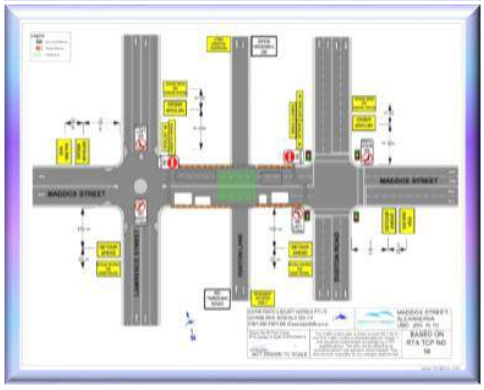
الربيعة
للإستشارات الهندسية
Alrabiah
Consulting Engineers

ISO 9001 QSCert



Transportation Studies and Traffic Engineering

Capability Statement

Revision No. 01-23

الربيعة
للإستشارات الهندسية
Alrabiah
Consulting Engineers

Transportation Studies and Traffic Engineering Capability Statement

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- **JEDDAH**
- **JUBAIL**
- **YANBU**

ISO QSCert 9001

Revision No. 01-23

CONTENTS:

INTRODUCTION:

Alrabiah Consulting Engineers (ARE) is a multi-disciplinary professional consulting engineering firm was established in 1988 and based in Saudi Arabia with head office in Dammam and regional offices in Riyadh, Jeddah and Yanbu.

Since the establishment of the office, ARE was involved in all aspects of Transportation and Traffic Engineering and has provided consultancy services to both private and public sectors offering services that ranged from policy planning.

Through the years ARE has built a team of professionals with vast experience and acquired the latest transportation and traffic software to provide technical advice to various clients with different needs. The technical team covers all aspects of the transportation sector including transportation planners, urban and regional developers, traffic engineers, highway design engineers, and social and environmental specialist. The team is able to deliver a strong support to ensure that client's expectations are met and exceeded.

The Transportation and Traffic Engineering department has made a steady growth over the past years through careful planning and support and determination of the management from the early stages. The department now offers support from the early conceptual design to the detailed studies and analysis of complex transportation projects like the detailed study and design of Bridges Complex in Dhahran for Saudi Aramco.

Drawing on our substantial local and international experience spanning a range of transportation, mechanical, electrical, airport, civil engineering and bridge structures and implementing this in the development of project specifications, combined with supervision of site activities, we aim to deliver the highest standards of service to a wide and varied client base here in Saudi Arabia.

ARE is also successful Project Managers having undertaken many assignments including design and supervision of major Transportation and traffic projects. ARE's list of completed projects includes clients in the Domestic, Commercial, Retail, and Industrial/Petrochemical sectors.

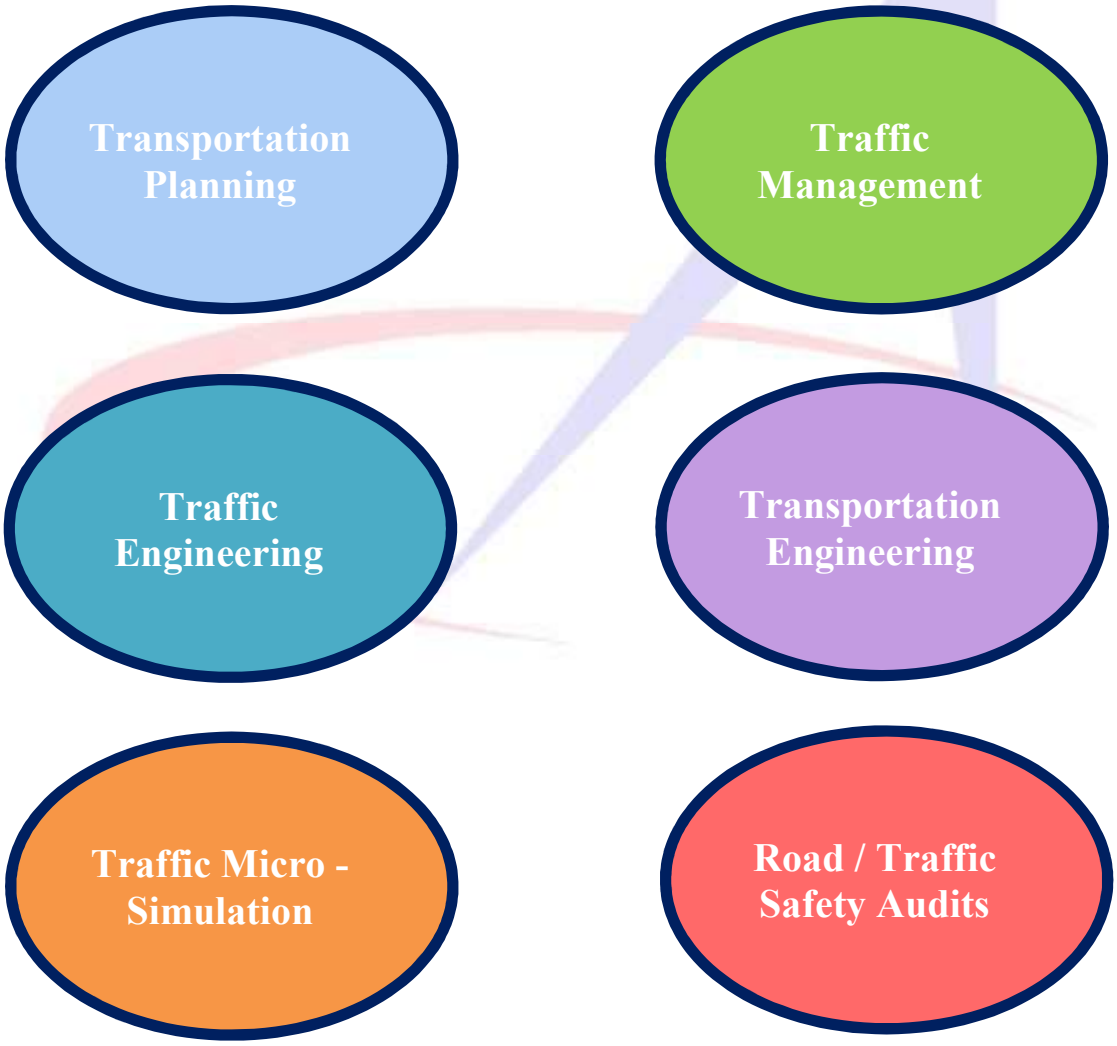
TRANSPORTATION AND TRAFFIC CAPABILITIES:

Alrabiah (ARE) has developed a wealth of experience and expertise throughout Transportation and traffic field. For a given project a suitable team of specialists can be assembled to ensure the necessary experience and particular expertise is available for the collection, analysis and presentation of relevant data.

ARE has been engaged in all aspects of transportation engineering. The engagements have covered services over a wide range of disciplines within all phases of transportation projects from initial planning and feasibility studies to design, construction methods, operation, maintenance, and structural strengthening.

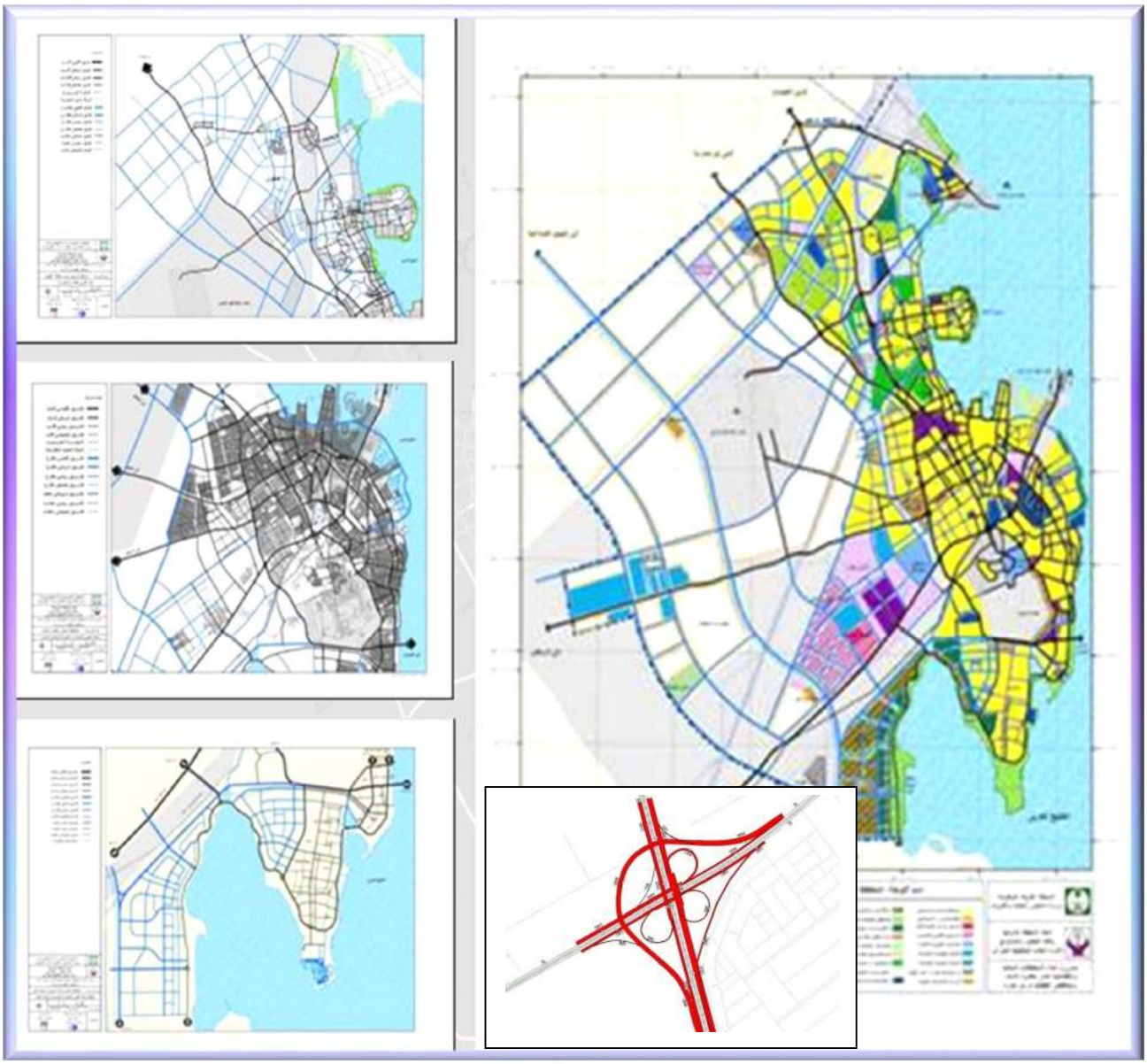
The results from research and development of new technologies and methods of analysis have always been incorporated in the projects and form an essential part of the work.

The company's main fields of specialization in Traffic and Transportation are:



FIELD OF SERVICES:

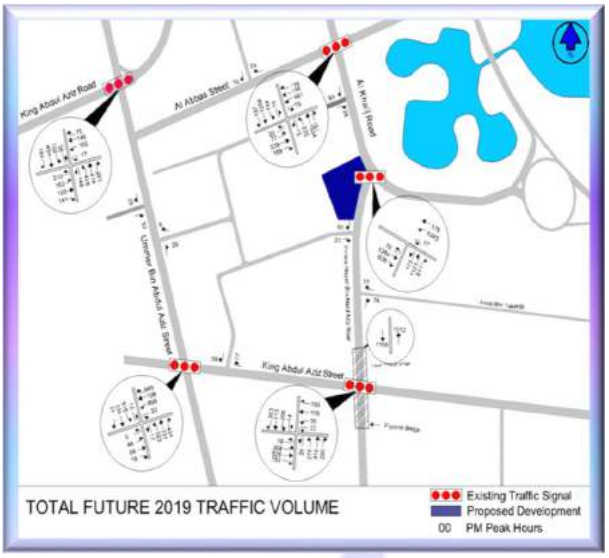
TRANSPORTATION PLANNING:

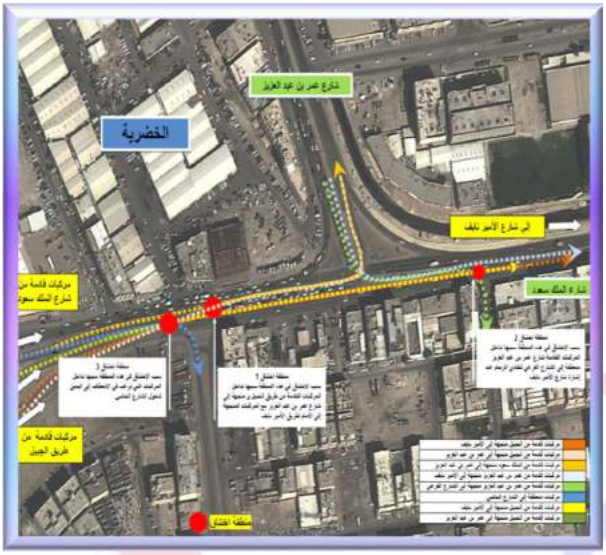


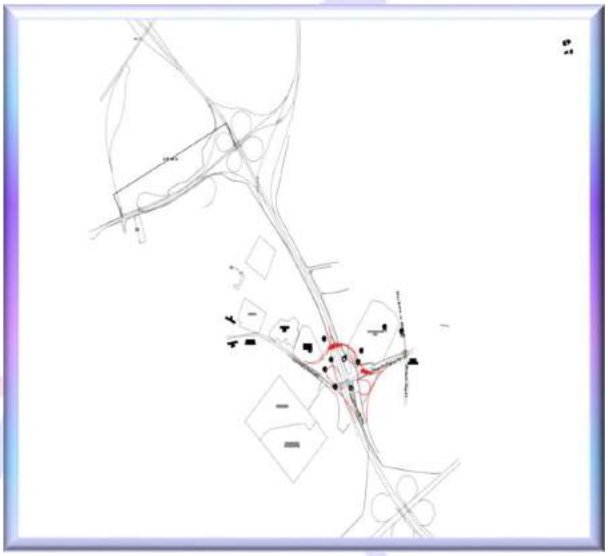
Kingdom-wide ARE has undertaken numerous transportation projects dealing with different aspects of transportation planning covering different modes of travel. ARE has was proud to take part in the Dammam Comprehensive Transportation Study which was an area wide modelling project covering Dammam metropolitan area.

- **Multimodal Traffic Demand Modelling**
- **Area wide planning**
- **Traffic demand models**
- **Traffic Impact Assessment**

TRAFFIC MANAGEMENT:



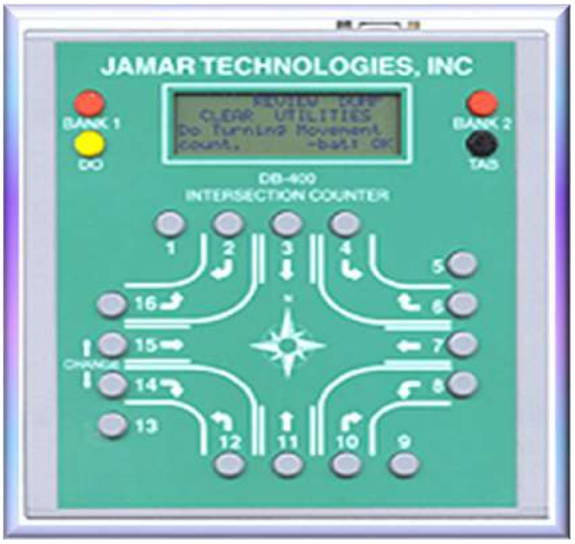




Traffic management is the management of all transportation modes which include motorists and pedestrians to ensure the safe movement of vehicles and goods in the existing network.

- **Traffic management plans**
- **Site Access Management**
- **Pedestrian Facilities Management**
- **Construction traffic management**
- **Traffic Control and Calming**
- **Road Safety Audits**
- **Crash Reduction Studies**

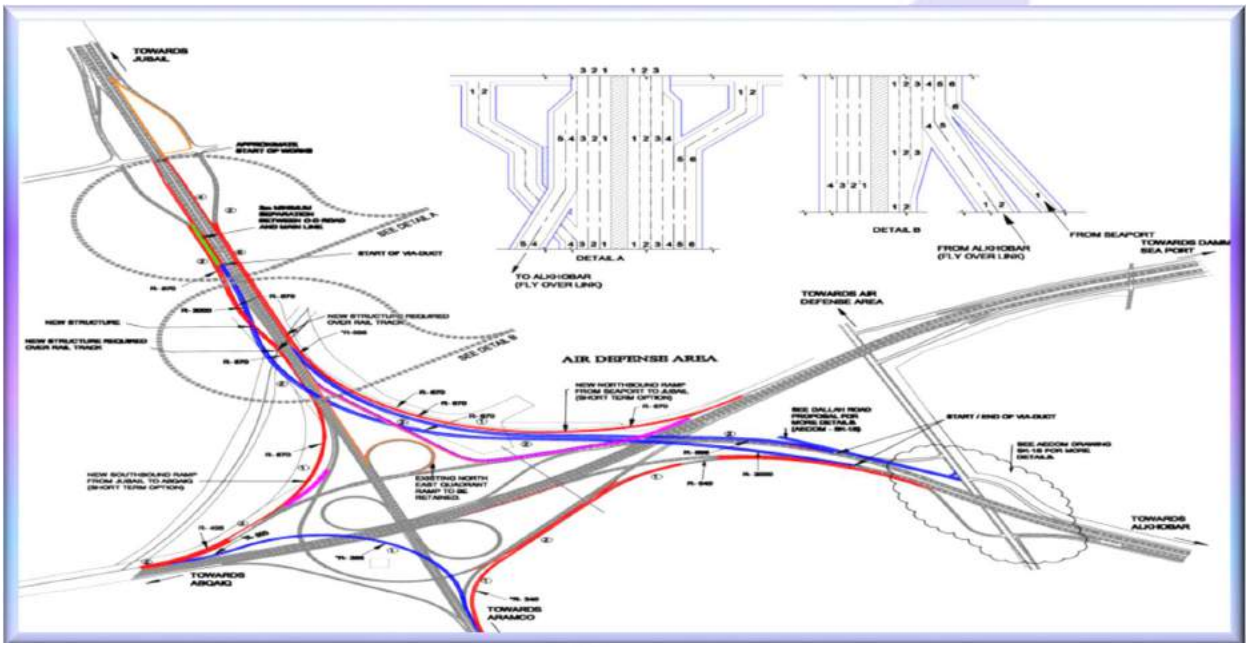
TRAFFIC ENGINEERING:



Traffic Engineering is that phase of engineering which deals with the planning, geometric design and traffic operations of roads, streets, and highways, their networks, terminals, abutting lands and relationships with other modes of transportation for the achievement of safe, efficient, and convenient movement of persons and goods.

- **Detailed Traffic Surveys**
- **Detailed Traffic Studies**
- **Operation Analysis of Highway Facilities**
- **Study And Design of Highway Facilities**
- **Road Improvement**

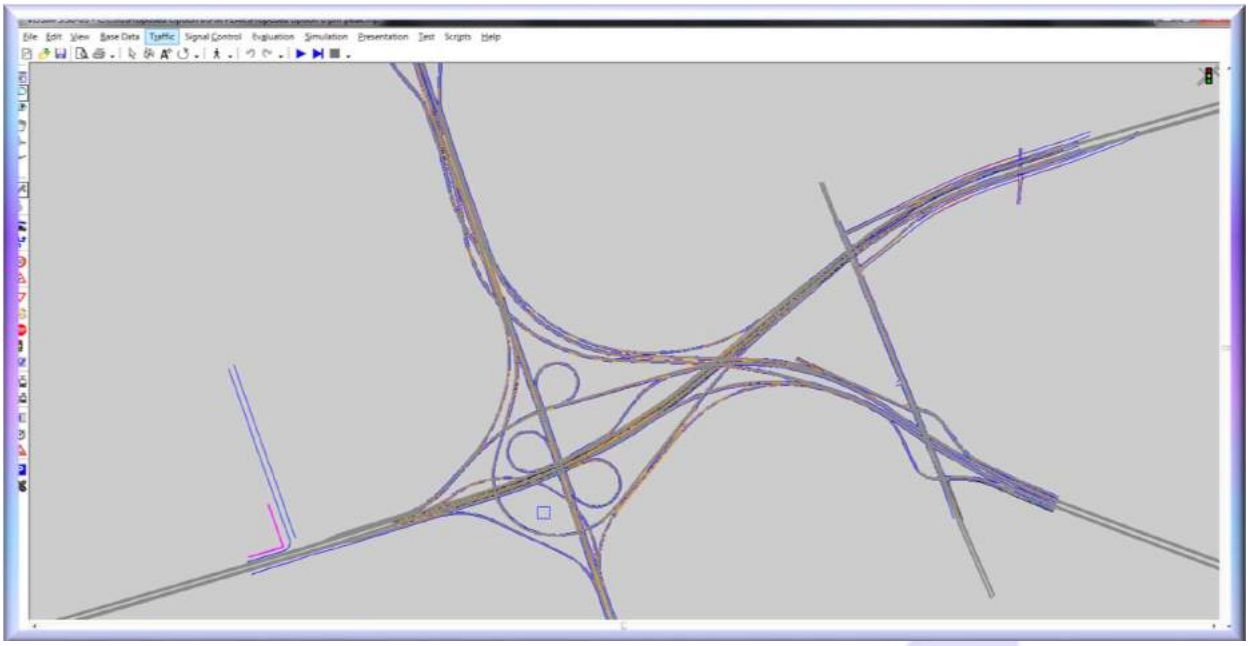
TRANSPORTATION ENGINEERING:



The Study and design and maintain of transportation facilities, including covers the full spectrum of activities pertaining to the analysis, planning, design, construction, operation, and management of integrated transportation systems

- **Highways and streets**
- **Mass transit systems**
- **Railroads**
- **Airfields**
- **Ports and harbours**

TRAFFIC MICRO-SIMULATION:

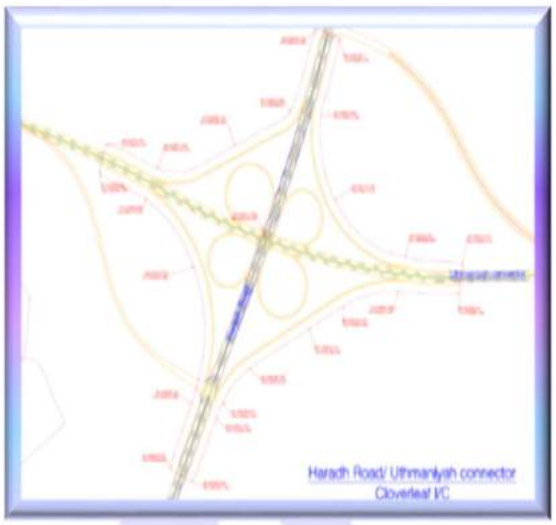


Traffic simulation describes the process of creating a virtual model of a city's transportation infrastructure in order to simulate the interactions of road traffic, and other forms of transportation, in microscopic detail. This involves treating each vehicle, bus, train, tram, cyclist, pedestrian etc. in the model as a unique entity with its own goals and behavioural characteristics; each possessing the ability to interact with other entities in the model.

ROAD / TRAFFIC SAFETY AUDITS:

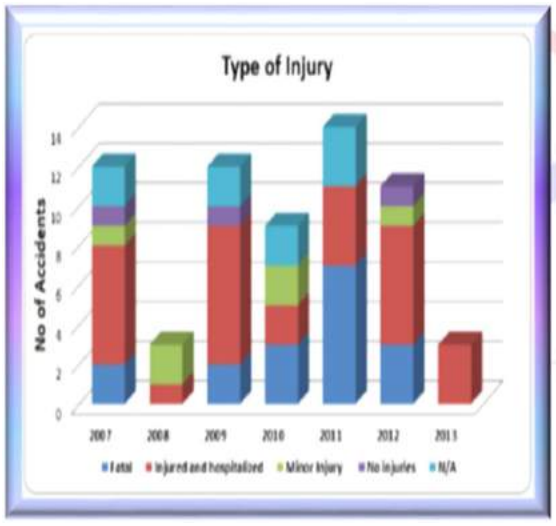
It is a formal safety performance examination of an existing or future road or intersection. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users.

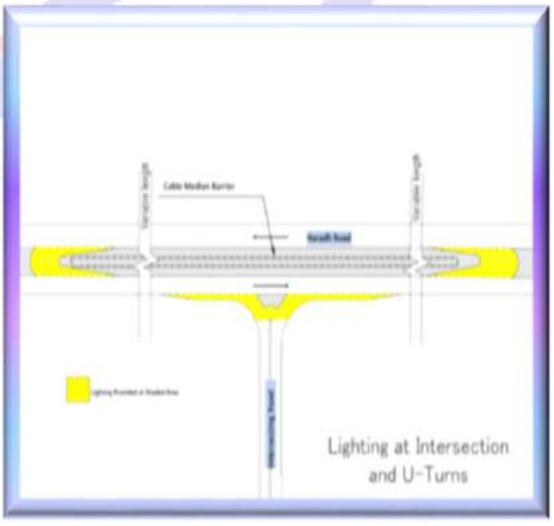
For a given project a suitable team of specialists can be assembled to ensure the necessary experience and particular expertise is available for the collection, analysis and presentation of relevant data.



ARE offers the following:

- Stage 1: Preliminary Design.
- Stage 2: Detailed Design.
- Stage 3: Supervising the Construction.
- Stage 4: Post Construction Monitoring.





SOFTWARE AVAILABLE:

Microscopic & Macroscopic Simulation Tools:

PTV VISSIM	VISSIM is a microscopic simulation model and a component of the PTV Vision® suite. It is the most powerful tool available for simulating multi-modal traffic flows, including cars, trucks, buses, heavy rail, trams, LRT, bicyclists, and pedestrians. Its flexible network structure provides the user with the confidence to know they can model any type of geometric configuration or unique operational/driver behavior encountered within the transportation system.
	SimTraffic® is designed to model networks of signalized and unsignalized intersections including roundabouts. The primary purpose of simtraffic is to fine tune traffic signal operations and is especially useful for closely spaced intersections and intersections under heavy congestion.

Traffic demand Modelling and planning Software:

PTV VISUM	VISUM is a comprehensive, flexible software system for transportation planning, travel demand modeling and network data management. VISUM is used on all continents for metropolitan, regional, statewide and national planning applications. Designed for multimodal analysis, VISUM integrates all relevant modes of transportation (i.e., car, car passenger, truck, bus, train, pedestrians and bicyclists) into one consistent network model. VISUM provides a variety of assignment procedures and 4-stage modeling components which include trip-end based as well as activity based approaches.
TransCAD Transportation Planning Software	TransCAD is the first and only Geographic Information System (GIS) designed specifically for use by transportation professionals to store, display, manage, and analyze transportation data. TransCAD combines GIS and transportation modeling capabilities in a single integrated platform, providing capabilities that are unmatched by any other package. TransCAD can be used for all modes of transportation, at any scale or level of detail.

Traffic Analysis Software:

PTV VISTRO	PTV Vistro is the ideal tool for all your traffic analysis needs. Its intuitive user interface places all functions at your fingertips so that you can keep traffic flowing at the touch of a button. PTV Vistro allows you to: compute intersection level of service optimize traffic signal timing forecast new development impacts evaluate mitigation options manage multiple scenarios create comprehensive reports.
	Synchro® is a macroscopic analysis and optimization software application. Synchro implements the Intersection Capacity Utilization (ICU) method for determining intersection capacity. Synchro also supports the Highway Capacity Manual's (HCM) methodology for signalized intersections and roundabouts. Because the software is easy to use, traffic engineers are modeling within days, thus adding to the number of reasons why Synchro remains the leading traffic analysis application.
SIDRA INTERSECTION	SIDRA Intersection is an advanced micro-analytical tool for evaluation of intersection designs using lane-by-lane and vehicle drive cycle models. Used worldwide, SIDRA estimates intersection capacity, level of service and performance at signalized intersections, roundabouts and priority intersections. Integral to the package is an estimate of cost, energy and pollution implications considering vehicle acceleration, deceleration, idling and cruising.
	Highway Capacity software is a suite of software distributed by MCtrans and developed through the highway Capacity Committee of the Transportation research board in the USA. The software is practically useful in assessing highway performance at junctions (either signalized, stop controlled, yield control, or roundabout).

CAD and GIS Software:

AutoCAD Civil 3D	AutoCAD® Civil 3D software provides civil engineering technicians, drafters, and surveyors with the tools they need to create coordinated, reliable design information and deliver higher-quality construction documentation for transportation, land development, and environmental projects.
	AutoCAD is the world's leading 2D and 3D CAD tool delivering powerful design and documentation capabilities to millions of people around the world. AutoCAD is also the most popular CAD platform in the world with thousands of add-ons addressing a wide variety of specialized design needs across numerous industries – enabled by deep and broad application programming interfaces (APIs).
MicroStation V8	Micro-Station is the world's leading information modeling environment explicitly for the architecture, engineering, construction, and operation of all infrastructure types including utility systems, roads and rail, bridges, buildings, communications networks, water and wastewater networks, process plants, mining, and more. Micro-Station can be used either as a software application or as a technology platform.

Mapping Software:

	Google Earth Pro is a 3D interactive globe that can be used to aid planning, analysis and decision making. Businesses, governments and professional users from around the world use Google Earth Pro data visualization, site planning and information sharing tools.

3D and Graphics Software:

Autodesk 3ds Max	Autodesk® 3ds Max® software provides a comprehensive 3D modeling, animation, rendering, and compositing solution for games, film, and motion graphics artists. 3ds Max 2014 has new tools for crowd generation, particle animation, and perspective matching, as well as support for Microsoft® DirectX 11® shaders.
Adobe	Adobe® Creative Suite® 6 Design & Web Premium software is the ultimate toolkit for professional design. Deliver eye-catching digital images and craft graphics that remain crisp when scaled. Lay out high-impact print pages with exquisite typography, build HTML5/CSS3 websites that look great on any screen, and design applications for tablets and smart phones.

Data Collection Equipments:

	The Metro-Count Vehicle Classifier System combines state-of-the-art traffic logging hardware with powerful, yet easy-to-use software. Metro-Count provides you with a total solution to all your traffic monitoring issues, from routine statistics through to the most complex traffic management problems.
	CountCam is a video-based system for counting vehicles. Inside the CountCam body is a digital video camera and recorder, capable of recording several hundred hours of footage. The video is later retrieved and analyzed by the user in order to study traffic volume, speed, and vehicle types. ➢ Record multiple days – up to 48 hours of video ➢ Easy setup – typically less than five minutes to deploy

CLIENTS:

	Saudi Aramco أرامكـــو السعوديـــة
	Ministry of Transportation وزارة النقـل
	Royal Commission for Jubail & Yanbu الهيئة الملكية للجبيل وينبع
	Municipality of Eastern Province أمانة المنطقة الشرقية
	Municipality of Al Hassa أمانة الأحســـاء
	Imam Abdulrahman Bin Faisal University جامعة الإمام عبدالرحمن بن فيصل
	King Abdullah University of Science and Technology جامعة الملك عبدالله للعلوم والتكنولوجيا

Saudi Fund for Development الصندوق السعودي للتنمية	
Tamimi Real Estate Dev. Company شركة التميمي للتنمية العقارية	
JGC Gulf International Ltd. شركة جيه جي سي الخليج الهندسية المحدودة	
Arabian Services Group المجموعة العربية للخدمات	
Al Mutlaq Real Estate Co. شركة المطلق للاستثمار العقاري	
Al Argan Projects Co. شركة مشاريع الأرجان	
Retal Urban Development الشركة رتال للتطوير العمراني	

EXAMPLE PROJECTS:

DAMMAM COMPREHENSIVE TRANSPORTATION STUDY (DCTS)
DAMMAM METROPOLITAN AREA

Client:

Municipality of Dammam

Services Provided

Dammam Municipality has appointed Alrabiah to carry out a comprehensive transportation study of the Dammam Metropolitan Area comprising Dammam, Dhahran, Al-Khobar, Qatif and Ras Tanura with an aim to improve the transportation of individuals and goods in and around Dammam.

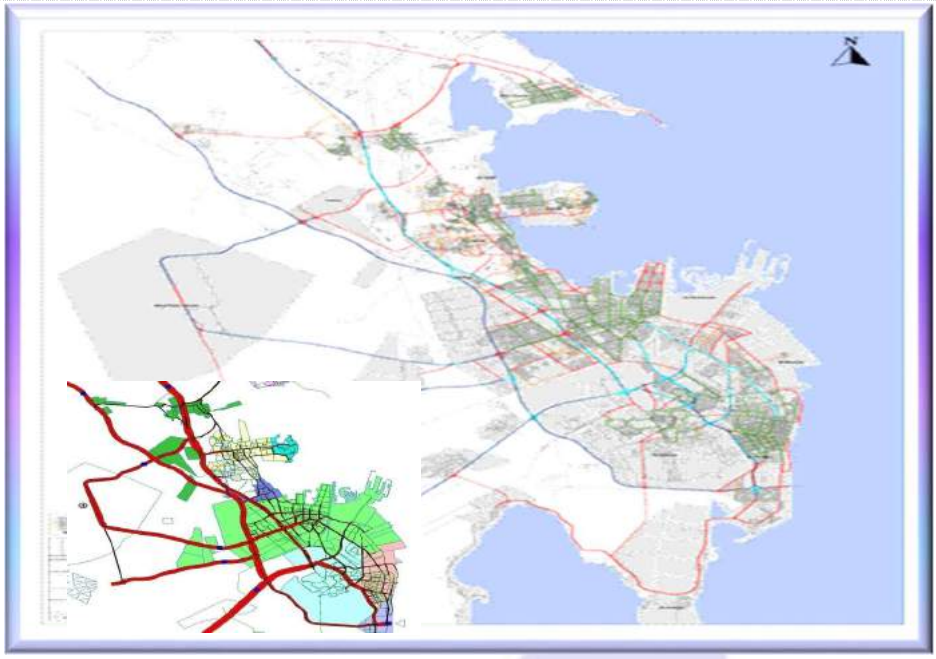
Data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the development of Traffic Analysis Zones, Traffic Networks, and Travel Models; their analysis, rectification and automation. Finally, the developed models will be tested and an appraisal of the available alternatives will be performed culminating in the development of a preferred transportation system for the region

Project Duration

3 years

Software Used

TransCad



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PREPARATION OF STUDIES AND DESIGN TO IMPROVE AND ORGANIZE INTERSECTIONS AND ROADS IN DAMMAM (GEOMETRIC DESIGN AND DETAILED TRAFFIC COUNT)

Client:

Municipality of Dammam

Services Provided

The scope of the consultant's work includes carrying out studies and designs to improve and organize intersections and streets in the cities of the Municipality (complete surface geometric designs loaded with surveying, traffic counting and analyzing its data on the transportation model, according to the locations determined by the Municipality within Dammam city. There are 3 phases of work:

1) to prepare a complete geometry design for the streets and intersections (which includes roads, service roads, parking, sidewalks, lighting, agricultural works, landscaping and irrigation network, adding all the necessary architectural designs and providing it with billboard systems, modern traffic instructions and directional and warning panels and rain drainage networks, conducting cadastral and geological surveys, and determination of properties and land uses for existing and future buildings. To collect required data for preliminary & final design for all architectural, construction, electrical and agricultural works, irrigation schemes, rain drainage networks etc., to prepare terms, specifications & BOQs, cost report and to do value engineering for all geometric designs.

2) Conducting the traffic count (Automated & Manual) of the streets and intersections, analyzing it and entering its data on the transportation form of the municipality.

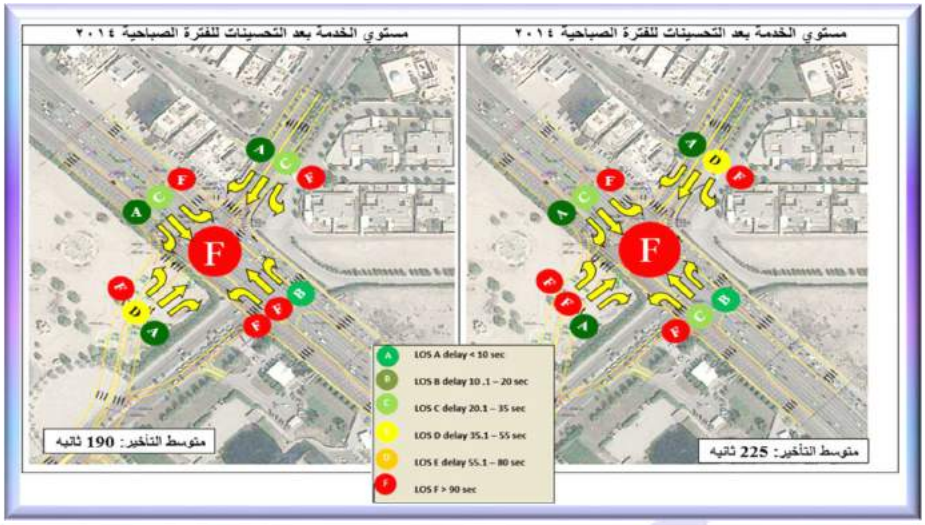
3) Review and evaluation of traffic impact studies prepared for municipality approval.

PREPARATION OF STUDIES AND DESIGN TO IMPROVE AND ORGANIZE INTERSECTIONS AND ROADS IN DAMMAM (GEOMETRIC DESIGN AND DETAILED TRAFFIC COUNT)

Client:

Municipality of Dammam

In addition to the above, ARE has to prepare & Print a booklet of procedures and requirements for accepting traffic impact studies for projects prepared and submit for Municipality Approval.



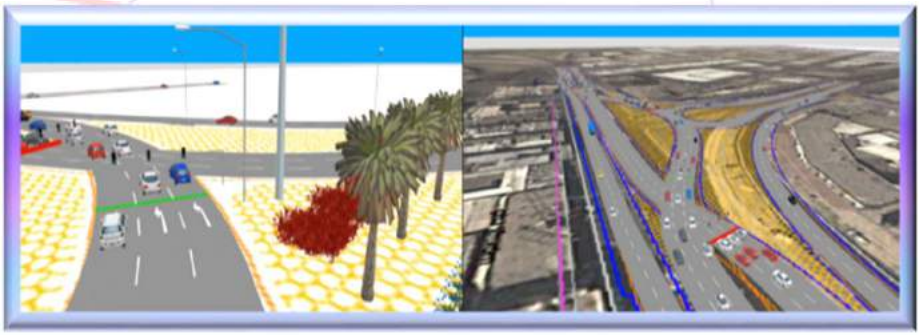
Project Duration

3 years

الزمن	شارع الملك فيصل(شرقا)			شارع الملك خالد (شمالا)			شارع الملك فيصل			المجموع
	←	↑	→	←	↑	→	←	↑	→	
4:00 - 4:15	٣٠	١٧	٣٣	٣٠	٢٠	٠٨	٠٦	٠٣	٥٣	١٩٧
4:15 - 4:30	٣٨	٢٢	٥٤	٧٠	٤٥	٢٥	٠٥	١٠	٤٠	٢٩٩
4:30 - 4:45	٥٣	١٤	٤٤	٧٠	٤٠	٢٥	٠٢	٣٥	٢٨٣	
4:45 - 4:00	٤٨	٠٨	٧٥	٦٥	٤٠	١٢	١٠	٥٠	٣٠٨	
المجموع	١٩٩	٦١	٢٠٦	٢٣٥	١٤٥	٧٠	٢٣	١٧٨	١١٢١	
5:00 - 5:15	٤٠	٢٠	٥٥	٨٠	٥٠	٠٦	١٢	٣٥	٢٩٨	
5:15 - 5:30	٤٣	٢٠	٥٠	٤٢	٢٢	١٠	٠٥	٦٢	٢٥٤	
5:30 - 5:45	٤٨	١٦	٣٨	٥٠	٣٢	١٢	٠٥	٤٠	٢٤١	
5:45 - 6:00	٦٠	٣١	٨٠	٦٠	٣٧	١٣	٠٦	٧٠	٣٥٧	
المجموع	١٩١	٨٧	٢٢٣	٢٣٢	١٤١	٤١	٢٨	٢٠٧	١١١٤	

Software Used

PTV Vissim
TransCad
Synchro Studio
HCS+



UDGAILIYAH – HARADH SAFETY ASSESSMENT

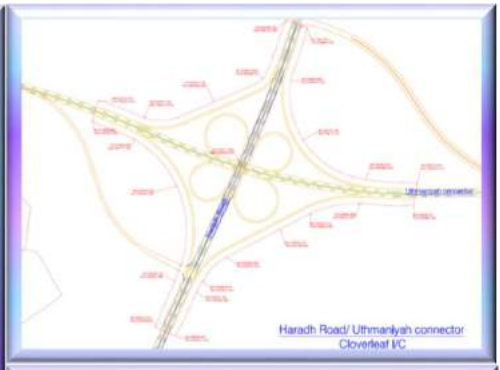
Client:

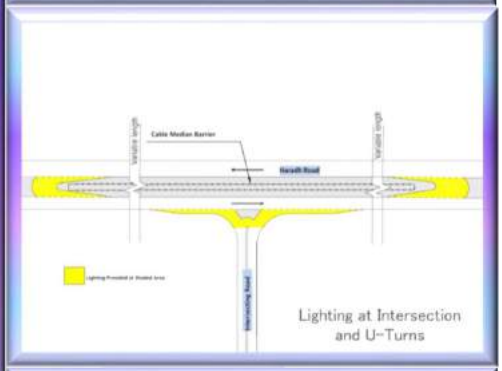
Saudi Aramco

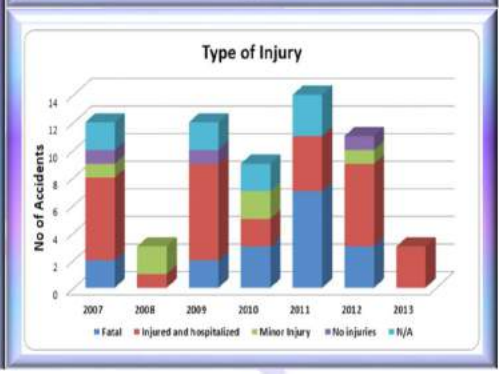
Services Provided

Saudi Aramco's Facilities Planning Division in Dhahran appointed Alrabiah to conduct a detailed safety assessment of the Hofuf –Haradh Highway that is frequently used by Aramco employees and contractors who expressed major concerns.

The scope of work includes analysis of all intersections and access points along the highway during existing and future conditions and providing mitigation measures with concept design to improve operation and increase safety on this road





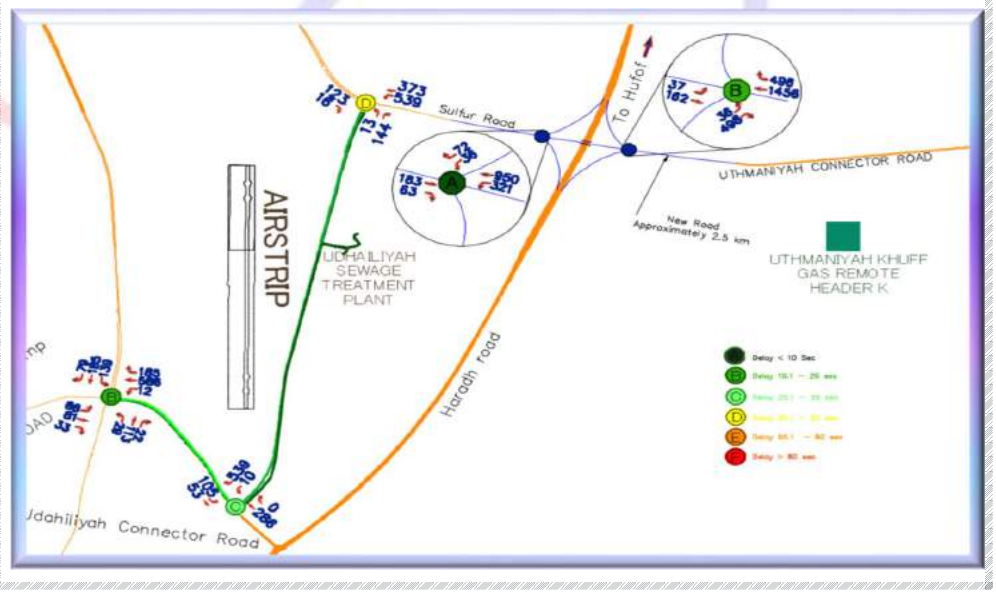


Project Duration

5 months

Software Used

PTV Vissim
Synchro Studio
HCS+
HI-Safe
HSM



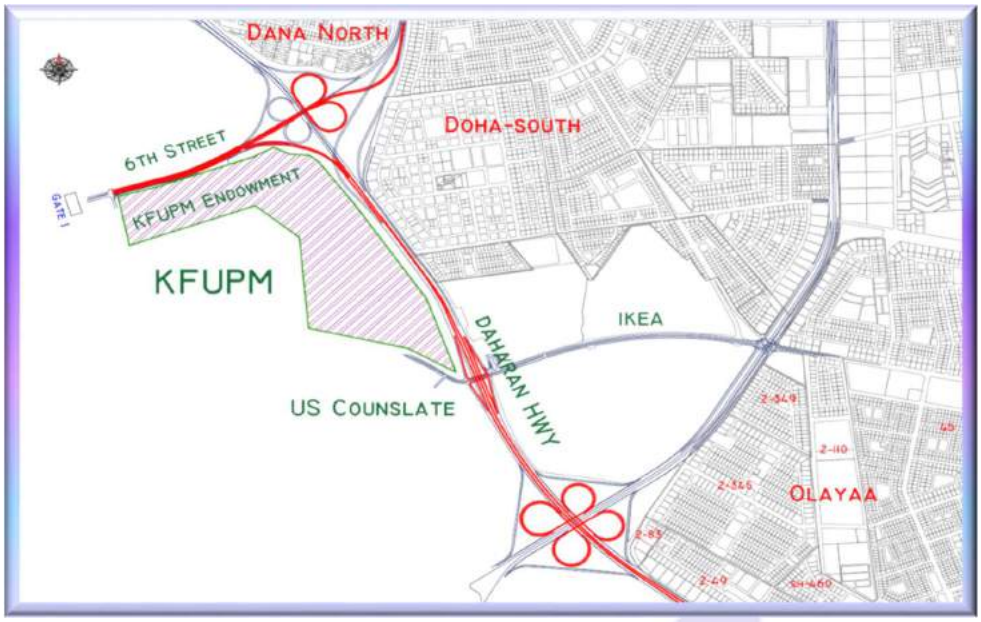
KFUPM ENDOWMENT PROJECT

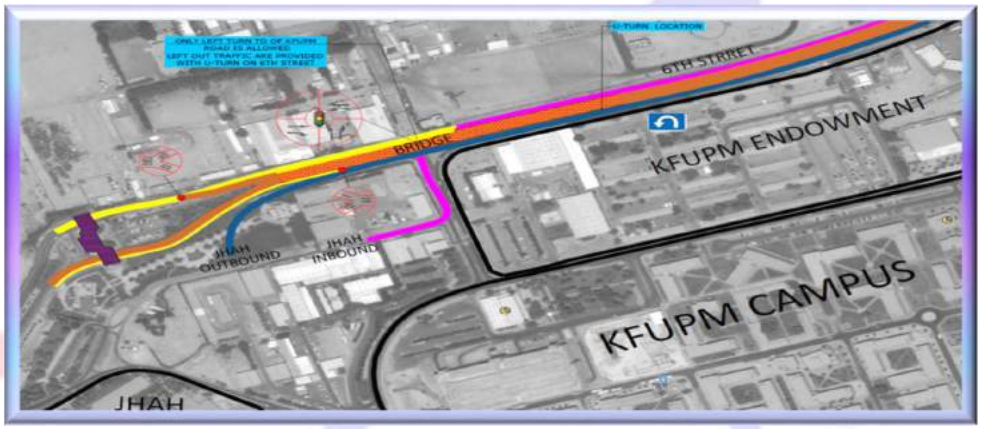
Client:

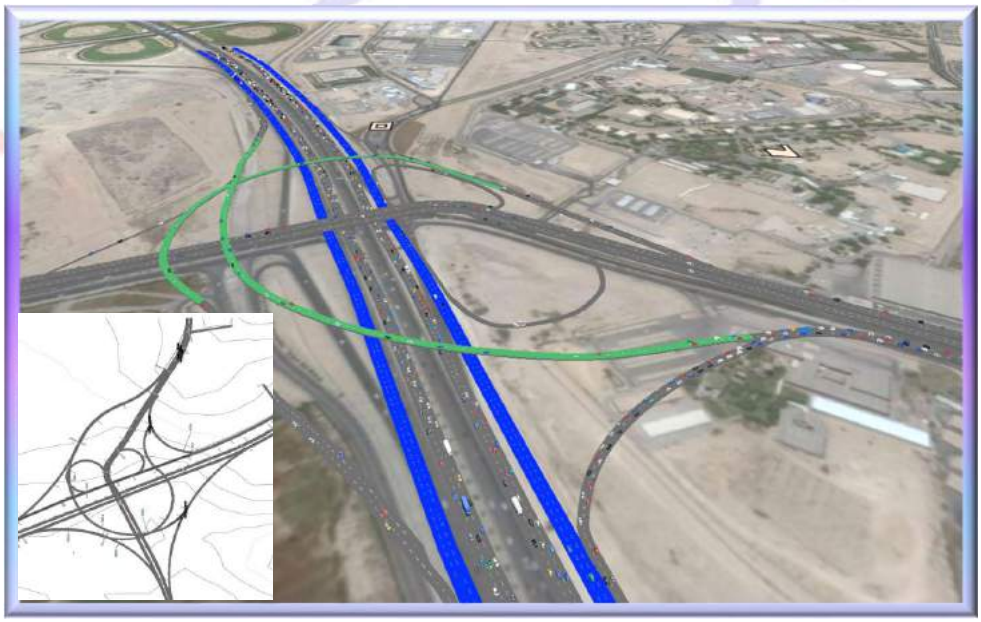
Saudi Aramco

Services Provided

Saudi Aramco's Facilities Planning Division in Dhahran appointed Alrabiah to conduct a traffic impact study for KFUPM Endowment project. The Endowment project is expected to generate 6,000 vph and 5,000 vph, for the AM and PM peak hours, respectively.
The scope of work includes analysis of future conditions and provide mitigation measures with planning level concept design along 6th Street and Dhahran Highway







Project Duration

5 months

Software Used

PTV Vissim
Synchro Studio
HCS+

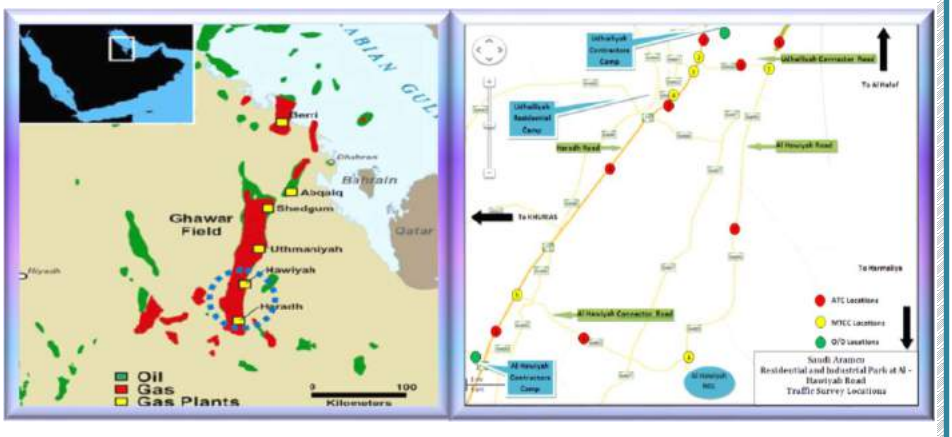
RESIDENTIAL AND INDUSTRIAL PARK AT AL HAWIYAH

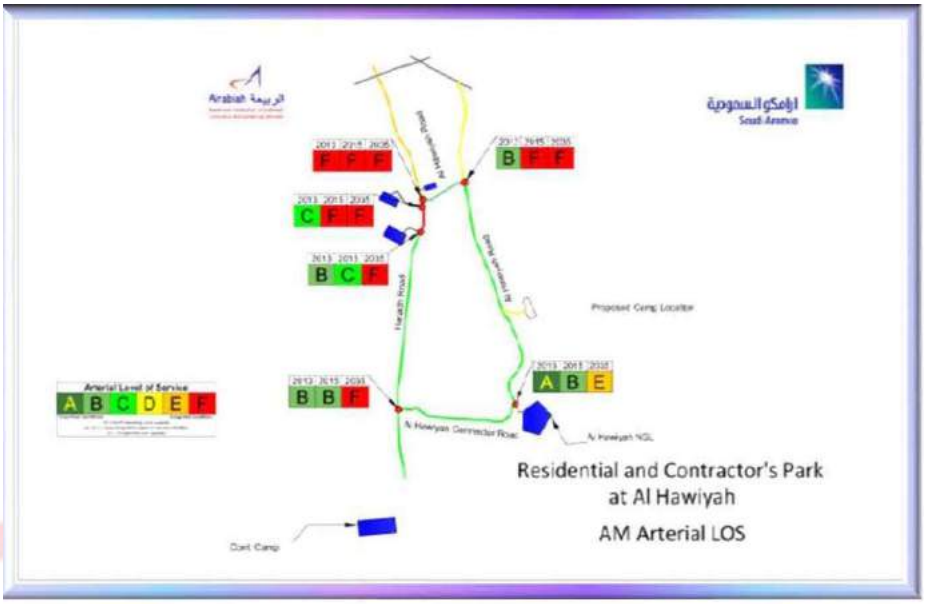
Client:

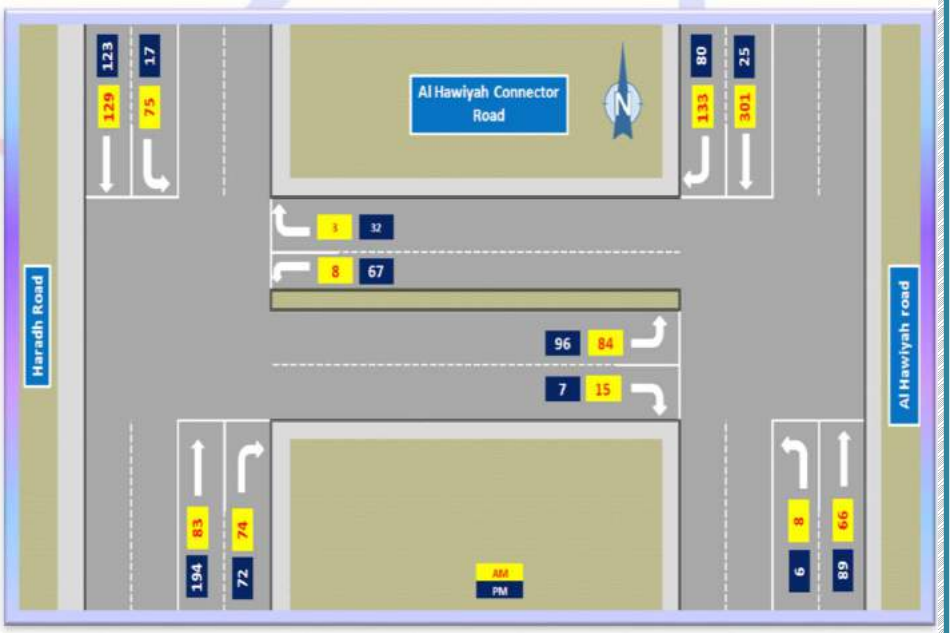
Saudi Aramco

Services Provided

Traffic Impact Assessment for the proposed Residential and Contractor's Park at Al Hawiyah in the jurisdiction of Municipality of Al Hassa. The proposed development covers a land area of (322.48 hectares) of which 120.44 hectares is residential ground, and the remaining 202.04 hectares is an industrial park.







Project Duration
3 months

Software Used
PTV Vissim
Synchro Studio
HCS+
HI-Safe
HSM

TABA MALL TRAFFIC STUDY

Client:

المجموعة العربية للخدمات
ARABIAN SERVICES GROUP

Arabian Service Group

Services Provided

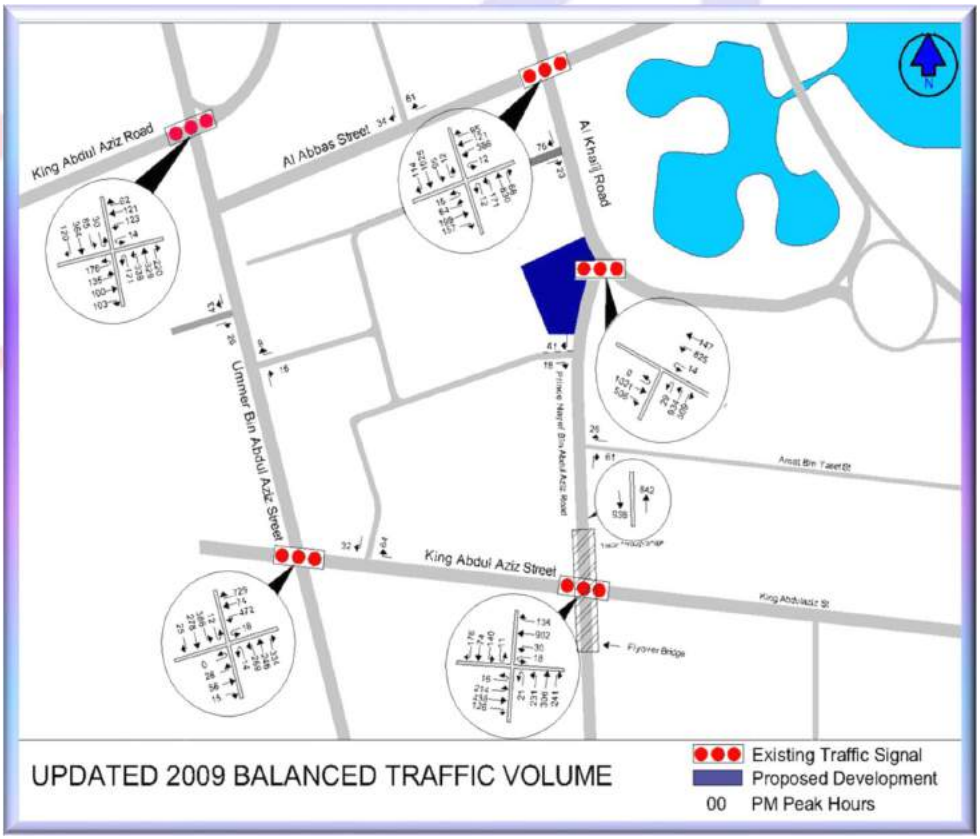
Carry out a Traffic Impact Assessment for a proposed commercial center development at Al Muhammadiyyah in the jurisdiction of Municipality of Dammam. The proposed development covers a land area of (33,547.00 m2) with an approximate built-up area of 60% of the land area. The project location is surrounded by Alkhalij Road on the north, Prince Nayef Road on the east, 20-meter wide local streets on the west and south of the proposed development.

Project Duration

3 months

Software Used

Synchro Studio
HCS+



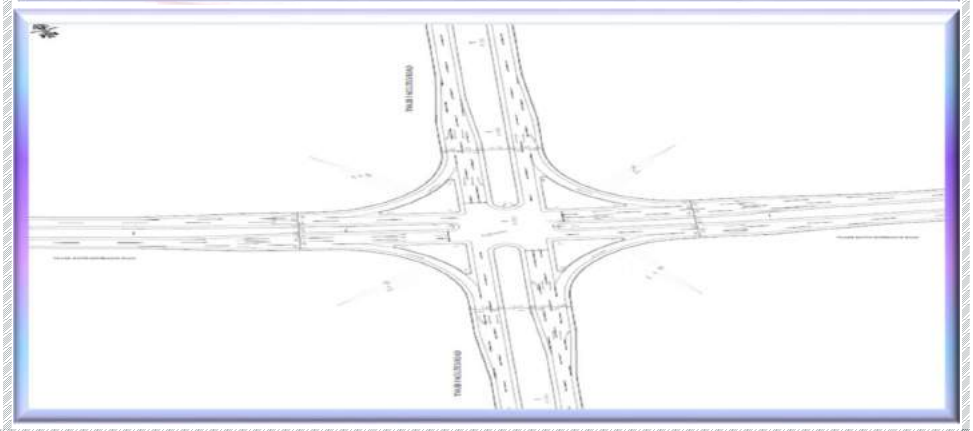
IMPROVEMENT OF TANAJIB ROADS

Client:

Saudi Aramco

Services Provided

The objective of this project is to examine a section of the main highway that includes a major interchange complex and produce designs to improve the traffic flow and capacity over the coming years.



Project Duration

6 month

Software used

PTV Vissim
Synchro Studio
HCS+

STUDY & DESIGN OF ROAD INTERSECTION (KING ABDULLAH X KING FAHAD ROAD)

Client:

Municipality of Al Hassa

Services Provided

The Scope of Works involved a study, design, topographic survey, geo-technical analysis, traffic study, study of geological properties, etc. works to be carried out.

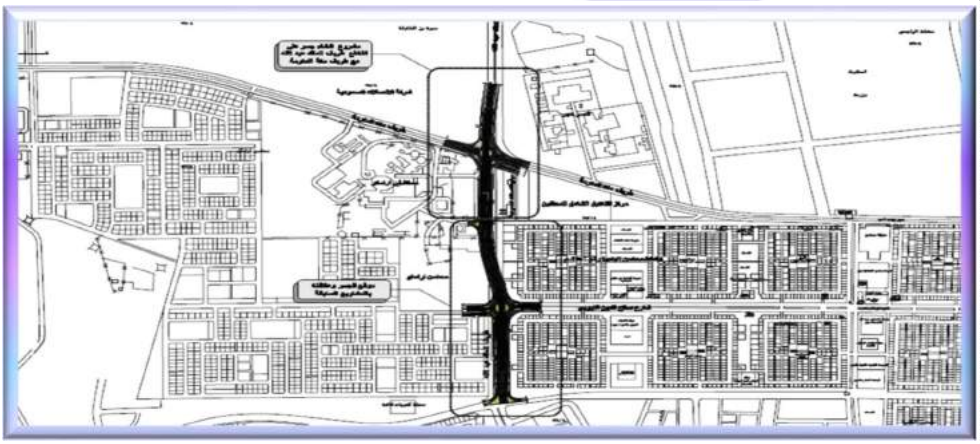
After data collection it was proposed to have an underpass at the crossing in order to ease the traffic, and also feasible considering the available land area. Of course the underpass was proposed along the road where the traffic is heavy. Typical bridge deck supported on retaining walls was designed. The construction was mainly cast in-situ and normal reinforced concrete

Project Duration

I year

Software Used

PTV Vissim
Synchro Studio
HCS+



RAHIB STRIP MALL IN DHAHRAN – TRAFFIC IMPACT STUDY

Client:

Al Argan Projects Co.

Services Provided

The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary.

Project Duration

2 Months

Software Used

- Synchro Studio
- HCS+

KING FAHD & ALNAJAH INTERSECTION - STUDY & DESIGN (TUNNEL OR BRIDGE)

Client:

Municipality of Al Hassa

Services Provided

The scope of works involved a study, design topographic survey, geo-technical analysis, traffic study, study of geological properties, etc. works to be carried out.

Project Duration

2 Years

Software Used

- PTV Vissim
  Synchro Studio
- HCS+

TAMIMI MARKET IN DAMMAM- TRAFFIC STUDY

Client:

Tamimi Real Estate

Services Provided

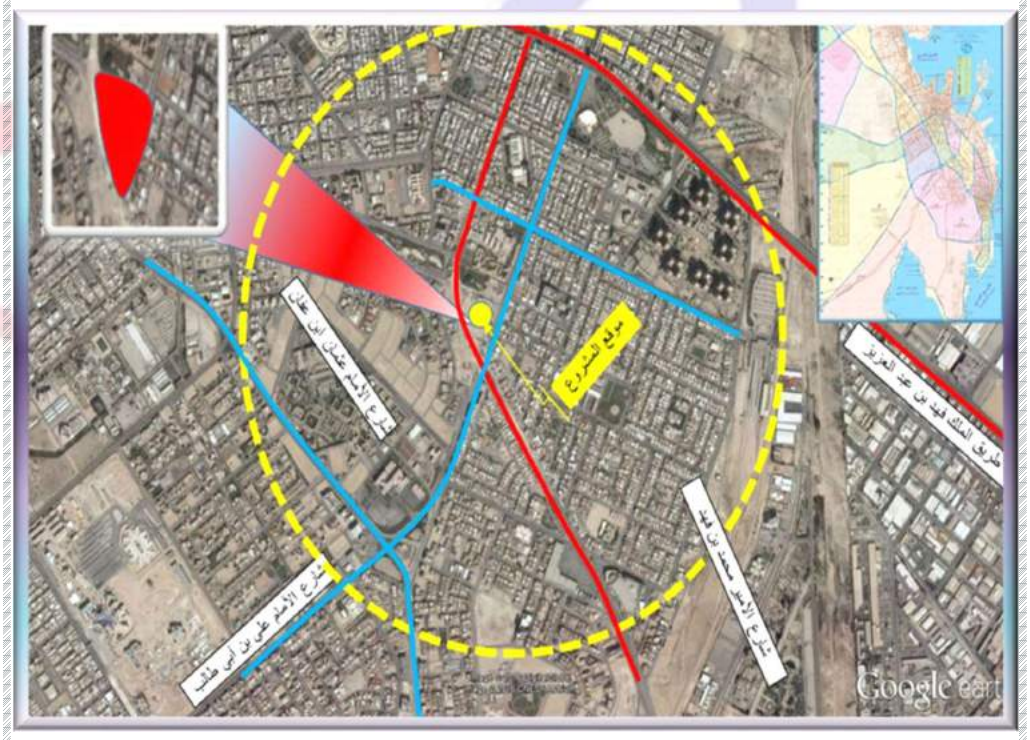
The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database, which will be Fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary

Project Duration

2 Months

Software Used

- Synchro Studio
- HCS+



REFERENCE PROJECTS:

Project Description	Country / Location / Year / Client/Value/Duration
Traffic Data Collection on Prince Mohammed Bin Fahd Road in Dhahran Alrabiah Consulting Engineers (ARE) has been appointed by Saudi Aramco - to conduct Traffic Data Collection on Prince Mohammed Bin Fahd Road in Dhahran Scope of work covers: 1. To perform O-D traffic counts & ATC counts at specified locations. 2. To use camera(s) to record traffic movements on the weaving section to perform the O-D traffic counts. The O-D counts shall be performed during mid-weekdays for three consecutive days (Monday, Tuesday, and Wednesday). O-D counts shall be performed during PM peak period (3:00 – 6:00) PM. 3. To report any unusual traffic operation during the counting dates.	**KSA, Dhahran** 2022 Saudi Aramco Project Value: SR.21,000 Duration: 4 Weeks
Design of New U-turn at Hawiyah Main Road Saudi Aramco has appointed Alrabiah Consulting Engineers to prepare detailed design including construction scope of work, specifications, Material takeoff (MTO), Cost Estimate for a U-turn located at 7 km away from Al-Ahsa Airport roundabout. This also includes layout plan for cable rail guardrail.	**KSA, Hawaiyah** 2022 Saudi Aramco Project Value: SR.81,000 Duration: 2 Months
Geometric Design Review for North Jazan Bulk Plant & Abha Bulk Plant Alrabiah Consulting Engineers (ARE) has been appointed by M.R. Al Kathlan Co. for Contracting (MRK) - to conduct Traffic Impact Study for Jazan Refinery and Abha Bulk Plant. The purpose of the project is to evaluate the geometric design of 195 heavy duty parking bays for both sites. The assessment was carried out on horizontal alignment, width of lanes (i.e. for roadways and parking bays), turning radius at curves, parking orientations, parking circulation with Swept path analysis, and signage plan.	**KSA, Jazan & Abha** 2021 M.R. Al Kathlan Co. for Contracting (MRK) Project Value: SR.78,085 Duration: 4 Weeks
Traffic Impact Study for Retal Rise Construction Alrabiah Consulting Engineers (ARE) has been appointed by Retal Urban to conduct Traffic Impact Study for Retal Rise Construction in Al Khobar, KSA. The project objective is to evaluate the impact of the proposed development on the existing and future road network operation performance in the study area of influence and reflect that on the recently developed model of Dammam metropolitan area using Visum software. The study covers a period of 10 years after the completion of the construction of the two towers, which is expected to be completed by 2024.	**KSA, Al Khobar** 2021 Retal Urban Project Value: SR. 93,265 Duration: 2 months
Government Security Complexes – Traffic Impact Study Alrabiah Consulting Engineers (ARE) has been appointed by Saudi Consolidated Engineering Company - (Khatib & Alami) - to conduct Traffic Impact Study for four security complexes – Kingdom Wide. The project objective is to evaluate the impact of the proposed development on the existing and future roadways network operation performance in the study area of influence. The study covers a period of 20 years after construction of the complex which is expected to be completed by 2023.	**KSA, Kingdom Wide** 2020 Khatib & Alami Project Value: SR. 252,000 Duration: 3 months
Detailed Geometric Design for Star Building Intersection at LIP road, Saudi Aramco Dhahran Area Saudi Aramco has appointed ARE to prepare signalized Florida T intersection detailed design for Star Building intersection at LIP road, to meet the required improvement. The scope of work included re-design existing intersection to include dual left lane and upgrading to a signalized intersection.	**KSA, Dhahran** 2019 Saudi Aramco Project Value: SR. 51,000 Duration: 1 month
Traffic Volume Counting for LIP Road and Intersections at Saudi Aramco, Dhahran. Saudi Aramco has appointed ARE to conduct a Turning movement count (TMC) using cameras for all LIP road intersections in order to evaluate the existing traffic situation and provide best solutions.	**KSA, Dhahran** 2019 Saudi Aramco Project Value: SR. 35,000 Duration: 2 weeks

Project Description	Country / Location / Year / Client/Value/Duration
Geometric Design & Road Improvements at Tamimi Markets -Doha Area Tamimi Real Estate Div. Co. has appointed "ARE" to conduct Topographic Survey and to prepare Geometric Design for Road segment at Tamimi Markets, Doha Area in Dammam.	**KSA - Dammam** 2019 Tamimi Real Estate Div. Co. Project Value: SR. 60,000 Duration: 1 month
QA for Haradh – Hofuf Highway Saudi Aramco has appointed ARE to conduct QA for Haradh Hofuf Highway. This Highway is very important road which extend from Haradh City to Hofuf city in oil field of Eastern Provence of Kingdom of Saudi Arabia. This road first constructed before 1980 and its present condition is very bad due to heavy traffic and most parts of this road are damaged. The vital objective of Reconstruction of Harad Hofuf Highway is to facilitate the Heavy and Light Traffic of Saudi Armaco and to give smooth surface of road for safe journey because there is lot of Saudi Aramco facilities lies around this road. There are many access roads intersecting Harad-Hofuf Road coming from Oil wells, Gas & Oil plants, Water Injection Plants & Gas manifolds of Saudi Aramco.	**KSA- Haradh Hofuf Highway** 2018 Saudi Aramco Project Value: SR 0.38 M Duration: 2.5 Years
Tamimi Market in Dammam – Traffic Study Tamimi Real Estate Div. Co. has appointed "ARE" to carry out traffic study and its analysis on selected roads around the proposed construction of Tamimi Super Market in Dammam. The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database, which will be Fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary	**KSA - Dammam** 2017 Tamimi Real Estate Div. Co. Project Value: SR. 125,000 Duration: 2 months
Rehab Strip Mall in Dhahran - Traffic Impact Study Al Argan Homes has appointed "ARE" to carry out traffic study and its analysis on selected roads around the proposed construction of Rehab Strip Mall Project in Dhahran. The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary.	**KSA - Khobar** 2017 Al Argan Homes Project Value: SR. 87,000 Duration: 2 months
Tilal Al Doha Strip Mall in Dhahran - Traffic Impact Study Al Argan Homes has appointed "ARE" to carry out traffic study and its analysis on selected roads around the proposed construction of Tilal Al Doha Strip Mall Project in Dhahran. The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary.	**KSA - Khobar** 2017 Al Argan Homes Project Value: SR. 164,000 Duration: 3 months
Al Mutlaq Real Estate, Traffic Impact Study Al Mutlaq Real Estate Co. has appointed "ARE" to carry out traffic study and its analysis on selected roads around the proposed construction of Somerset Downtown Hotel in Khobar. The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the proposed traffic movement if found necessary	**KSA- Al Khobar** 2016 Al Mutlaq Real Estate Co. Project Value: SR 0.15 Million Duration: 2 months
KFUPM Endowment Short term design Saudi Aramco has appointed Alrabiah for the detail design of KFUPM Endowment short term design. Which includes detail design of JHAH Access Road which is a vital road to JHAH medical facilities in Dhahran. The road will serve JHAH inbound traffic of the hospital through the KFUPM intersection while outbound traffic will be provide with an access road that takes traffic directly to 6th street.	**KSA- Dhahran** 2015 Saudi Aramco Project Value: SR 0.2 Million Duration: 6 months

Project Description	Country / Location / Year / Client/Value/Duration
Study & analyze traffic data for selected roads in Dammam City A three year contract to Study, analyze, and provide detailed design of 30 intersections in Dammam. Regular Update of Dammam Traffic Model DTM Preparation of Eastern Province Traffic Impact Assessment Guidelines Review of Traffic Impact Studies	**KSA- Dammam** 2013 Municipality of Dammam Project Value: SR 9.85 Million Duration: 3 years
Truck Pipe Yard at Old Abqaiq Road Traffic Study Saudi Aramco's Dhahran appointed Alrabiah to conduct a detailed traffic impact study to determine the impact New pipe yard at Abqaiq, which covers an area of 5,000,000 Square Meter (SM) parcel of land. The new pipe yard will replace the existing pipe yard, which is located in Dhahran. The scope of work will include distributing the expected truck trips on the existing road network, assessment of future condition under different scenarios that include with and without project and will be staged according to the construction schedule and completion date of the Yard and assessment of findings and make recommendations on the intersection connecting the proposed site access road with the new pipe yard.	**KSA-Al Hawiayh** 2014 Saudi Aramco Project Value: SR 0.7 Million Duration: 8 months
Repair of Abuhadriah/Hafer Al-Batem Roads, Site Supervision The Ministry of Transportation appointed Alrabiah to provide Construction management services for the supervision of the repair of various roads between Abuhadriay & Hafer Al Baten. The works mainly involve supervising whether the execution on site is undertaken as per the project contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also include all disciplines viz. civil, surveying, etc.	**KSA-Abu-Hadriah** 2009 Ministry of Transportation Project Value: SR. 10.7 Million Duration: 24 months
Dammam Comprehensive Transportation Study Dammam Municipality has appointed Alrabiah to carry out a comprehensive transportation study of the Dammam Metropolitan Area comprising Dammam, Dhahran, Al-Khobar, Qatif and Ras Tanura with an aim to improve the transportation of individuals and goods in and around Dammam. The project comprises data collection by conducting source destination surveys, stated preference surveys, traffic counts & classification resulting in a database which will be fully integrated into a GIS model of the region. The next stage involves the analysis of data collected for the development of Traffic Analysis Zones, Traffic Networks, and Travel Models; their analysis, rectification and automation. Finally, the developed models will be tested and an appraisal of the available alternatives will be performed culminating in the development of a preferred transportation system for the region.	**KSA - Dammam** 2006 - 2010 Municipality of Dammam Project Value: SR. 9 million Duration: 3.5 years
Study & Design of Road Four Intersections in Al-Hassa City (Al-Mubarraz Ring Road, King Abdullah & Makkah Street, King Fahd & Ain Al-Nejem Intersection, King Fahd Road & Northeast Village Intersection, and King Fahd & Al-Najah Intersection) The Municipality of Al-Hassa appointed Alrabiah to carry out the study and design of road intersections at the junction of King Abdullah x Prince Mohammed Road in Al-Hassa City. The Scope of Works involved a study, design, topographic survey, geo-technical analysis, traffic study, study of geological properties, etc.	**KSA-Al-Hassa** 2009 - 2010 Municipality of Al-Hassa Project Value: SR. 3.5 million Duration: 2 years
Technical Support to Directorate of Traffic & Safety, Al-Hassa Municipality The Municipality of Al-Hassa appointed Alrabiah to provide technical support services for the supervision of various studies related to traffic and safety in Al-Hassa reagion. The works mainly involve assisting the municipality management in monitoring the study projects regarding traffic studies, traffic analysis, road planning, etc.	**KSA-Al-Hassa** 2012 Municipality of Al-Hassa Project Value: SR. 2.6 Million Duration: 24 months

Project Description	Country / Location / Year / Client/Value/Duration
KFUPM Endowment Traffic Impact and access Study Saudi Aramco's Facilities Planning Division in Dhahran appointed Alrabiah to conduct a traffic impact study for KFUPM Endowment project. The Endowment project is expected to generate 6,000 vph and 5,000 vph, for the AM and PM peak hours, respectively. The scope of work includes analysis of future conditions and provide mitigation measures with planning level concept design along 6th Street and Dhahran Highway	**KSA-Dhahran** 2013 - 2014 Saudi Aramco Project Value: SR. 1.2 Million Duration: 24 months
Udhailiyah – Haradh Safety Assessment Saudi Aramco's Facilities Planning Division in Dhahran appointed Alrabiah to conduct a detailed safety assessment of the Hofuf –Haradh Highway that is frequently used by Aramco employees and contractors who expressed major concerns. The scope of work includes analysis of all intersections and access points along the highway during existing and future conditions and providing mitigation measures with concept design to improve operation and increase safety on this road	**KSA-Udhailiyah** 2013 Saudi Aramco Project Value: SR. 1.8 Million Duration: 24 months
Residential and Industrial park at Al Hawiyah Study Saudi Aramco's Dhahran appointed Alrabiah to conduct a detailed traffic impact study to determine the impact of consolidating all contractors' camp in one camp, which will be located on Al Hawiyah Road approximately 60 km south of Hofuf. The scope of work includes analysis of existing conditions before the camp, analysis of future conditions with camp traffic; provide mitigation measures, and concept design of improvement needs.	**KSA-Al Hawiyah** 2013 - 2013 Saudi Aramco Project Value: SR. 0.8 Million Duration: 8 months
Long Term Solution for Bridge Complex in Dhahran Saudi Aramco appointed Alrabiah to carry out a comprehensive study of the Bridge Complex in Dhahran and provide Long term solutions that will be implemented for the next 20 years. The scope of work included providing detailed study of operation of the bridge, and providing detailed engineering design for required improvements.	**KSA-Dhahran** 2009-2009 Saudi Aramco Project Value: SR. 0.8 Million Duration: 8 months
Short Term Solution for Bridge Complex in Dhahran Saudi Aramco's Dhahran appointed Alrabiah to examine a section of the main highway that includes a major interchange complex and produce designs to improve the traffic flow and capacity over the coming years. The scope of work included providing short term measure that can be implemented immediately that will reduce congestions on the bridge.	**KSA-Dhahran** 2009-2009 Saudi Aramco Project Value: SR. 0.8 Million Duration: 8 months
Construction of Bridge/Tunnel at a Road Intersection in Al-Hassa City (King Abdullah x Prince Mohammed Road), Site Supervision The Municipality of Al-Hassa appointed Alrabiah to provide project management services for the supervision of the construction of the above-mentioned facilities. The works mainly involve monitoring whether the execution on site is undertaken as per the project contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also include all disciplines viz. civil, architectural, landscaping, plumbing, sanitary, roads, electrical utilities, etc.	**KSA-Al-Hassa** 2009 - 2012 Municipality of Al-Hassa Project Value: SR. 3.6 Million Duration: 30 months
Safety Audit of Jubail Highway Saudi Aramco's Dhahran appointed Alrabiah to conduct a Safety assessment of Dhahran Jubail Highway which is a 104 km link of road linking Al Khobar, Dammam and Qatif with Jubail and Ras Tanura. The objective of this study is to assess safety issues with the highway in order to reduced accidents and provide detailed design of mitigation required improvement	**KSA- Daharan-Jubail** 2013 - 2013 Saudi Aramco Project Value: SR. 0.8 Million Duration: 8 months

Project Description	Country / Location / Year / Client/Value/Duration
Data Collection and Analysis As part of the General Engineering Services Contract, Alrabiah was engaged in numerous transportation and Traffic projects that covers data collection and analysis of results of isolated road sections or intersections such as: • Abqaiq Interchange Exit Ramp • Abqaiq Gates traffic Study • Aramco Clinic Centre traffic Study • Core Parking Area traffic Study • At Ain Dar Core Area traffic Study • Jubail Cut-off Road traffic Study • KFIA Traffic Study • Old Haradh Road traffic Study • Safaniyah Road Traffic Study • Traffic Survey for Petrorabigh, Phase Ii traffic Study • Juaymah Main Road With Rt / Dh Road traffic Study • Bridge Complex Traffic Study • Fadili Intersection Traffic Study • Traffic Survey for Ain Dar & Shedgum (Phase-I) • Qurayah Sea Water Plant Traffic Study • Tanajib Marine Facility Traffic Study • Berri Gas Plant Speed Study	**KSA** 2008
Pavement Maintenance Management Systems in Saudi ARAMCO The activities for this engineering pavement evaluation of ARAMCO facilities included review PMMS data collection procedures, manuals and guidelines provided by ARAMCO, perform all PMMS (Pavement Maintenance Management System), data collection, engineering associated work for the roads & areas, PMMS (Pavement Maintenance Management System) Distress Survey data collection work for the Facility Type Road & Areas Scope of work. ARE also provided engineering assistance in the form of either consultation or manpower supply to Roads Division engineers in the Asphalt Materials Specifications, Traffic Engineering, Design Packages Review, and Evaluation of New Paving Techniques. In addition, the works also involved the quality control measures that included, Soil testing, Aggregates testing, Asphalt testing, Slurry Seal and Asphalt Super pave testing.	**KSA - Dammam** 2008 - 2023 Saudi ARAMCO Project Value: SR. 32 million Duration: 15 years
Contract # HQ071AGOC12 - General Engineering Services The ARAMCO Gulf Operations Co. (AGOC) Transportation Division, appointed Alrabiah to provide general engineering services for the comprehensive design of the carry out the study and design of various transportation projects which includes road dosing, transportation improvements, and traffic engineering studies	**KSA - Dharan** 2008 - ongoing ARAMCO Dhahran Project Value: Undefined Duration: 5 years
Study & Design Internal Ring Road in Al-Ahsa Alrabiah has been appointed for the study and design of the internal ring road of the Al-Hofuf city with an aim to improve the traffic flow within and across the city. The study intends to study the existing roads and design a new internal ring road to enable the traffic to flow smoother. The study also includes traffic survey, topographic survey, design of roads, etc.	**KSA - Al-Hofuf** 2007 - 2008 Al-Hassa Municipality Project Value: SR. 2,985,000 Duration: 11 months
Study & Design of Jumoom – Zima Road The Ministry of Transportation appointed Alrabiah to carry out the study and design of the roads between the two towns close to Makkah. The Scope of Works involved a study, design, topographic survey, geotechnical analysis, traffic study, study of geological properties, etc. works to be carried out.	**KSA-Makkah-Jeddah** 2005 - 2006 Ministry of Transportation Project Value: SR. 1,500,000 Duration: 1 year