = 393.5000
```

```
sum(Total_act)
```

```

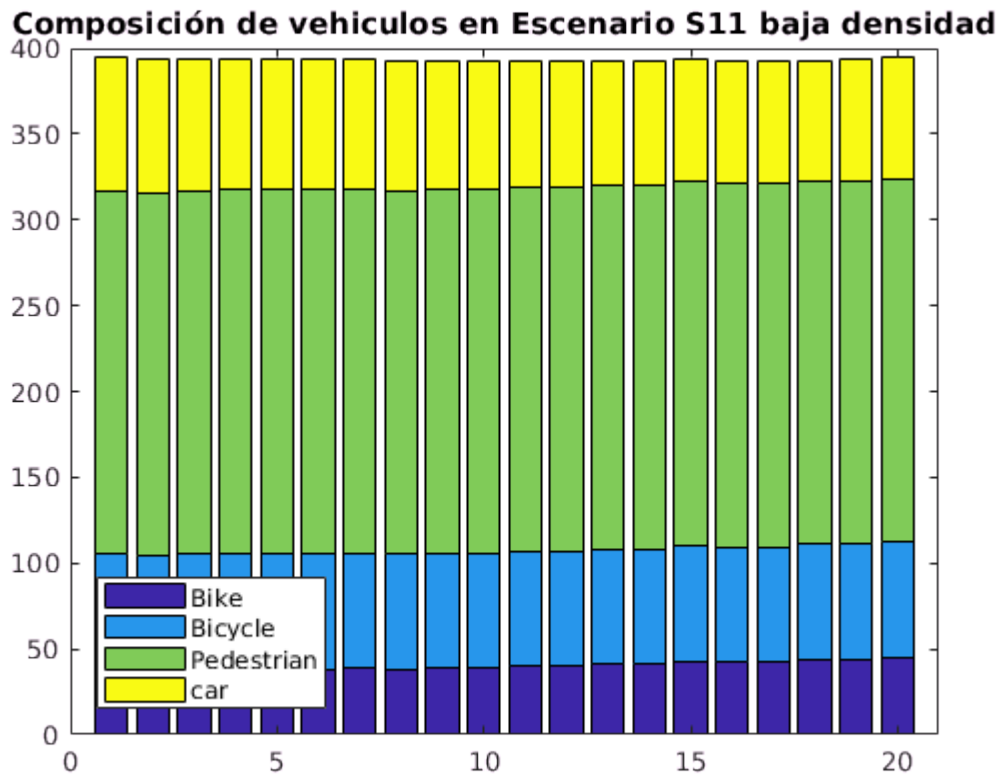
ans =
    8010    13460    42400    14830

```

```
sum(Real_act)
```

```
ans =  
    6883    12801    32068         0
```

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



Proporción total de activación regla MovinPed.

```
%[ Bikenode , Bicyclenode , Pednode, Car]  
sum(Real_act)./sum(Total_act)
```

```
ans =  
    0.8593    0.9510    0.7563         0
```

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{j+3})];

```

```

Total_act=[];
ind_ac=1;
Real_act=[];

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+1;
    if delta_t > 0
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;
        Total_act(ind_ac,LD_Nodes(i,3))=delta_t*10;
        Real_act(ind_ac,LD_Nodes(i,3))=LD_Nodes(i,4);
        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
        ind_ac=ind_ac+1;
    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 ...
    36    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
    45    44    43    43    44    43    43    43    43    43    41    42    42

```

•

sum(ind2)

```
ans =
    210    210    209    209    210    209    211    212    213    212    210    212    212 ...
•
```

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

```
ans = 212.3500
```

```
sum(Total_act)
```

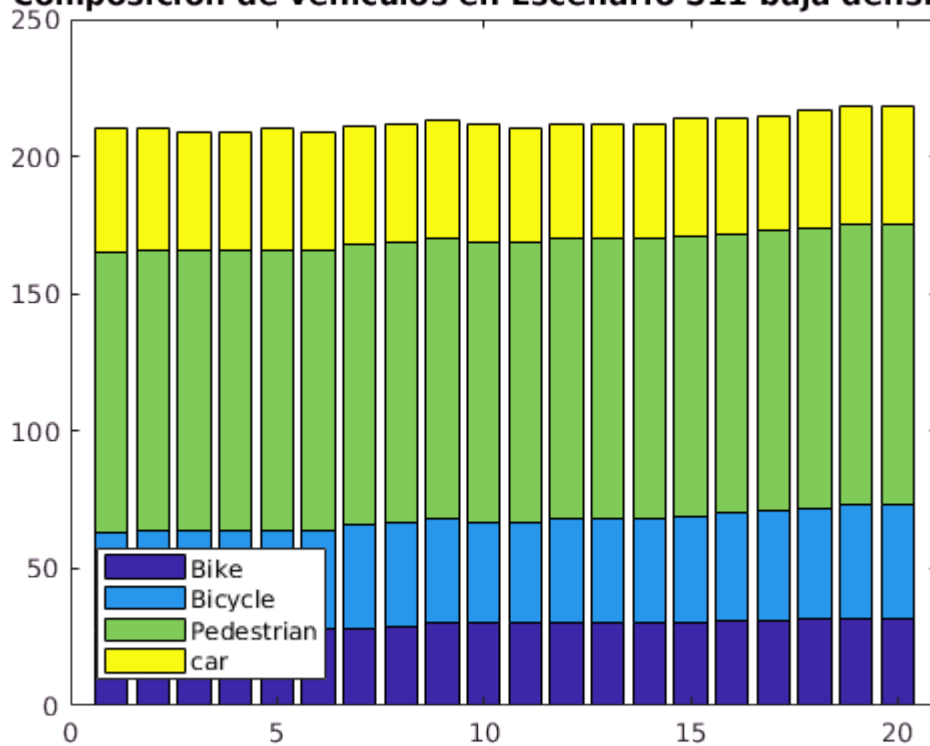
```
ans =
    5920         7580    20400         8570
•
```

```
sum(Real_act)
```

```
ans =
    5920         7580         175          0
•
```

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

Composición de vehiculos en Escenario S11 baja densidad



Proporción total de activación regla MovinPed.

```
%[ Bikenode , Bicyclenode , Pednode, Car]
sum(Real_act)./sum(Total_act)
```

```
ans =  
1.0000    1.0000    0.0086         0
```

•

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{j+3})];
```

```
Total_act=[];  
ind_ac=1;  
Real_act=[];  
  
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+1;  
    if delta_t > 0  
        ind2(LD_Nodes(i,3),ini_n:fin_n)= ind2(LD_Nodes(i,3),ini_n:fin_n)+1;  
        Total_act(ind_ac,LD_Nodes(i,3))=delta_t*10;  
        Real_act(ind_ac,LD_Nodes(i,3))=LD_Nodes(i,4);  
        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  
        ind_ac=ind_ac+1;  
    end  
end  
  
% Bikenode -> 1
```



```
% Bicyclenode -> 2
% Pednode -> 3
% Car -> 4
```

```
ind2
```

```
ind2 =
    37    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 =
    395    394    394    394    394    394    394    392    393    393    393    393    393 ...
```

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

```
ans = 393.5000
```

```
sum(Total_act)
```

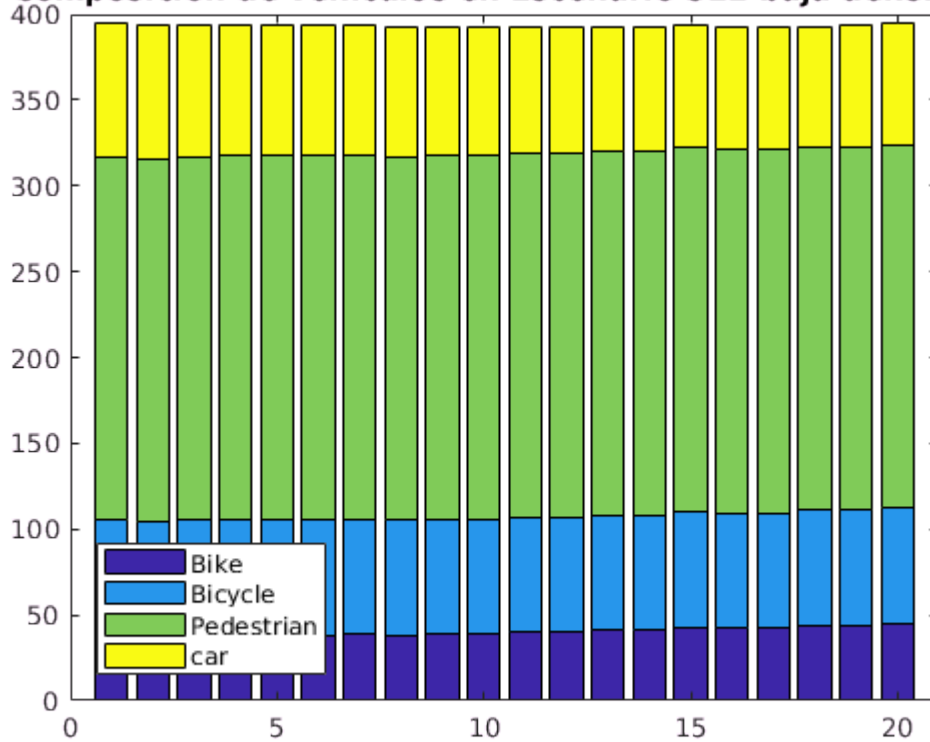
```
ans =
    8010    13460    42400    14830
```

```
sum(Real_act)
```

```
ans =
    8010    13460     889         0
```

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

Composición de vehiculos en Escenario S11 baja densidad



Proporción total de activación regla MovinPed.

```
%[ Bikenode , Bicyclenode , Pednode, Car]
sum(Real_act)./sum(Total_act)
```

```
ans =
    1.0000    1.0000    0.0210     0
•
```