# Smart Traffic Management System Simulator
## Sample Output

1. Simulation Dashboard

```
------ Simulation Dashboard ------
1. Display City Traffic Network
2. Display Traffic Signal Status
3. Display Congestion Status
4. Display Blocked Roads
5. Handle Emergency Vehicle Routing
6. Block Road due to Accident
7. Simulate Vehicle Routing
8. Exit Simulation
```

## 2. City Traffic Network

```
Enter your choice: 1
------ City Traffic Network ------
A -> (B, 5) (C, 15) (D, 20) (G, 25) (H, 22)
B -> (A, 5) (C, 10) (D, 9) (E, 14) (F, 15) (H, 17)
C -> (B, 10) (A, 15) (D, 7) (E, 12) (H, 13)
D -> (C, 7) (E, 3) (B, 9) (A, 20) (F, 10) (G, 18)
E -> (D, 3) (C, 12) (B, 14) (F, 8) (H, 15)
F -> (E, 8) (G, 6) (D, 10) (I, 11) (B, 15)
G -> (F, 6) (H, 9) (A, 25) (J, 12) (D, 18)
H -> (G, 9) (A, 22) (I, 7) (E, 15) (C, 13) (B, 17) (J, 8)
I -> (H, 7) (F, 11) (J, 5)
J -> (I, 5) (H, 8) (G, 12) (K, 10)
K -> (J, 10) (L, 14)
L -> (K, 14) (M, 6)
M -> (L, 6) (N, 8)
N -> (M, 8) (O, 10)
O -> (N, 10) (P, 12)
P -> (O, 12) (Q, 5)
Q -> (P, 5) (R, 15)
R -> (Q, 15) (S, 7)
S -> (R, 7) (T, 9)
T -> (S, 9) (U, 6)
U -> (T, 6) (V, 10)
V -> (U, 10) (W, 8)
W -> (V, 8) (X, 6)
X -> (W, 6) (Y, 5)
Y -> (X, 5) (Z, 7)
Z -> (Y, 7)
```

3. Traffic Signal

```
Enter your choice: 2
------ Traffic Signal Status ------
Intersection E Green Time: 35s
Intersection A Green Time: 30s
Intersection B Green Time: 40s
Intersection C Green Time: 50s
Intersection D Green Time: 25s
Intersection F Green Time: 20s
Intersection G Green Time: 15s
Intersection H Green Time: 30s
Intersection I Green Time: 25s
Intersection J Green Time: 20s
Intersection K Green Time: 35s
Intersection L Green Time: 25s
Intersection M Green Time: 30s
Intersection N Green Time: 20s
Intersection O Green Time: 15s
Intersection P Green Time: 30s
Intersection Q Green Time: 25s
Intersection R Green Time: 40s
Intersection S Green Time: 30s
Intersection T Green Time: 25s
Intersection U Green Time: 20s
Intersection V Green Time: 15s
Intersection W Green Time: 20s
Intersection X Green Time: 25s
Intersection Y Green Time: 30s
Intersection Z Green Time: 35s
```

4. Congestion Status

```
Enter your choice: 3
------ Congestion Status ------
W to X -> Vehicles: 1
G to H -> Vehicles: 3
V to W -> Vehicles: 1
N to O -> Vehicles: 3
F to G -> Vehicles: 2
P to Q -> Vehicles: 1
X to Y -> Vehicles: 2
I to J -> Vehicles: 3
K to L -> Vehicles: 5
A to B -> Vehicles: 2
C to D -> Vehicles: 2
U to V -> Vehicles: 2
T to U -> Vehicles: 1
R to S -> Vehicles: 1
D to E -> Vehicles: 3
B to D -> Vehicles: 2
A to C -> Vehicles: 1
D to F -> Vehicles: 2
Y to Z -> Vehicles: 1
S to T -> Vehicles: 2
H to I -> Vehicles: 1
E to H -> Vehicles: 2
H to J -> Vehicles: 4
B to H -> Vehicles: 1
C to H -> Vehicles: 1
H to G -> Vehicles: 1
O to P -> Vehicles: 2
L to M -> Vehicles: 3
M to N -> Vehicles: 3
J to K -> Vehicles: 7
G to J -> Vehicles: 1
A to G -> Vehicles: 1
F to I -> Vehicles: 2
M to L -> Vehicles: 1
```

## 5. Blocked Road

```
Enter your choice: 4
------ Blocked Roads ------
S to T is blocked.
H to I is blocked.
Q to R is blocked.
N to O is blocked.
K to L is blocked.
B to C is blocked.
A to F is blocked.
G to J is blocked.
A to G is blocked.
W to X is blocked.
```

## 6. Emergency Vehicle Routing

```
Enter your choice: 5
Enter start and end intersections for emergency vehicle: A F
Emergency Vehicle is being routed...
Emergency Vehicle path: A B F
```

## 7. Block the road

```
Enter your choice: 6
Enter road to block (start, end): B F
```

## 8. Again check blocked road

```
Enter your choice: 4
------ Blocked Roads ------
S to T is blocked.
H to I is blocked.
Q to R is blocked.
N to O is blocked.
K to L is blocked.
B to C is blocked.
A to F is blocked.
G to J is blocked.
A to G is blocked.
W to X is blocked.
B to F is blocked.
```

### 9. Again simulate Emergency Vehicle Routing

```
Enter your choice: 5
Enter start and end intersections for emergency vehicle: A F
Emergency Vehicle is being routed...
Emergency Vehicle path: A B D F
```

### 10.     Simulate Vehicle routing (For all path)

```
Enter your choice: 7
Simulating vehicle routing...
Enter starting intersection: A
Enter ending intersection: F
All possible paths from A to F are:
Path: A B C D E F | Total Weight: 33
Path: A B C D E H G F | Total Weight: 55
Path: A B C D E H G J I F | Total Weight: 77
Path: A B C D E H I F | Total Weight: 58
Path: A B C D E H I J G F | Total Weight: 70
Path: A B C D E H J I F | Total Weight: 64
Path: A B C D E H J G F | Total Weight: 66
Path: A B C D F | Total Weight: 32
Path: A B C D G F | Total Weight: 46
Path: A B C D G H I F | Total Weight: 67
Path: A B C D G H E F | Total Weight: 72
Path: A B C D G H J I F | Total Weight: 73
Path: A B C D G J I H E F | Total Weight: 87
Path: A B C D G J I F | Total Weight: 68
Path: A B C D G J H I F | Total Weight: 78
Path: A B C D G J H E F | Total Weight: 83
Path: A B C E D F | Total Weight: 40
```

Continue......

### 11.     Exit Simulation

```
Enter your choice: 8
Exiting Simulation...
```