#FleetManagement

#ConnectedCars

#SafetyDriving

#AutomotiveTelematics

Effectiveness management of technology, regulation, and community in Road Traffic Accident Reduction Projects

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Presentation Outlines

- *About Saferoad IT Co.*
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- *CASE STUDY: Saudi Aramco*
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About Saferoad Info. Tech. Co.

About Saferoad, Growth Journey, Saferoad Recognitions, Technology, Clients, Partnership, future

About saferoad Information Tech. Co.

- *Saferoad helps companies improve driver and vehicle safety, reduce operation expenses, and minimize the chances of vehicle disruption through its connected car platform. Using internet-of-things (IoT) devices in vehicles.*
- *Saferoad is now operating in Saudi Arabia, Bahrain, Jordan, and China, and is ready to tap into international markets to capture the estimated $7 billion global fleet management opportunity with its suite of customizable products and services.*

أرامكو السعودية
saudi aramco
entrepreneurship

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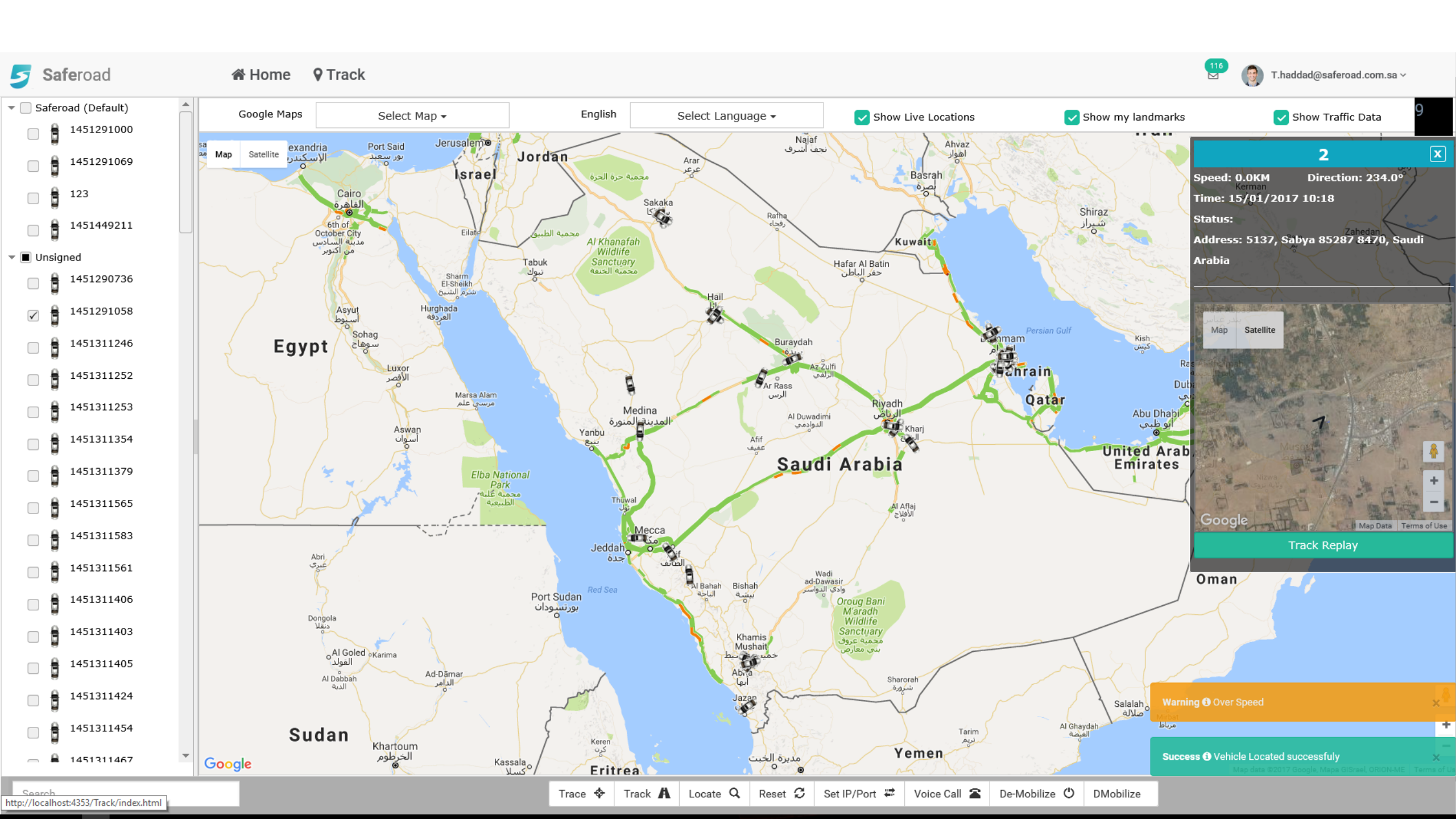
Saferoad
Home
Track
116
T.haddad@saferoad.com.sa
Saferoad (Default)
1451291000
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Google Maps
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Show Live Locations
Show my landmarks
Show Traffic Data
Map
Satellite
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Status:
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Track Replay
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Locate
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Set IP/Port
Voice Call
De-Mobilize
DMobilize
Egypt
Saudi Arabia
Jordan
Israel
Kuwait
Qatar
United Arab Emirates
Oman
Yemen
Sudan
Eritrea
Cairo
Jerusalem
Riyadh
Jeddah
Mecca
Medina
Dammam
Bahrain
Abu Dhabi
Red Sea
Persian Gulf
Google
http://localhost:4353/Track/index.html

Recognitions

IFC International Finance Corporation WORLD BANK GROUP — 2017

WORLD ECONOMIC FORUM — 2017

THE INTERNATIONAL BUSINESS AWARDS — 2017

endeavor ENTREPRENEUR — 2017

TECHTOUR — 2015

ARABIAN VENTURE FORUM — 2016

Forbes روّاد الأعمال الأكثر إبداعاً في المملكة العربية السعودية 2015 — ENTREPRENEURS SHAPING SAUDI ARABIA'S FUTURE — 2015

SMART MOBILITY UAE — 2017

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Partners

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المنطقة الشرقية - المملكة العربية السعودية

سلامة
SALAMH
الجمعية السعودية للسلامة المرورية

IQPC
International Quality & Productivity Center

IRF
INTERNATIONAL ROAD FEDERATION

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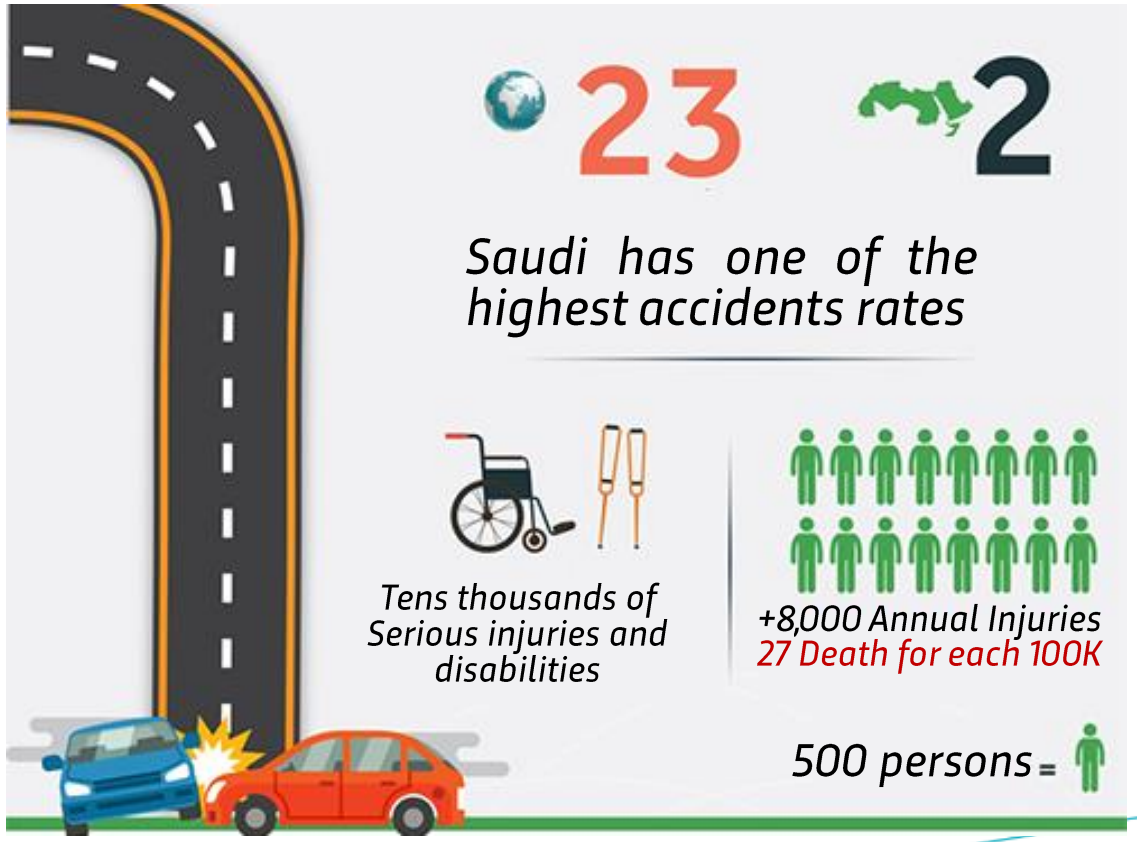
Abstract

Keywords: Change Management, traffic regulation, company cultures Change, Traffic Accident Reduction, traffic safety, Road Traffic Accidents, Saferoad Saudi Telematics

Paper Abstract

- About half a million road traffic accidents are recorded in Saudi Arabia annually
- More than 6 Billion USD is spent on them.
- Caused up to 36 deaths daily.



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Paper Abstract

- *The purpose of the study is to determine how telematics technology can significantly lower the rate of traffic accidents in Saudi with the support of the community and Company policies.*

Paper Abstract

- *Devices that can detect dangerous driving behavior are commonly equipped in commercial vehicles of Saudi Arabia.*
- *However, The technology alone does not produce desired results,*
- *families and Company regulations play a significant role in lowering Traffic accidents.*

Introduction

Telematics technology is combined with strict regulations of companies give a significant impact against the dangerous driving behavior

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Problem Statement

- Average number Road Traffic Accident RTAs recorded around the globe amounts to a horrific figure of 1.25 Million deaths and up to 50 million injuries annually
- 4/5 deaths that occur in hospitals by RTA injuries
- Impacting dependent's family's financial conditions and living standards

20% of the hospital beds are occupied by RTA victims

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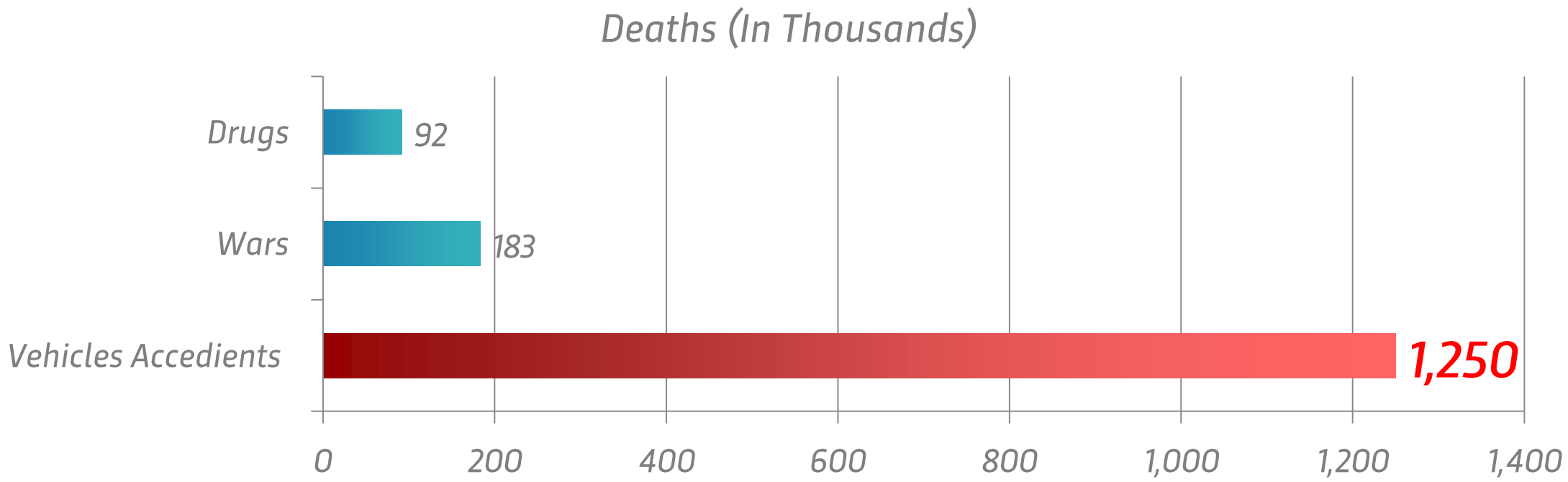
Problem Size



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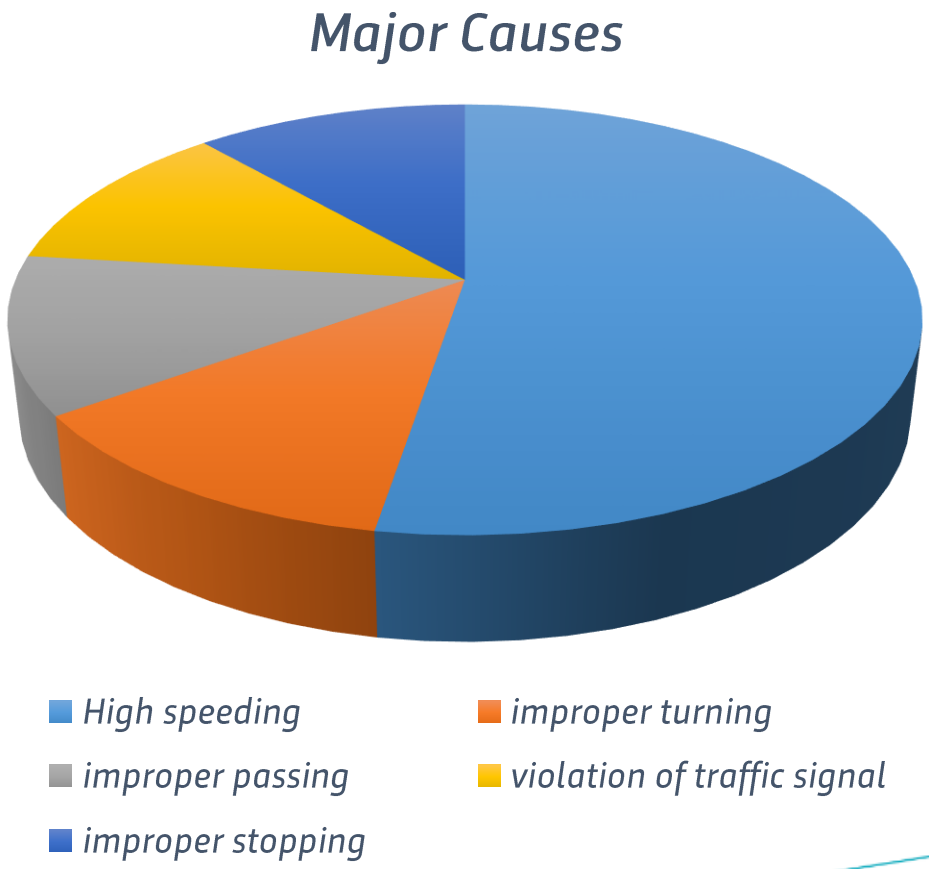
Major Causes

- *High speeding had been identified as the most common cause of RTAs in the Kingdom.*
  - *35.69%: High speeding*
  - *8.43%: improper turning*
  - *8.01%: improper passing*
  - *7.88%: violation of traffic signal*
  - *7.81%: improper stopping*



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Government Regulations

- *The government applied three different techniques to reduce RTA:*

1- Nationwide traffic safety campaign

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Government Regulations

2- introducing Saher (that means awake in Arabic (ساهر)

- *installed in a limited number of locations*

3- hefty fine imposition:

- *800 USD*

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CASE STUDY: Saudi Aramco

Driver Monitoring Device (DMD) & Driving Analytics Tool (DAT)

- *The DMD devices are a part of Driver analytic tool "DAT" that uses the DMD, system and other accessories like in-cab alerts as a combination to improve road safety.*
- *Designed and developed by Saferoad Information Technology as technology entrepreneurs to achieve the mutual goal of community, corporate stakeholders and government authorities of reducing the RTAs globally.*

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Driver Monitoring Device (DMD)

Devices implemented in the expirment

ASTROLABE 01

ASTROLABE 02A

ASTROLABE 02B

ASTROLABE 500

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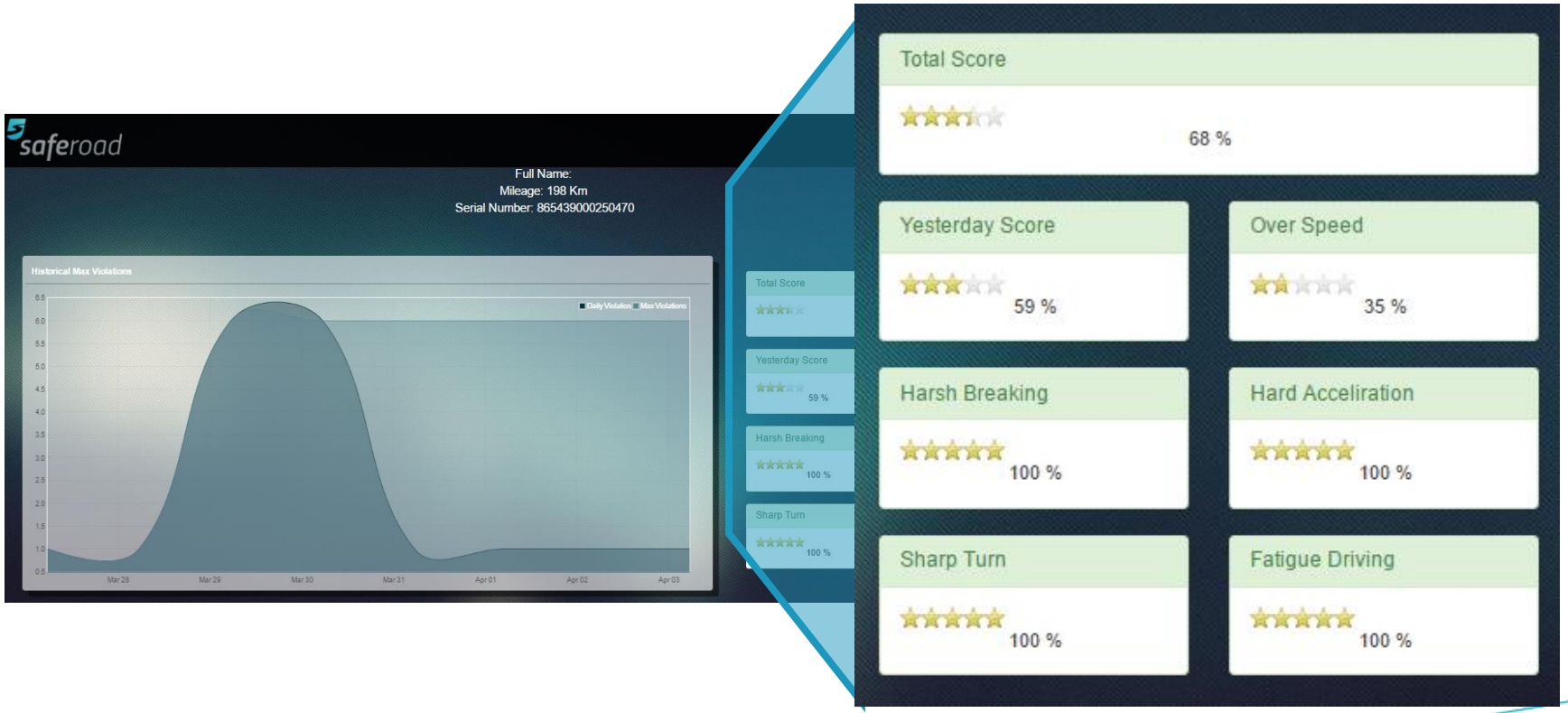
DMD & DAT

- *Driver's performance is evaluated on the platform using various parameters received from the DMD and calculated within the system*



DMD & DAT

- *A final score is presented to determine whether or not the driver needs coaching to improve his/her driving behavior.*
- *The system sends event reports to concerned people.*

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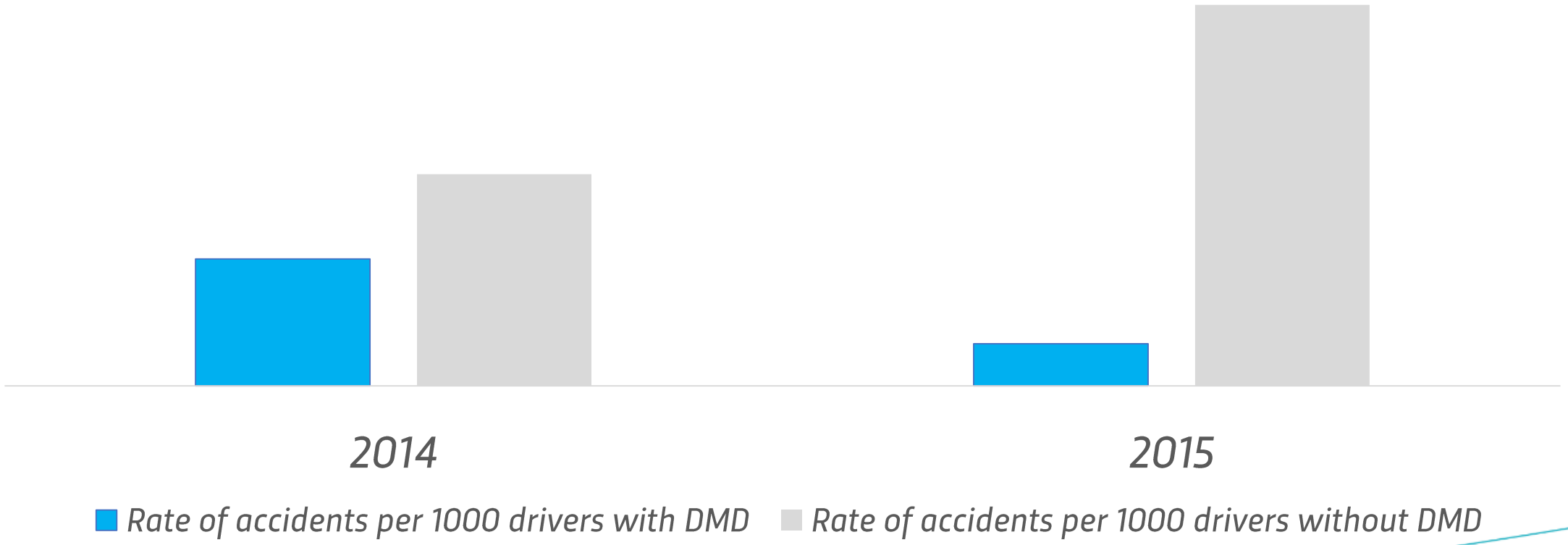
CASE STUDY: Saudi Aramco

- *A study carried out by Saudi Aramco*
- *Covered 3000 drivers using Saferoad's devices (Saferoad Information Technology Co. LTD., no date) on their vehicle*
- *between the years 2013 & 2015.*
- *20% reduction for RTAs of the drivers using Saferoad's DAT solution.*

CASE STUDY: Saudi Aramco

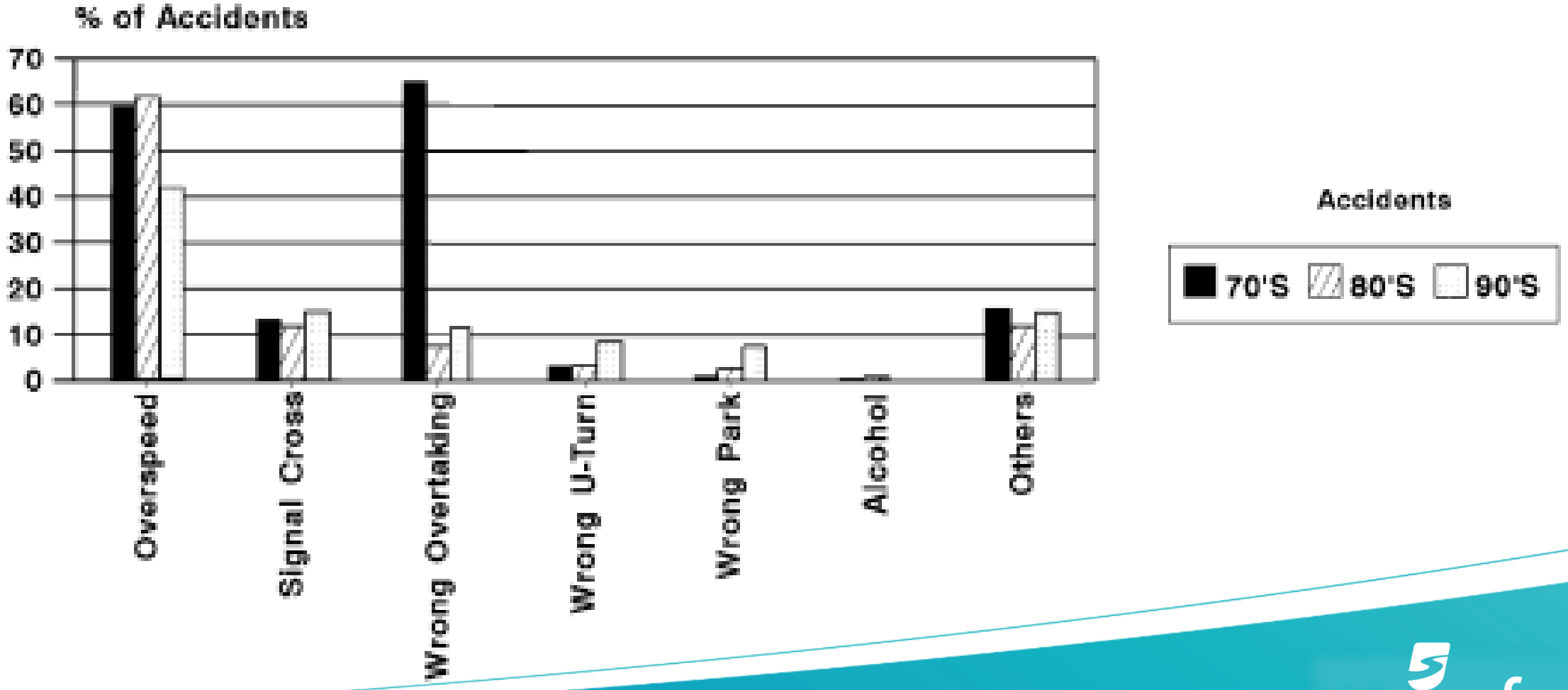


Literature Review

Saudi RTA: 70s-90s

- *A research article published in 2000, focused on the increasing amount of road traffic accidents in the Saudi Arabia.*
- *between 1971 and 1997, the number of RTA related casualties totaled to 564,762 people.*

Saudi RTA: 70s-90s



Ministry of Health hospital statistics: 70s-90s

- *81% of the deaths among the hospital were due to RTA.*
- *33% of the hospital beds are Occupation.*
- *leading cause of spinal cord injury*

Social Impact

Number and percentage of drivers and front seat-passengers using seat belts

Observations taken at	Number of drivers using seat belts	Percentage of drivers using seat belts	Percentage of passengers using seat belts
Working-class suburb	100 (Out of 300)	33.3	4
Middle-class suburb	260 (Out of 300)	86.7	41.3
Total	360	60	22.7

Law Impact

- *The statistics from Riyadh Central Hospital were analyzed before and after the enactment of the law. The results confirm the positive impact of seat belt use in reducing RTA related injuries.*

Number of (monthly adjusted) injuries due to traffic accidents treated at RCH in ten months

Type of injury	21 April	21 May	21 June	21 July	21 August	21 September[a]	21 October	21 November	21 December	22 January	22 February
Vert/Spi	11	12	11	13	13	–	3	10	7	6	10
Hip/Pelvis	10	7	8	7	7	–	4	3	6	8	5
Multiple	28	47	50	32	40	–	25	21	30	40	26
Skull	5	8	4	3	4	–	0	2	2	0	0
Femur/leg	41	52	54	36	51	–	33	35	47	57	45
Bldg/head	53	46	47	49	29	–	24	23	21	29	21
Other	313	246	304	404	317	–	270	264	279	360	307

[a] The month during which the seat belt law was enacted.

Data Gathering Methodology

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Data Gathering Methodology

- *Technology Data:*
  - *Reports:*
  - *Events*
- *Community and Company Regulation Rating*
  - *Surveys*
- *Accident Statistics*
  - *Online Sources*

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Survey Questionnaire

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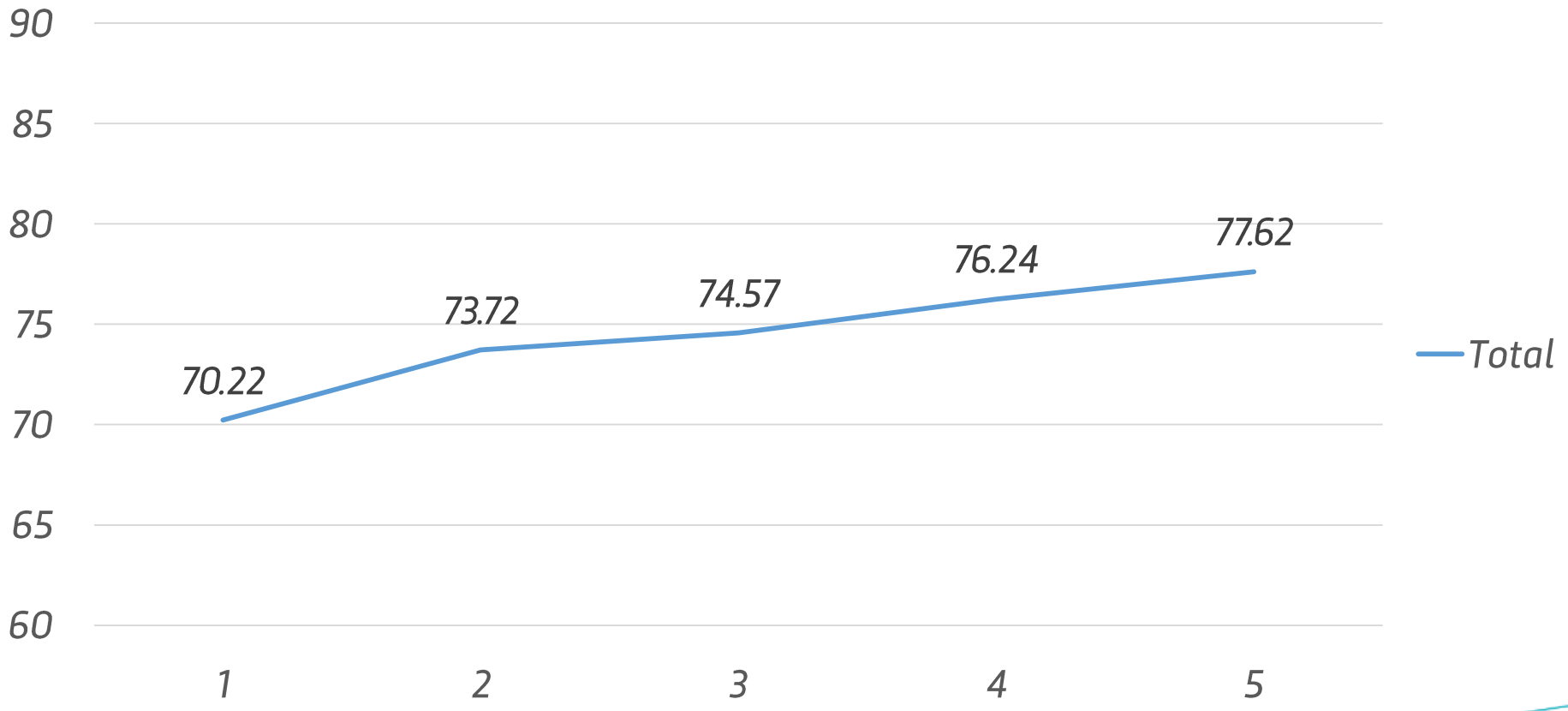
Survey Questionnaire

Survey of vehicle users					
Rate the strictness of your Company regulations against dangours driving behavior.	Very High	High	Average	Low	Negligible
	5	4	3	2	1
Rate, how your community encourages you to practice safe driving behavior.	Very High	High	Average	Low	Negligible
	5	4	3	2	1

Table 3: Survey Results, show Company regulations and community impact on driving behavior

Survey Results

Survey Results: Community Impact



The impact of community reflected on driving behavior score

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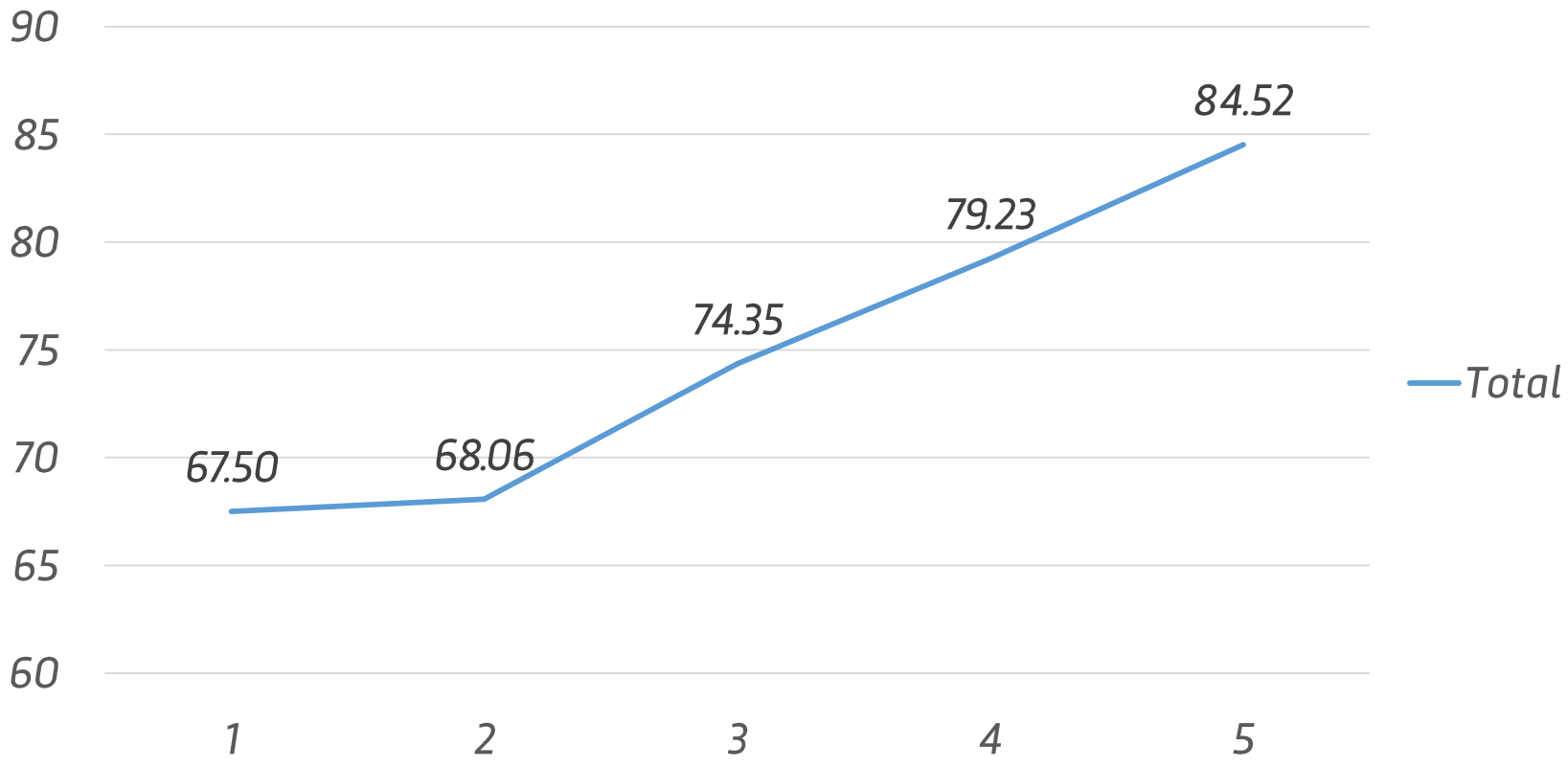
Survey Results: Company regulation



The impact of Company regulation rating on the driving behavior score

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Conclusion

Telematics technology is combined with strict regulations of companies give a significant impact against the dangerous driving behavior

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Conclusion

- *The results show that combination of technology and company regulations have convincingly reduced the rate of accidents.*
- *However, the effect of family over drivers is comparatively less.*
- *Technology plays a major role in reducing the road traffic accidents as can be seen from Saudi Aramco case study.*
- *The present and future of traffic safety in Saudi Arabia can be improved if the telematics technology is combined with strict regulations of companies against the dangerous driving behavior.*

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Thanks for your Time

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