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# **Mobility as a Service (MaaS) in Dubai - The role of Dubai RTA in the development of MaaS**

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Managing Director – Innova Consulting Ltd



# Speaker Bio

Ms. Zeina Nazer (MSc. PE. MBA.) is an Entrepreneur and a global figure in the field of Intelligent Transport Systems with over 23 years experience in the design, management, operations and performance evaluation of Intelligent Infrastructure Systems in ME, Europe, S.E. Asia and USA.

Zeina has contributed to Standards development of ITS in Europe, US, New Zealand and ME and managed the delivery of several advisory services contracts to public sector clients relating to major Transport Master Plans, Public Private Partnership (PPP) and projects (PFI).

Zeina has Bachelor of Sciences in Civil Engineering from American University of Beirut; MSc. in Transportation Engineering from University of Texas at Austin; and MBA from University of Chicago. Zeina is a Professional Engineer licensed in the USA.

Zeina was awarded “Best Business Woman of the Year” at the 8th Middle East Businesswomen and Leaders Achievement Awards, Dubai, UAE.

# Executive Summary

Mobility as a Service (MaaS) provides solution to urban congestion and optimisation of individuals' travel profiles.

The technology to set up a solution is becoming increasingly widespread, with single account solutions for multi-mode transport, and trip planning and tracking applications. But what is stopping widespread adoption and acceptance in the Middle East and North Africa?

Government Authorities are the only DECISION MAKERS in determining the speed of MaaS and CASE (Connected, Automated, Shared, Electrical Vehicles).

***“Connected, Autonomous, Shared, Electric: Each of these has the power to turn our entire industry upside down. But the true revolution is in combining them in a comprehensive, seamless package.”***

***Dr. Dieter Zetsche, Daimler AG***

# Transport & Vehicle Technologies in MENA

Transport Authorities in MENA recognize that Intelligent Transport Systems (ITS) is the foundation of the their Smart Infrastructure Concept

Smart infrastructure Management is heading towards Smart Operations

Smart Vehicles are heading towards Connected, Autonomous, Shared, & Electric (CASE)

A world with Driverless Vehicles is fast approaching and MENA countries expect to play a major role in this Future Transport phenomena moving forward. RTA in Dubai, Smart Dubai Initiative are preparing Dubai to become smarter.

# Transport & Vehicle Technologies in MENA

Government Authorities should develop a holistic strategy to prepare for shared mobility and to promote it.

ITS interlink and mutually stimulate the global appeal and international connectivity of a city and the technological excellence inside the city

However, smart infrastructure approach should not destruct the city's soul, shared mobility should improve the quality of life for the citizens and should facilitate human flourishing, creating a better & safer lifestyle.

***If you want to talk about MaaS let's talk about "Shared"***

# MaaS & CASE in MENA

*A Business Case or a Political Agenda?????*

# Role of ITS-Arab

ITS-Arab is a not-for-profit organization facilitating the development and deployment of Intelligent Transport Systems technologies to enhance the environment, safety, security, efficiency and sustainability of transport systems.

Endorsed by the Arab League and the GCC

Board of Directors consist of a representative from each country

Managed by the Executive Committee – Chaired by the Minister of Transport, KSA.

Funded through Membership Subscriptions, Professional Services and Sponsors.

# ITS Organizations Worldwide



# ITS-Arab Activities

## Standardisation

- ISO/ CEN TC278 (ITS Architecture)
- ETSI (ITS Telecommunications)

## Guidelines/ Specifications

- Members Driven Requirements
  - Voluntary General Guidelines/ Specifications (Working Groups)
  - Co-Funded Project Requirements/ Specifications

## Smart Cities

- Ensure cooperative effort between governments, transport bodies and supply chain partners
- Support government in building bespoke smart city model for the people

## Training Services

- Provide General Training Events
- Provide Customised Training
- Develop Training Materials

# Gold Member Partners



مجموعة بن لادن السعودية  
SAUDI BINLADIN GROUP

**JNNOVA**  
CONSULTING

*TRANS*SCORE

**Schneider**  
Electric

عبد اللطيف جميل  
Abdul Latif Jameel

**swarco**

transpogroup

**kapsch** >>>  
challenging limits

# MENA Transport & Vehicle Technologies Deployment Approach

Unprecedented infrastructure investment growth is the current main drivers for MaaS & CASE deployments

- Public Transport and ITS investment priorities are been accelerated
- Investment in safe pedestrians walkways are been initiated and expected to grow with Public Transport deployments.

other drivers include the immediate requirements for Automated traffic monitoring and fully adaptive traffic signal control.

Transport Authorities (Ministries of Transports, Municipalities, Regional Authorities) recognize the need to evolve from transport infrastructure builders to Transport Service Providers/Operators.

MaaS & CASE investment will continue to expand especially in UAE, KSA, Kuwait and Qatar.

# Dubai Latest

Dubai Officials have been pushing to adopt high-tech transportation alternatives.

Dubai is currently on-going Dubai Smart City as well as Expo 2020 Dubai.

Dubai is home to the world's longest driverless rail line, Dubai Metro has broken the one billion rider barrier. Since its launch in 2009, the metro has lifted 1.03 billion passengers.

Dubai is planning to build the super-fast Hyperloop system.



# Dubai Latest...

The Dubai Future Foundation in conjunction with Dubai RTA launched the 'Dubai Autonomous Transportation Strategy.

The strategy aims to transform 25% of the total transportation in Dubai to autonomous mode by 2030, involving 5 million daily trips, saving 6 billion USD in annual economic costs and positioning the government of Dubai as a global leading example.



In order to increase safety, reliability, and in order to reduce the waiting time for on-demand vehicles, Dubai RTA in its capacity as the regulatory authority for transportation entered into a first of its kind agreement with Uber and Careem. Through this initiative, Uber and Careem services have been included in Dubai's Integrated Mobility Platform (S'hail app), providing integrated, safe and smooth transport for residents and tourists.

# Dubai Latest...

Dubai RTA has launched a self-flying air taxi in July 2017.

The autonomous taxi has already been tested in the city-state. regular service is expected to begin this year.

The egg-shaped aircraft can reach a top speed of 160 kilometers per hour. It can operate for up to 30 minutes on a single battery charge, with a flying range of 50 kilometers.



## ***Smart Dubai Initiative***

Smart Dubai Initiatives believe cities must be design to promote happiness. Smart Dubai initiatives impact individual happiness by enabling innovation across the private and public sector.

## Dubai Latest...

**German aviation startup Volocopter** raised \$30m in funds, from investors including Daimler, to develop its autonomous, all-electric 'flying car' during trials in Dubai, UAE. Volocopter deployed the e-Volo 2X, as the first autonomous air-taxi in Dubai in 2017, in collaboration with Dubai RTA.

**Dubai RTA Hyperloop unveiled the Virgin designed prototypes** that will carry passengers at speeds of up to 760mph between Abu Dhabi and Dubai in just 12 minutes. They boast deluxe interiors and high definition screens for displaying information and entertainment. Each is designed to travel short and medium distances and can accommodate up to ten passengers. The service will carry 10,000 passengers per hour in both directions and could launch as soon as 2020.

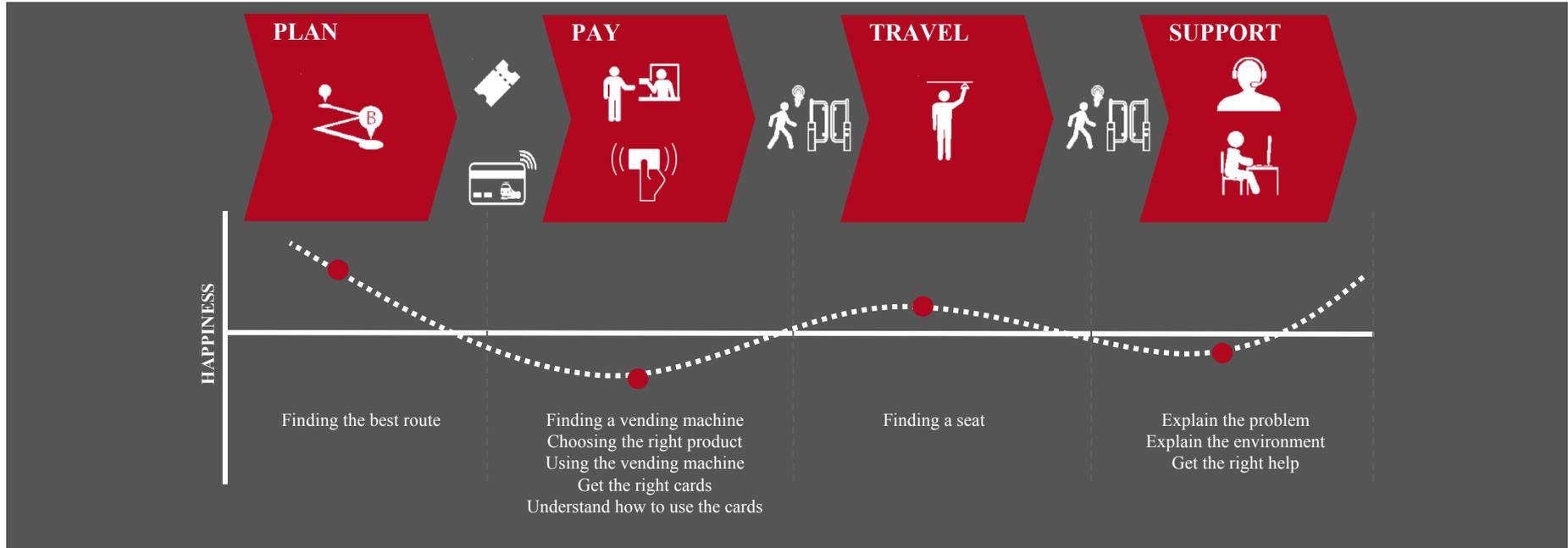
**Dubai's Car Free Day** is a campaign aiming to reduce the personal vehicles and use public transport in order to reduce air pollution due to vehicle emission. Dubai vehicle density of 540 per 1,000 people is the highest in the region and in the world. Dubai initiated a campaign to encourage ditching the use of personal vehicles in favour of public transport or carpooling as part of Dubai's Car Free Day on February 4. 60,000 cars stayed off the roads last year.

# Dubai Latest...

The **Happiness Meter** is the first city-wide initiative to measure happiness at experience that a visitor, resident or citizen may have in Dubai.

- **Consider customer needs**
- **Interact with customers**
- **Keep online with trends**
- **Consider new technologies**
- **Use existing media**
- **Ensure correctness and timeliness of contents**
- **Use existing resources**

# CUSTOMER HAPPINESS



# THE EVOLUTION OF PUBLIC TRANSPORT

## THE PAST



**1970**

No IT  
No Radio  
Basic Passenger Information

## THE PRESENT



**2017**

AVL & GPS solutions  
Infotainment & Digital Radio  
Passenger Counting  
Big Data

## THE FUTURE



**2030**

Autonomous operations  
Seamless Access & Augmented Reality  
Smart Ticketing, ABT, BiBo  
Data Hubs & Open Data

# DUBAI IN THE FUTURE...



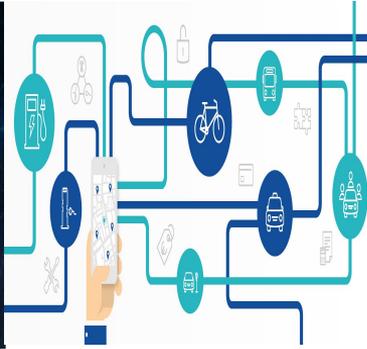
## BIBO

- No tap
- No queue
- No hassle



## BIOMETRICS

- Identity confirmation
- Physical access
- Ticketing
- Passenger management



## MaaS

One place to plan, purchase, and manage your journey. S'HAIL Mobility as a Service (MaaS) provides travelers one place to **plan**, and **manage** their journey across a range of mobility services provided by Dubai RTA and others.



## ARTIFICIAL INTELLIGENCE

- Travel demand analysis
- Schedules and plans optimization
- Live occupancy information



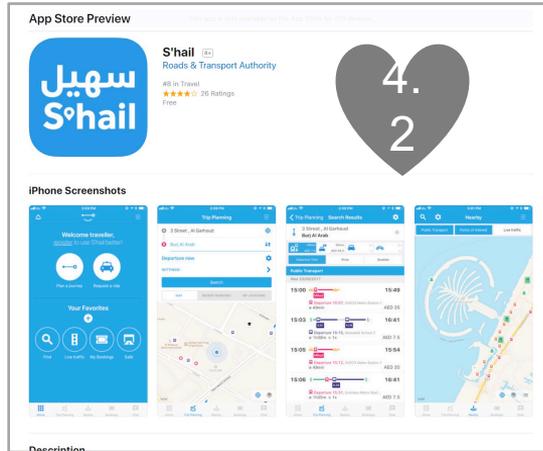
## CONNECTED VEHICLES

- Real-time traffic management and control
- Connected busses
- Travel demand prediction

# Dubai RTA Maas S'hail



S'HAIL is a one stop shop app to sort out all travel needs in Dubai. The S'hail app recently introduced by RTA Dubai to plan trips, hail RTA and private cabs, and do a lot more with just a tap to save time and effort. Soon, the app will also integrate with other marine transit services such as limousines, Palm Monorail and Dubai Trolley, enabling people to book the service and pay the applicable fare.

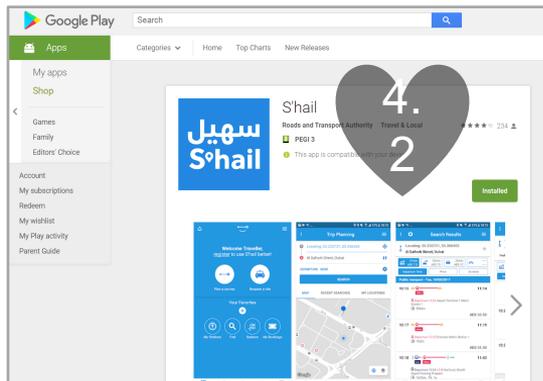


## Main functionalities

1. Taxi booking
2. Trip planning (with bus delay notification)
3. Booking Management

S'hail. Every day, a smarter way.

S'hail is the perfect app to use to get around Dubai. Designed for residents and visitors alike, S'hail makes travel quick, simple and hassle-free.



S'hail app can be found on the app stores using the following **combination** of keywords:

- Dubai
- UAE
- Metro
- Bus
- Taxi
- Tram
- Journey planner
- Travel
- Nol
- Route
- Limousine
- RTA
- Public transportation

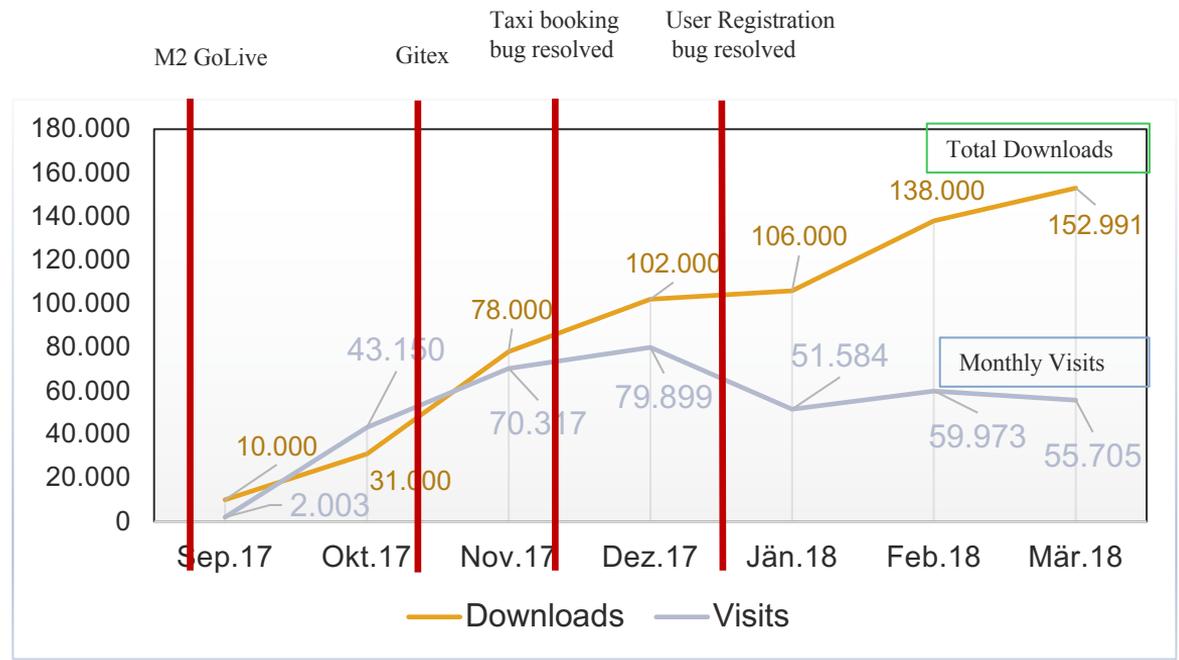


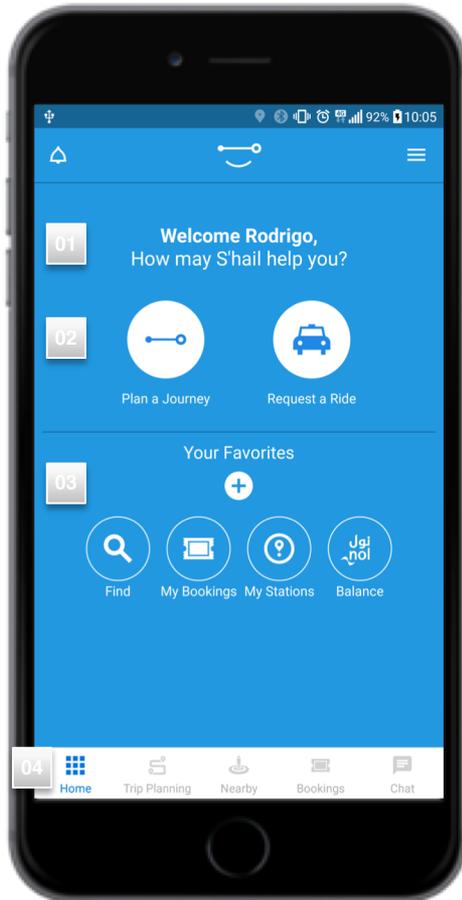
# Application Adoption Rate & Taxi Booking Statistics

Sources:  
 • Taxi Dispatch System  
 • PIWIK Analytical Tool  
 • Apple App Store Statistics  
 • Google Play Store Statistics

\* Not Including:  
 • Uber / Careem  
 • Taxi Booking Cancellations  
 • Trip Planning

Taxi/Limo Booking\* Requests :  
 - Total Since Sep 17 – 10,453  
 - Monthly –1742 (approx.)





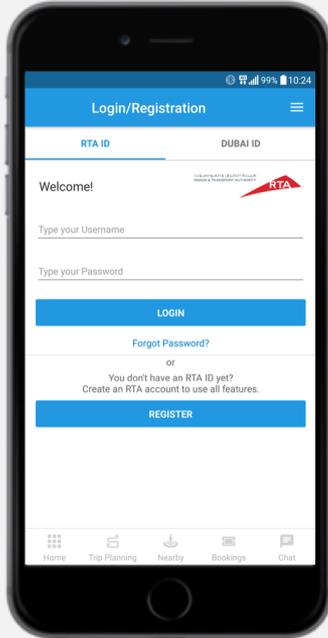
## Logged in Personalized Dashboard

Each user has a personal “dashboard” of favorites icons which represent the various functions of the app.

## Sections

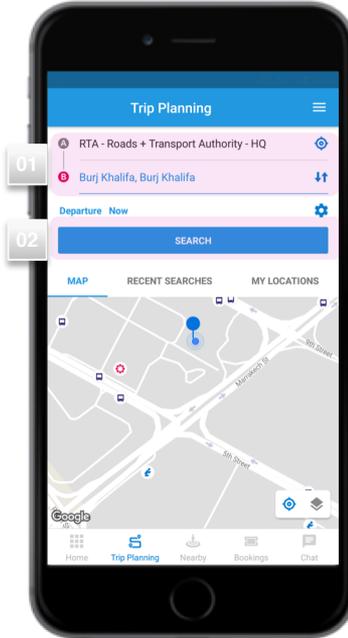
- 01 Welcome message for Guest/Registered user(s).
- 02 Top 2 functionality (static buttons). *We will use this area for new services/ functionality.*
- 03 Up to 6 favourites to select from, for users to customise their app, making it unique to their individual needs.
- 04 Footer tap bar:  
Home, Trip Planning, Nearby, Bookings and Chat.

01 Please login to book a Taxi.



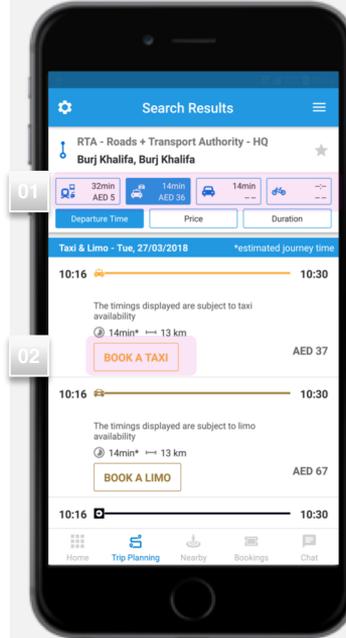
01 Enter starting (A) point, destination (B)

02 Tap “Search” button



01 Select RTA Taxi’s, Limo, Uber & Careem as mode of transport.

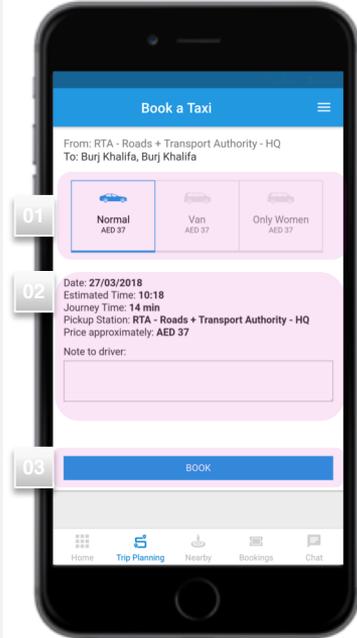
02 Tap “Book a Taxi”. *Guest users will only be able to call for a taxi*



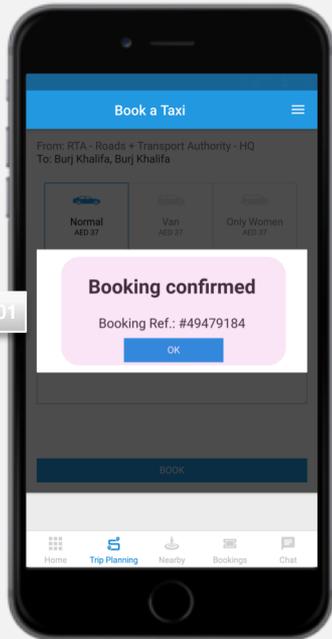
01 Select type of Taxi.

02 Check booking information and add driver comments if needed.

03 Tap on “Book” button to book a taxi

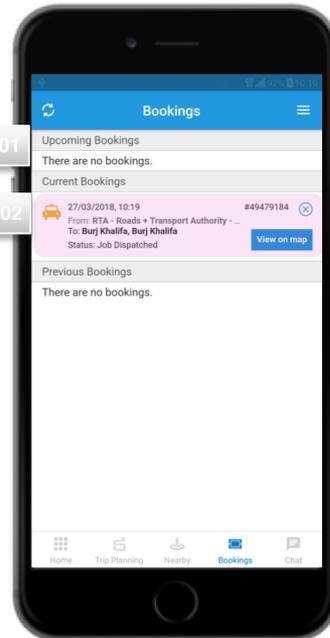


01 Receive booking confirmation number.

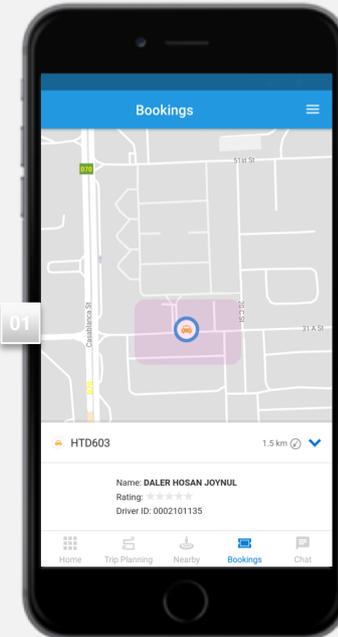


01 Bookings screen - will populate all booking upcoming, current and previous bookings.

02 Tap on "View on Map" button to track the taxi & find further taxi information.

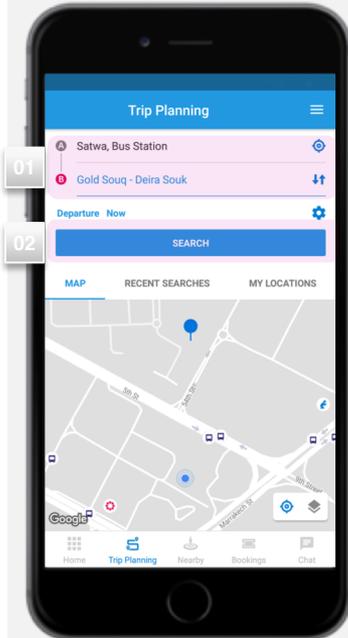


01 Tap on the "Taxi" icon to view driver details and track the taxi location real time.



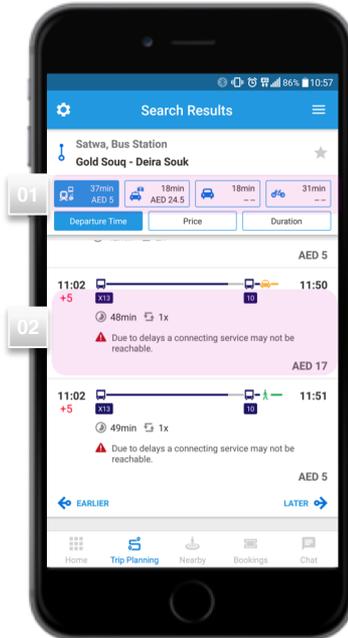
01 Enter starting point, destination and departure time.

02 Tap “Search” button



01 Select “Public Transport”.

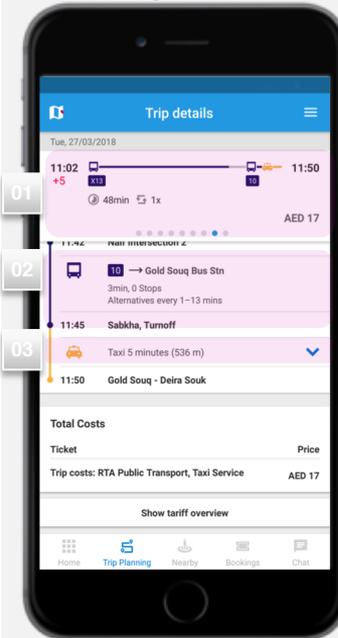
02 Tap on a “Search result” to view trip details



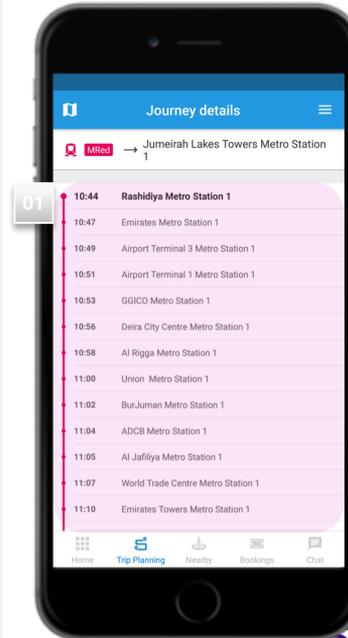
01 Scrolling horizontal to select your best trip option.

02 Trip information will be updated on real time.

03 Collapse or Expand will show Map details.

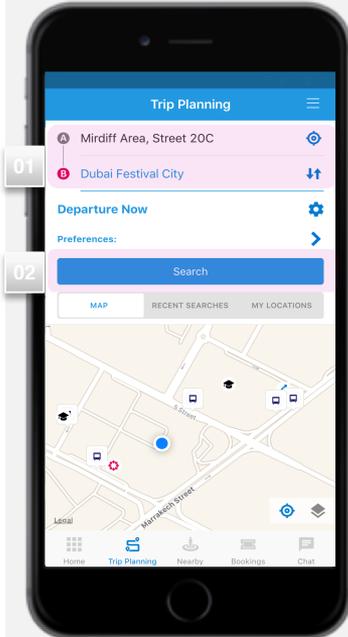


01 Trip Details are populated once you click on Transport Area.

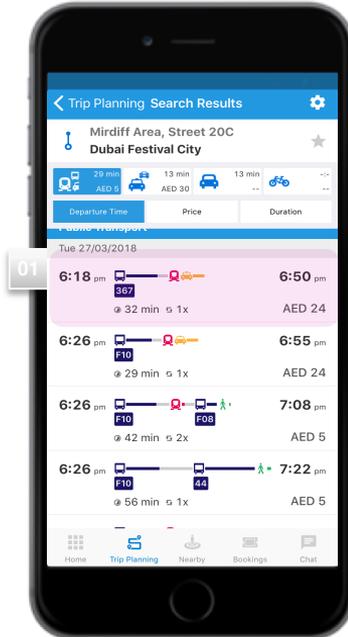


01 Enter starting point, destination and departure time.

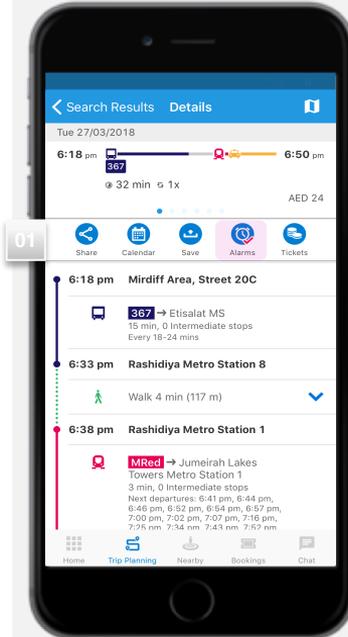
02 Tap “Search” button



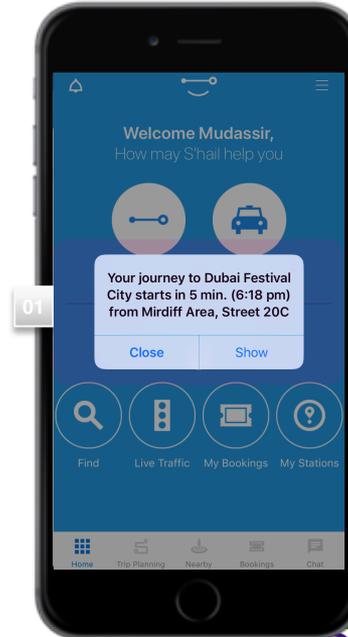
01 Tap on a “Search result” to view trip details



01 Tap on ‘Alarms’ to set an alarm



01 User would receive a push notification informing them that their trip will be departing soon



# The Potentials of Mobility Technology in MENA

Transportation needs now have more complex solutions than simply building new roads or rail lines. Innovative technology-driven approaches are required to meet those demands.

Urban cities should develop a secure and sustainable transportation system to serve the high concentration of people and the demand for higher levels of service and information regarding transport services (such as real-time updates on bus and train schedules).

Emerging technologies are playing a central role in urban cities such as Dubai, Abu Dhabi & Doha. The integration of technology with transport systems are a must – particularly with the move towards the development of Dubai Smart City & Doha Smart City.

UAE & Qatar are focusing on autonomous vehicles shuttles currently operating, and the personal air transport systems (PATS) as well as autonomous trucks.

# The Obstacles of Mobility Technology in MENA

Although those emerging technologies present opportunities to improve users' convenience, they also present major challenges including:

- introducing a significantly higher level of security
- invading privacy-related risks for their users
- funding for such radical technologies, would it be private or public
- Implications of the wider social and economic impacts
- the accompanying infrastructure challenges
- The need for cooperative efforts between governments, transport bodies and supply chain partners.

# MENA Situation and Challenges

MENA public and private investment in transportation infrastructure is setting a new pace in the global market. The region is well poised to become a global leader for innovative techniques and leading-edge technologies for ITS and Smart Cities.

Major traffic challenges include: frequent storms limiting visibility, numerous traffic roundabouts, generally poor driver training, limited manpower and resources for traffic enforcement, and pedestrians not given right-of-way according to Land international traffic standards. This leads to the need of smart infrastructure to tackle the traffic safety issues as well as managing congestion.

***Would Mobility as a Service (MaaS) be the answer to those needs???***

# Drivers for the Mobility Technology in MENA

Greenfield advantage

Growing e-Government Services

Transport infrastructure rapid growth (Roads and Public Transport)

Inadequate transportation infrastructure

Growing population leading to more congestion

Strategic goal to position as a trade and transportation hub between Africa, Asia and Europe

# Drivers for the Mobility Technology in MENA

Investor and business needs

Growing export potential

Desire to stimulate the economy in more remote regions

The need to play a pioneer role in the region

Environmental regulations

# The Requirements

Involvement of Universities, Research Centers and Organizations  
Service Orientated Delivery

Connectivity

Compliance Framework

Engage More Market Providers

Use Innovative contract mechanism to Attract More International Companies

# It is All about the Data It is All about the People



## Reliable Data can help ...

- understanding the scope of the situation, also in benchmarking with other similar cities
- Identifying the major players
- identifying main risk factors
- designing effective strategies, interventions
- facilitating objective decision-making about resource allocation (time, money)
- monitoring and evaluating effectiveness towards achievement of targets
- And most importantly, reliable Data can help communicate

# The challenges of cities are growing



## Managing Growth

- Increasing urban populations
- Increasing density
- Growing strain on infrastructure



## Managing Sustainability

- National & international regulations
- Aggressive environmental targets
- Growing concern among citizens



## Providing High Quality of Life

- Differentiating against other cities
- Providing a high quality of services
- Attracting businesses and talented people

**Major challenges of cities remain its citizens**

# Major Challenges

## Insufficient Knowledge Transfer

*Users  
Stakeholders  
Operators*

## Inadequate Planning and Funding

*Operations  
Maintenance  
Improvements*

## Different Life Cycles

## Flexibility and Integration

*More Open Platforms  
Less Proprietary Systems*

# Conclusion

Transport & Vehicle Technologies development will see continued investment going forward especially as driven by demand and need

In a decade, MENA region will be transformed – passengers travel will include a hybrid of traditional and autonomous vehicles. This will provide:

1. Solutions to MENA's immediate challenges
2. Integration for increased efficiency
3. Innovation for holistic city management
4. Collaboration to make it happen

# Recommendations

Appropriate level of integration can deliver cost benefits and reduce risk to delivery

Identify the needs for the immediate

Avoid proprietary products and use open systems.

***The result is a more efficient, sustainable, and livable city for the people.***

# Thank You

## **Zeina Nazer**

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