Kapsch TrafficCom

Jeddah, Makkah and Madinah

ATVAM Project

As cities grow, the mobility needs of citizens change. Combined with specific events that increase the pressure on infrastructure, both in urban areas and at city entrances, this leads to scenarios in which a proper management of mobility is crucial. Some important Middle Eastern cities have specific congestion and safety problems due to their infrastructure design and seasonal mobility profile.

In particular, the cities of Jeddah, Makkah and Madinah have a very dense city network layout, with very short distances between intersections, which presents challenges for the development of strategies for tackling congestion. Furthermore, they suffer from a massive traveler demand during certain periods of the year, due to pilgrim's travels along the country.

Driving sustainable urban mobility with advanced traffic solutions that tackle congestion and enhance accessibility.

As a consequence, Kapsch TrafficCom was awarded the contract for Conducting a comprehensive Traffic Engineering study to identify, design, install and operate the best solutions to the cities' current traffic conditions.

Project Scope:

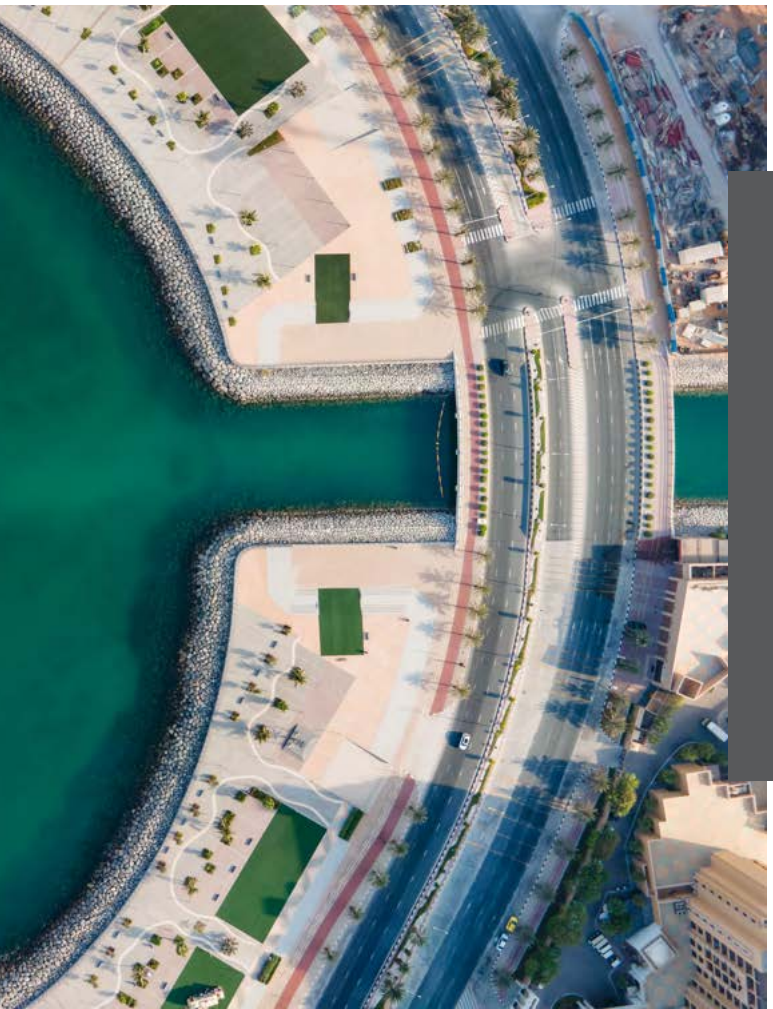
- Conducting a comprehensive Traffic Engineering study to identify the best solutions to the cities' current traffic conditions
- Implementation of the EcoTrafiX for Cities solution, configured as Adaptive Urban Traffic Control (ATC) that is real-time reactive, as needed to optimize traffic flow
- Design of a Traffic Management Center in each city
- Real-time information dissemination system through Dynamic Message Signs (DMS) that allows drivers real-time decision taking
- Traffic control system through Lane Control System (LCS) and Variable Speed Limit Sign (VSLS) equipment, for a quick response in infrastructure optimization due to incidents management
- CCTV system allowing a direct view of traffic incidents
- Video-based vehicle detection and classification system
- Geolocation system deployed in police patrols fleet
- Automatic Number Plate Recognition (ANPR) security system, deployed in different locations, especially at city entrances, based on black lists for vehicle location, as well as Mobile License Plate Reader (MLPR) on-board equipment for police patrols.

The Challenges:

- Improving mobility in each city by providing modern and standardized (NTCIP-compliant) equipment
- Providing en-route traveler information to motorists
- Providing automated incident detection improving security and response time to incidents
- Improving security with a CCTV system
- Providing a tool for the design and execution of contingency plans
- Improving security by detecting black-listed vehicles via their license plates
- Enhancing security by enabling the city police forces to determine the nearest vehicles (both cars and motorcycles) to the black-listed vehicle position
- Managing the new system in each city using a scalable central system software package
- Difficulties due to lack of an integrated central system software package
- Coordination of different stakeholders involved in mobility management

The Solution:

- A complete and fully integrated tool that supports authorities' mobility management and enables them to identify traffic events and react in a proactive way, which improves traffic flow.
- Provides operators the tools for managing the available information and its integrated presentation as well as the needed control capability, including data on traffic, parking, traveling times, variable message signal, CCTV, parking, etc.
- Reinforces the concept of a modal change, promoting travelers to use public transportation instead of private vehicles. This requires a combination of suitable conditions, including a regular transport service, reliable, fast, secure, and with the appropriate coverage. Likewise, it provides real-time information allowing drivers and citizens to know the traveling times on usual routes, or at least to know where to quickly obtain information about public transport timetables.
- Includes all applications and tools needed to support different management levels, from equipment operation to the supervision of the higher hierarchical level and information diffusion.



The Added Value

- A reduction of up to 15% in travel times, which has resulted in improved mobility in the cities as well as fuel savings.
- Optimization of city mobility through real-time knowledge of the traffic situation analyzed with latest-generation tools that provide increasingly effective solutions.
- Maintaining a high level of safety by minimizing the probability of accidents and enabling traffic operators to react quickly and effectively to any incident.
- Prevention of critical situations by applying a management policy aimed at reducing incidents and increasing the safety of motorists.
- Environmental protection and improvement of air quality, reduction of air pollution and noise.

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