VEHICLE TRACKING APPLICATION BASED ON REAL TIME TRAFFIC
INTRODUCTION

• PUBLIC TRANSPORT SUCH AS BUS, TRAIN AND TAXI NOT ONLY BRINGS CONVENIENCE TO THE USERS BUT ALSO OFFERS SOCIAL BENEFITS LIKE REDUCE TRAFFIC CONGESTION, IMPROVE AIR QUALITY, AND ELIMINATE PARKING ISSUES.

• ONE OF THE MAIN REASONS PUBLIC TRANSPORT SERVICES DID NOT RECEIVE POSITIVE FEEDBACK FROM PEOPLE IS THE HIGH VARIABILITY IN THE ARRIVAL TIME OF VEHICLE.
LITERATURE REVIEW

• A VEHICLE TRACKING SYSTEM THAT UTILIZES THE TECHNOLOGY OF SHORT MESSAGE SERVICE (SMS)

• VEHICLE TRACKING SYSTEMS USING COMBINATION OF GSM AND GPS TECHNOLOGY.

• GPS-BASED LOCATION TRACKING SYSTEM FOR PERSONAL USE

• ACCURATE ESTIMATION OF ARRIVAL TIME IS IMPORTANT TO REDUCE THE WAITING TIME

• AUTOMATE PROCESS OF OBTAINING TRAVEL TIME MATRIX FORM MULTIPLE ORIGINS TO MULTIPLE DESTINATIONS
METHODOLOGY

RAPID APPLICATION DEVELOPMENT (RAD) METHODOLOGY

• REQUIREMENTS PLANNING
• USER DESIGN
• DESIGN AND DEVELOPMENT
• REPORT WRITING
System Architecture of Vehicle Tracking Application

1. Remote MySQL Database
2. Firebase
3. PHP
4. Google Maps
5. Distance Matrix API
6. Synchronise location data across users
7. Update location data
8. Retrieve estimated ETA
CONCLUSION

- THE APPLICATION IS DIVIDED INTO TWO VERSIONS, WHICH ARE DRIVER SIDE APPLICATION AND USER SIDE APPLICATION. DRIVER SIDE APPLICATION IS USED TO RETRIEVE GPS COORDINATES OF VEHICLE AS WELL AS TO CALCULATE THE ARRIVAL TIME OF VEHICLE AT THE NEXT STOP. USER SIDE APPLICATION WILL ABLE TO GET THE REAL-TIME LOCATION OF VEHICLE AND THE ARRIVAL TIME OF THE NEXT VEHICLE BY QUERYING DATABASE.