Map Extension Nodes List

These Nodes will be used to extend the graph network and will be the factor for the regulation of traffic on the map.

**Structures:**

# **1. Map Extension Node(map\_extn)**

**Description** : Nodes that are an extension to the map boundaries. This object will be static in the program.

**Datatype Name** : struct map\_extn

**Alternate Name**  : map\_extn\_t

|  |  |  |  |
| --- | --- | --- | --- |
| Member Variable | Datatype | Type Description | Description |
| name | string | char array | Name of the map extension node(i.e. where it leads to) |
| id | string(char \*) | char pointer | Unique ID code for the map extension node |
| start\_time | time\_t |  |  |
| time\_of\_generation | int | integer numeric | Rate of generation of the vehicle objects. |
| adj\_tsj | struct traffic\_sig\_jn \* | pointer | Pointer to adjacent traffic signal junction(traffic\_sig\_jn) node. |
| connecting\_street | struct street \* | pointer | Pointer to street from adjacent traffic signal junction |
| coord | struct coordinate | object of coordinate | Stores the coordinates (position) of the Extension Node on the screen |
| next | struct map\_extn | pointer | Pointer to the next element on the list of map extension nodes. |

**2. Map Extension (map\_extn\_list)**

**Description :** Structure to represent each node which is used to extend the graph of TSJs.

**Datatype Name : struct map\_extn\_list**

**Alternate Name : map\_extn\_list\_t**

|  |  |  |  |
| --- | --- | --- | --- |
| Member Variable | Datatype | Type Description | Description |
| num\_map\_extn | int | integer numeral | Number of Map Extension Nodes(TSJ’s). |
| head | struct map\_extn\* | pointer |  |

**Functions:**

1. **Create Map Extension Node**

**Syntax :**

**struct create\_map\_extn( int rate\_of\_generation , struct traffic\_signal\_jn \*adj\_tsj , struct street \* connecting\_street );**

**Description:**

1. **Create Map Extension List**

**Syntax:**

**struct map\_extension\_list( )**

1. **Add Map Extension Node**

**Syntax:**

**int add\_map\_extn( int rate\_of\_generation , struct traffic\_signal\_jn \*adj\_tsj , struct street \* connecting\_street, pointer of map\_extention\_list )**

1. **Delete Map Extension Node**

**Syntax:**

**delete\_map\_extn(map\_extn\_list\_t \*map\_extn\_head, char \*id)**

1. **Get Map Extension Node**

**Syntax:**