



## TRAFFIC CONTROL & INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Traffic Tech is a leading provider of engineered solutions in traffic control & intelligent transportation systems (ITS).

Experience in Traffic Engineering, we deliver innovative and cost effective solutions that exceed global safety standards and optimise traffic and transport operations in the Gulf region.

**Our core expertise in systems integration deliver turnkey solutions that include:**

- Traffic Signals
- Urban Traffic Control System
- Intelligent Transportation Systems (ITS)
- Traffic Monitoring, Surveillance, & Law Enforcement

*“ Experience in  
Traffic Engineering ”*



# Traffic Signals & Urban Traffic Control (UTC) Systems

## Range of Products

We partner with highly specialised suppliers to offer the market with advanced equipment that include:

- SCATS® Adaptive Urban Traffic Control (UTC) System
- Traffic Signal Controllers
- Traffic Signal Heads
- Vehicle & Pedestrian Detectors (in & above ground)
- Traffic Signal Poles & Gantries
- Outdoor Type UPS
- Automatic Change-Over Switch (ACOS)
  - Outdoor Type
- Control Room Equipment
- Road / Railroad Crossing Control Equipment
- VIP & Emergency Vehicle Preemption Systems
- Bus & LRT Priority Systems
- Intelligent Pedestrian Crossing Solutions
- School Zone Traffic Safety Solutions
- Airport Signaling

***“ hundreds of traffic signal installations across the Gulf region ”***

With hundreds of traffic signal installations in Qatar, Bahrain, Saudi Arabia, Lebanon, Syria, and United Arab Emirates, Traffic Tech's Traffic Signals and Urban Traffic Control Systems play a vital role in the region's transport infrastructure development.

**We are the region's leading professional partner in providing turn-key solutions in:**

- Road Intersection Design
- Signal Analysis & Design
- Traffic Signal Installation
- Design, Installation, & Operation of Complete Urban Traffic Control Systems
- Maintenance & Operation of Traffic Signals and UTC Systems





## Design Capability

From a simple road junction to multiple and complex intersections, our clients tap on our expertise in developing optimum traffic signal designs.

We leverage on our unique advantage of having highly specialised team of engineers, equipped with vast knowledge gained through years of experience in traffic engineering.

We have the capability to recommend all the necessary components, ducting details, cabling layout, and traffic signal phasing for any type of intersection.

Other than designing our projects, we also offer our design services to consultants /urban planners.

*“ unique roundabout traffic signal design ”*



With increasing vehicle volumes in the Gulf region, vehicular accidents and traffic jams have been an ongoing challenge, mainly because of the large number of roundabouts in the region.

As a solutions provider, Traffic Tech takes pride in developing a unique roundabout traffic signal design. We have successfully signalized more than 20 roundabouts in Doha-Qatar since 2006.





## Urban Traffic Control (UTC)

Our award winning urban traffic control (UTC) system enables efficient traffic signal phasing of multiple intersections.

### UTC provides road users with benefits such as:

- Reduced number of stops
- Reduced travel times
- Significant fuel savings

### Sydney Coordinated Adaptive Traffic System (SCATS®)

SCATS® is the most advanced and widely used fully adaptive urban traffic control system in the market today.



Its real-time response to changing traffic condition ensures the most appropriate traffic signal phasing to safely direct traffic through intersections.

SCATS® uses real time traffic adaptive approach to urban traffic control by measuring current traffic conditions and adjusting Cycle Lengths, Splits, and Offsets.

### Features and Benefits of SCATS®:

- Detects real time changes in traffic flow and adjusts timing parameters constantly to match changing traffic patterns and achieve optimised operation.
- User friendly Graphical User Interface (GUI) that allows for easy operation.
- Hierarchical structure of signal control facilitates a “modular” approach to system expansion.
- Can be upgraded or expanded to meet changing requirements.
- Other applications can be integrated into the system.
- Provides details/reports of traffic flows for other planning purposes.
- SCATS® enables a hierarchical system of fall back operation in the event of temporary communications failure. Such equipment faults are monitored by the system.



## VIP & Emergency Vehicle Preemption System

VIP & Emergency Vehicle Preemption System allows traffic lights' normal operation to be preempted to provide safe passage of emergency vehicles at an intersection.

Normally on standby mode, the system triggers priority phase once it receives an emitted signal from emergency vehicles equipped with a preemption emitter.



- Provides immediate green light or right of way on intersections.
- Can be used by VIP or emergency vehicles such as fire trucks and ambulances.
- Equipped vehicles have an emitter that broadcasts visible light and/or infrared signal to a receiver which is mounted on or near the traffic signal.
- The system can be integrated into an intersection traffic signal controller or into a complete UTC (SCATS® controlled).



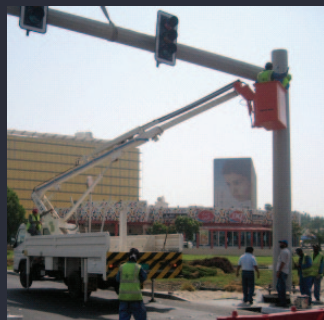
## Traffic Signal Maintenance & Operation of UTC System

Traffic Tech offers complete maintenance and operation services of traffic signals and/or urban traffic control system.



### Our maintenance and operation scope includes:

- Routine maintenance of all traffic signal equipment and accessories to ensure normal day-to-day operations.
- Scheduled preventive maintenance that includes cleaning and painting of traffic signal poles, signal heads, controller inspection chambers and other accessories.
- Call-out services - Fault call from concerned authorities and accident remedial works.
- Modification works of traffic signal based on current requirements of an intersection.
- SCATS® operation and maintenance.



***“ most competent service contractor of traffic signals and UTC systems in the region ”***



With our decades of experience and a team of highly skilled and equipped technicians and engineers, we are considered the most competent service contractor of traffic signals and UTC systems in the region.

# Intelligent Transportation Systems (ITS)

In order to deliver Intelligent Transportation Systems (ITS) that improve safety, efficiency, minimize travel times, fuel consumption and carbon footprint of traffic and transport systems, Traffic Tech provides a seamless integration of information and communications technologies into a unified integrated system.

Comprehensive ITS expertise allows the company to offer clients a full range of ITS services including audit, improvement, planning, design, deployment, installation, operation and maintenance of entire systems.

A team of more than 70 highly qualified engineers from all ITS related disciplines (Civil / Traffic, Electrical, Electronics, Electro-Mechanical, IT and Communications) provides our clients the most appropriate customised ITS solutions to any of their ITS related requirements.

*“ a team of more than 70 highly qualified engineers from all ITS related disciplines ”*



**Traffic Tech takes pride in pioneering most of the ITS services in the region including:**

- Freeway Management Systems
- Toll Collection Systems
- Tunnel Management Systems
- Traffic Data Collection Stations
- Traveler Information Systems
- Adaptive Traffic Signal Systems
- Weigh-In-Motion (WIM) Stations
- Over-height Vehicle Detection Systems
- Incident Detection Systems
- Mobile ITS System for Work Zones
- Parking Management & Guidance Systems
- Public Transport Management Systems
- Variable / Dynamic Message Signs
- CCTV & Automatic Number Plate Recognition (ANPR)
- Weather Stations





## Design - Build Expertise

### Our experience is your advantage

Leverage on Traffic Tech's wealth of experience, engineering resources, and established partnership with leading OEMs, to execute your Design-Build requirements. Save your time and resources, and be assured that you'll get a complete system by merely providing functional specifications of your ITS projects.

We are here to partner with you in implementing your ITS projects with Design-Build approach. We have successfully implemented large scale ITS projects in the Gulf region using this approach including:



The Lusail Expressway ITS



The RAAR Tunnel Management System



The Doha Urban Traffic Control System



The Salwa Highway ITS / Truck Weigh Stations



The Duhail Interchange Over-height Vehicle Detection System

# Freeway Management System

Traffic Tech combines advanced technology and intelligent transport systems (ITS) in providing Freeway Management Systems that facilitate safe and efficient operations of a regional freeway infrastructure.

**Freeway Management System includes technologies and systems that help...**

- Improve and control the flow of traffic.
- Provide advance information to motorists on accidents or road works.
- Aide the management of incidents and/or accidents.
- Reduce accidents by implementing systems that execute control of vehicle height and load limits.



## Typical System Components

### Fiber Optic System – IP Network

- Backbone of the entire system.
- Provides fast and high capacity data transmission to establish communication between all the components of the system.

### System Control with User Friendly Graphical User Interface (GUI)

- Advanced Traffic Management Software with Graphical User Interface (GUI) rich in image that facilitate operator task.
- System map with active icons that represent all the subsystems. Controls all of the system's devices.
- Alarm panel – Traffic alerts & system faults
- Incident/Accident monitoring and management.



### Automatic Incident Detection Cameras

- Triggers an alarm to the system when it detects slow traffic movement, traffic flow in the wrong direction, close vehicle gaps, high speed differential or even unidentified objects on the road.



## CCTV System – Video Surveillance

- Video over IP system.
- Provides real-time view of traffic on the freeway.



- These cameras are monitored from the system's traffic control center to see how traffic is moving on freeways and identify trouble spots. If an accident happens on the freeway, operators can assess the scene and provide information to public safety and emergency crews.

## Emergency Roadside Telephone

- With default dialing to the control center and emergency services.



## Variable Message Signs

- Displays texts and graphics. Bilingual characters (Arabic & English).
- Provides motorists with advance notification of accidents, lane closure, road work, etc.
- Lane management
- Displays variable speed limits.



## Over-height Vehicle Detection

- Promotes accident prevention by controlling entry of over-height vehicles.



## Weigh-In-Motion (WIM)

- Sensors mounted on the road that captures information on vehicle axle loads, gross weight, speed, & classification.
- WIM can be integrated into a truck weigh station to function as prescreening stage.
- Data can also be used for surveys and statistics.
- Traffic Tech is a certified installer of Kistler Quartz sensor.



***“ Award Winning  
Truck Weigh Stations ”***

## Truck Weigh Station

- Enforcement of truck axle load limit.
- Axle load limit enforcement extends pavement life of the road, reduces road user cost through improved road conditions, and prevents accidents caused by overloading.



- WIM preliminary screens potential overload violators.
- After preliminary screening, traffic lights & directional signs direct trucks to bypass or go through a static scale.
- Static Scale/Scale House – thoroughly weighs trucks. Authorities then issues violation tickets as necessary.
- All the data obtained by truck weigh stations can also be used for surveys and statistics.





## Tunnel Management System (TMS)

- Real-time tunnel traffic monitoring and optimum incident/accident management.
- Vehicle guidance in the tunnel and at the approach giving advance notice to motorists on tunnel condition.
- Accident prevention through enforcement of speed limit and over-height limit.



- Proper lighting, lane illumination, ventilation, and emergency equipment inside the tunnel (emergency telephone, fire extinguishers, illuminated exit directions).
- Incident detection and alarm system triggered through automatic incident detection cameras.
- Incident/Accident management facilitated by predefined emergency procedures / system settings manipulated from a main control activating all components of the system.



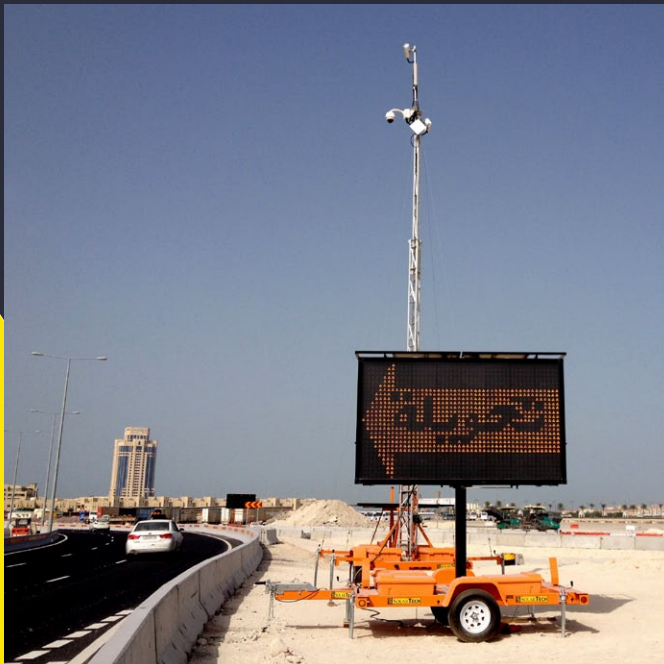
## TMS Components

- Video Workstation with Graphical User Interface (GUI)
- Over-height Vehicle Detection (OVDS) System
- Variable Message Signs
- Variable Speed limit Signs
- Lane Control Signs
- Speed Enforcement Cameras
- Incident Detection & Surveillance Cameras
- Lane Lights LED Road Markers
- Illuminated signs
- Emergency Response Telephone System
- Tunnel internal lighting, ventilation, fire equipment, and flood control system



## Work Zone ITS

- The system provides traffic professionals / contractors a tool to monitor work zones and surrounding traffic.
- The system gives motorists advance notice on road condition.
- The system uses portable and solar powered components integrated over wireless communications for maximum mobility.



### System Components & Functions:

- Smart Eye (Pan-Tilt-Zoom Camera) – Portable camera system for contractors to monitor construction development in work zone areas and for traffic professionals to monitor surrounding traffic condition.
- Variable Message Signs – Provides motorists with advance notification on road condition.
- Speed Detectors – Detects speed of approaching vehicles.
- Cameras/Radars – Detects volume of vehicles few kilometers away from work zone.
- Control Systems – Processes the data on vehicle volume and speed of vehicles towards the approach of the work zone area.
- Variable Speed Limit Signs – Using data processed by the control system, it will display advance information and recommended speed limit towards the approach of the work area.





## Traffic Monitoring, Surveillance & Law Enforcement

*“ extensive experience in  
most available traffic  
detection technologies ”*

We offer an extensive range of traffic detection technologies that include:

- CCTV Surveillance
- Incident Detection Systems
- Traffic Counters, Classifiers, & Permanent Data Collection Stations
- Speed Detection Systems
- Red Light Violation Cameras
- Over-Height Vehicle Detection Systems (OVDS)
- Truck Weigh Stations
- Automatic Number Plate Recognition (ANPR)
- Fleet Management Systems
- Public Transport Management Systems
- Digital In-Car Video System for Police Applications
- Inductive Loop Testing / Finding Equipment
- Preformed Inductive Detector Loops
- Video Detection Systems
- Vehicle License Plate Manufacturing Equipment & Materials
- Police Equipment



Traffic Tech possesses extensive experience in most available traffic detection technologies and their applications in the traffic monitoring, surveillance & law enforcement fields.

## Speed Detection & Red Light Violation Camera

Traffic Tech offers a complete range of traffic enforcement solutions including design, installation, maintenance and operation of Red Light and Speed Camera Systems in both fixed and mobile configurations. Our systems are based on proven and internationally homologated detection technologies including radar, laser and inductive loops.



## Over-height Vehicle Detection & Warning System (OVDS)

- Detects over-height vehicles and warns drivers of an impending problem.
- Alerts and directs the driver via warning signs and warning bells to take corrective action.
- Provides secondary warning beyond existing signage in the interest of public safety.
- Reduces exposure to costs associated with incidents or accidents
- Proven to minimize or eliminate the occurrence of accidents and incidents caused by over-height vehicles.

### System Components:

- Over-height vehicle is detected by OVDS.
- Alarm Bell activates with Warning Sign. Parabolic shield focuses sound towards the vehicle, drawing the drivers attention to the warning sign.
- Warning Sign activates with Alarm Bell. Sign message alerts driver to over-height hazard and provides for appropriate response.

### Applications:

- Bridges
- Tunnels
- Railroads
- Airport Overhangs/  
Walkways
- Temporary Falsework
- Car Carriers
- Equipment Yards
- Parking Structures
- Logging Trucks
- Overpasses

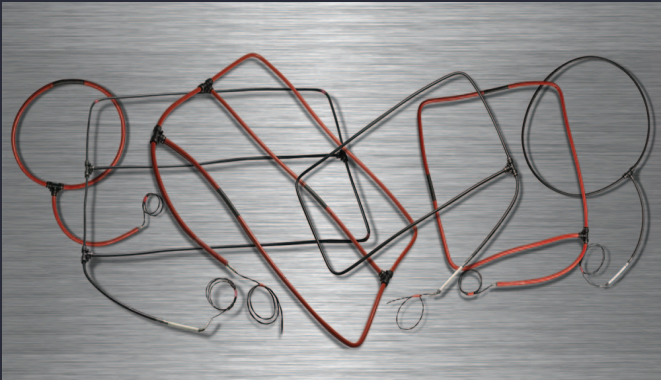




# Vehicle Detection Systems

Traffic Tech installed thousands of inductive loops, both saw cut and preformed.

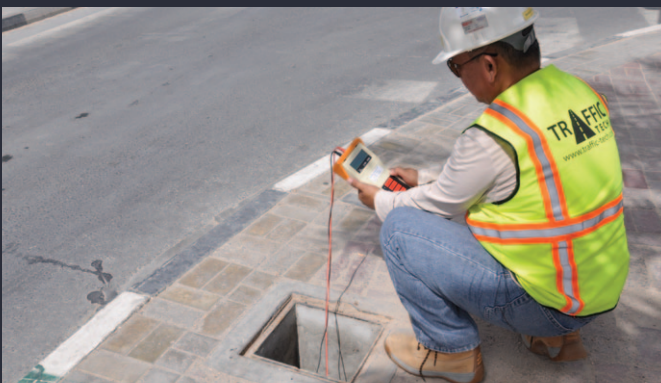
## Preformed Inductive Loop



- Preformed loops are highly recommended for new construction where new asphalt is laid.
- Lasts much longer than saw cut loops.

Traffic Tech also makes sure that these loops are installed properly and we do high level testing after installation and periodically thereafter using advanced inductive loop tester.

## Traffic Tech LTM-1000 In Pavement Loop Tester



- Rugged field service instrument designed for in-pavement loop analysis.
- Displays open circuit, short circuit, DC resistance, inductance, loop 'Q' and tuned frequency.

## Traffic Video Detector

Traffic Tech offers traffic video detection system used for both traffic signals and incident detection applications.



- Provides a combination of data & images that delivers enormous advantage in the field of automatic incident detection (AID).
- For traffic signals application, video image from the sensor allows accurate positioning of multiple presence detection zones.

## Remote Traffic Microwave Sensor (RTMS)

Traffic Tech is an authorized distributor of the RTMS® G4™ Remote Traffic Microwave Sensor, a non-intrusive, radar-based advanced sensor for the detection and measurement of traffic on roadways.



- Small roadside pole-mounted radar, operating in the microwave band.
- Combines a high resolution radar and a variety of communications options including wireless solutions all in a single enclosure.

## Professional Services

With our extensive experience in traffic management, we are highly qualified in providing professional services on traffic surveys, data collection and analysis, and urban traffic control operation and design among others.

**We provide professional services in the following specialised areas:**

- Optimisation of SCATSTM Urban Traffic Control (UTC) System
- Design of UTC & Central Management System
- Evaluation & Recommendation of Appropriate Technologies in the Fields of Traffic Monitoring, Control, & Safety
- Traffic Signal Analysis and Design
- Traffic Management in Work Zone Areas



Traffic Tech is an approved service provider in the field of traffic data collection. We employ full time staff to carry out field surveys, while engineers/analysts process the data. We own a wide range of traffic data collection equipment such as Video cameras, automatic traffic recorders, speed radars, axle load scales & software applications to guarantee reliable and accurate data collection.

- Video Surveys and Analysis
- Automatic Traffic Counts
- Manual Turning Movement Counts
- Vehicle Classification Surveys
- Axle Load Surveys
- Parking Studies
- Pedestrian / Cyclist Surveys
- Speed Surveys
- Travel Time and Delay Surveys
- Queue Length Surveys
- Saturation Flow Surveys
- Headway and Gap Acceptance Studies
- Origin-Destination Surveys
- Trip Generation Surveys
- Household Interview Surveys





# OUR PARTNERS





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