Traffic Management System UML Account TrafficReport +Acc Counter:int Admin -ID:String +Email:String +Name:String + Admincounter:int generateReportBasedOnChoice(ArrayList<Traffic_Violation>, +Contact:String + cin:Scanner ArrayList<Zone>): void #Password:String + Admin(String, String, String, String): + generateHighDensityZonesReportBasedOnTime(): void +Names:Arraylist<String> + toString(): String - getCongestionCause(LocalTime): String +ids:Arraylist<String> + details(): void + reportbymostviolation(ArrayList<Zone>): void +<u>Emails:Arraylist<String></u> + addZone(ArrayList<Zone>):void + generateM(ArrayList<Traffic_Violation>): void # changePass():void #AddOfficer(ArrayList<TrafficOfficer>,ArrayList<Zone> + <u>avg(ArrayList<Traffic_Violation>)</u>: void + getPassword():String):ArrayList<TrafficOfficer> + <u>Z</u>(ArrayList<Traffic_Violation>): int[] + getID():String #addAdmins(ArrayList<Admin>,ArrayList<Owner>): + getInfo():String ArrayList<Admin> + comparePassword(Strign):boolean +AdminPage(ArrayList<Admin>,int,ArrayList<Owner>, File_Processing + Account(String, String, String): ArrayList<TrafficOfficer>,ArrayList<Zone>, ArrayList<Traffic_Violation>):void + <u>Save Zone(ArrayList<Zone>)</u>: void + Load Zone(ArrayList<Zone>): void + <u>Save Accounts</u>(ArrayList<Admin>, ArrayList<TrafficOffiicer>, Zone ArrayList<Owner>): void + Load Accounts(ArrayList<Admin>, ArrayList<TrafficOffiicer>, + traffic_lights:ArrayList<Traffic_Light> ArrayList<Owner>): void Owner + numViolationOccured:int + <u>Save Notifications</u>(ArrayList<Owner>): void ID: String + <u>Load Notifications</u>(ArrayList<Owner>): void Name: String + vehicle:ArrayList<Vehicle> Location: String + notifications:ArrayList<Notification> ~ ZoneCounter: int + ownerCount: int Load&Save + Zone(String, String, String, int): + Owner(String, String, String, String): + Zone(String, String): + NumOfNotSeen():int Notification + getLocation():String + sendNotification(Traffic_Violation):void + getName():String + getInfo():void + getID():String + <u>OwnerPage(String,ArrayList<Owner>,int)</u>:void formatter: SimpleDateFormat + ViewZoneInfo(): void ~ input: Scanner + addTrafficLight(): void + message: String + removeTrafficLight(): void + date: String + editTrafficLight(): void + title: String + MessageData: String[] Vehicle + isRead: boolean Traffic Violation + Notification(String, String[]): + Notification(String, String, String[], boolean, String): - id: String - TracksViolationID: String + showNotification(ArrayList<Notification>,int): void - type: String Violation_type: String + StandardMessage(String ,String[]): String - licensePlate: String Vehicle_ID: String - owner: String - date: String + TV:ArrayList<Traffic_Violation> - wholssued: String + counter: int - ZoneName: String ~ <u>licensePlate</u>:ArrayList<String> Display + Status: String + Vehicle(String, String, String): - fine_amount: double + Vehicle(String, String, String): + TV_counter: int +getId(): String + <u>tra</u>: ArrayList<Traffic_Violation> + validateEmail():String +getLicensePlate(): String + signup(ArrayList<Owner>): ArrayList<Owner> + Traffic_Violation(String, String, String, +getType(): String String, String, double, String, String): + Login(ArrayList<TrafficOfficer> ,ArrayList<Admin> + getData: void + Traffic Violation(String, String, String, String ,ArrayList<Owner>): String + addViolation(Traffic_Violation): void ,double ,String): + payFine(): void +getViolationID(): String + CheckExist(String): boolean +getZoneName(): String + addVehicles(ArrayList<Vehilce>, String): void +getWhoIssued(): String Exc +getVehicleID(): String +getViolation_type(): String +getDate(): String + <u>Unique(String,ArrayList<String>)</u>:String +getFine_amount(): double + Infinite(int, int ,int):String +<u>View_Details</u>(ArrayList<Traffic_Violation>): void + valid(String):String +<u>View_Violation(ArrayList<Traffic_Violation>):</u>

void

TrafficOfficer

- assugnedZone :String
- + violations: ArrayList<Traffic_Violation>
- + officerCount: int
- + TrafficOfficer(String, String, String, String):
- + addviolations(Traffic_Violation):void
- + getassignedZone():String
- recordvolation(Traffic_Violation,ArrayList<Owner>,int,v ehicleIndex):void
- + viewViolations(int):void
- + displayInfo():void
- +OfficerPage(ArrayList<TrafficOfficer>,int,

ArrayList<Owner>,ArrayList<Zone>):void

Traffic Lights

- ID: String
- Location: String
- Name: String
- Duration: int
- isRunning: boolean
- + Status: String
- + redTime: int
- + yellowTime: int
- + greenTime: int
- + thread: Thread
- + Traffic_counter: int
- + input: Scanner
- + Traffic_Lights(String,int,String):
- + Traffic_Lights(String ,String ,int ,String ,int[]):
- + getID(): String
- + getLocation(): String
- + getDuration(): int
- + getDetails(): void
- + run(): void
- + Start(): void
- + Stop(): void
- Auto_Change_Status(): void
- + ConfigurationByAdmin(String): void
- + EditTimeLights(int ,String): void
- + checkDuration(int): int
- +<u>addTrafficLight(</u>ArrayList<Traffic_Lights>,String):void +<u>delete(ArrayList<Traffic_Lights>):void</u>