



NYU

Marron Institute  
of Urban Management

Tunis, Tunisia

# Transit-Infrastructure Costs in the Arab World

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Research by: Dr. Eric Goldwyn and Dr. Alon Levy

# Setting up the picture

22  
countries

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21  
currencies

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423M  
Population  
*2015 estimate*

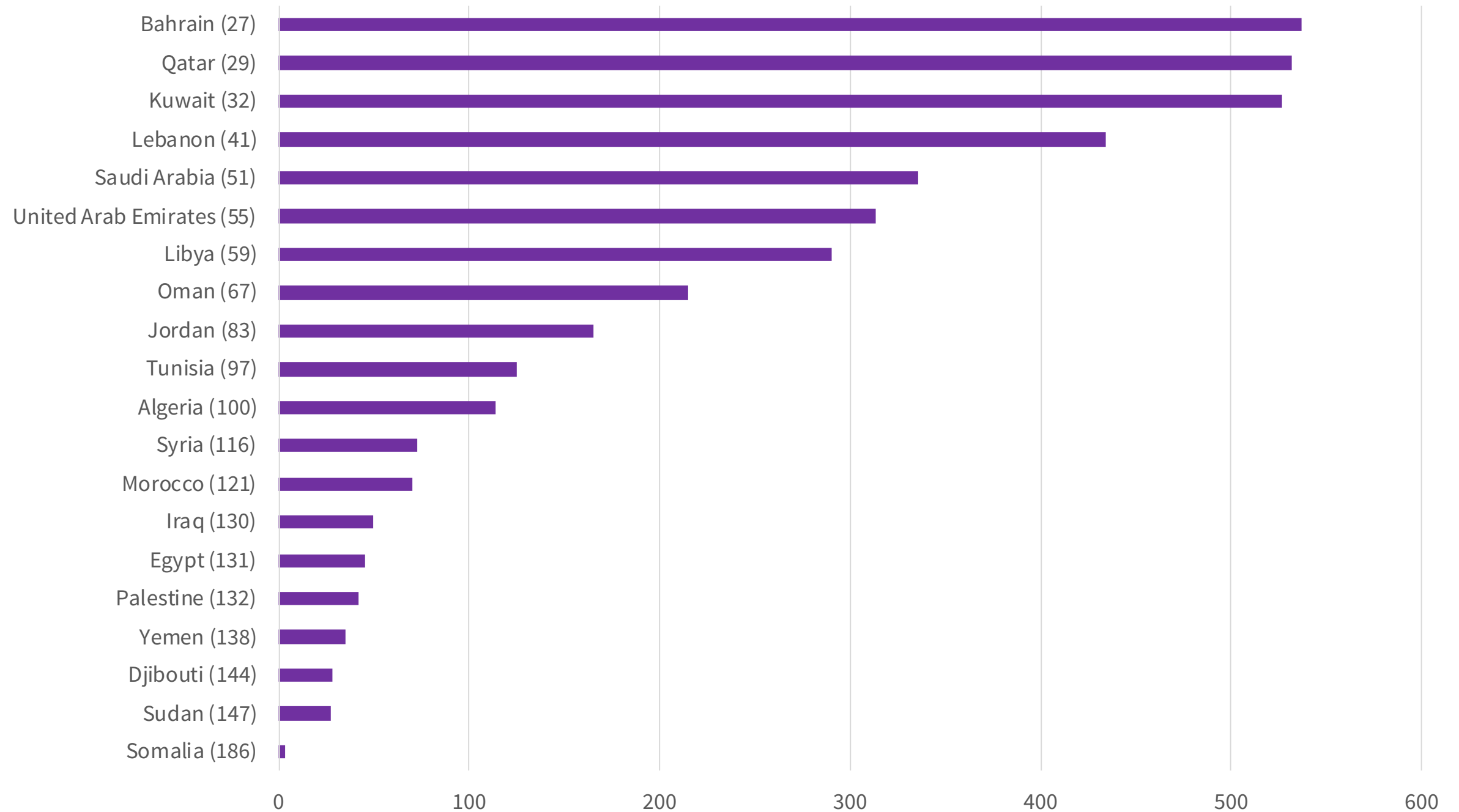
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\$3.5tr  
GDP - Nominal  
*2011 estimate*

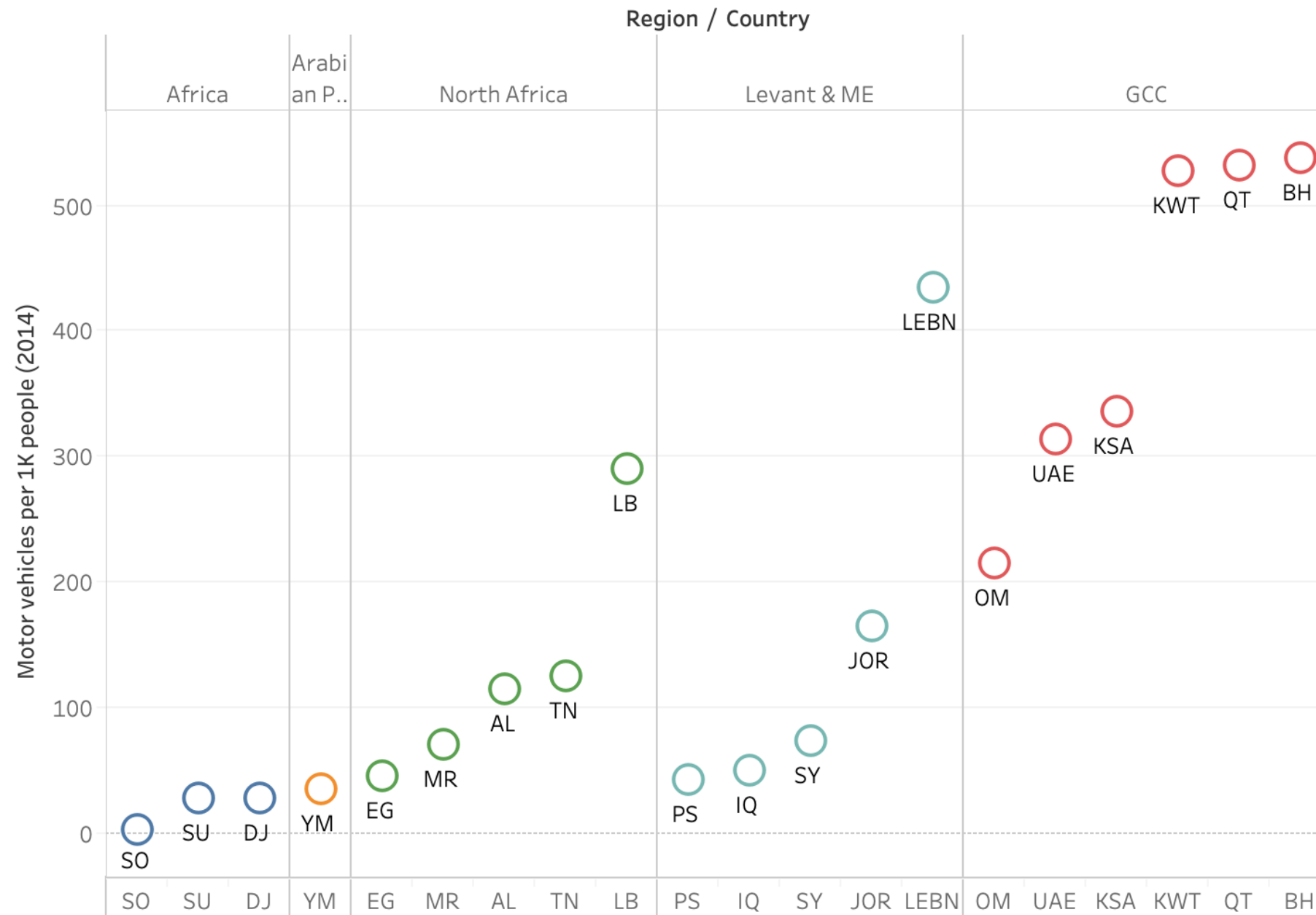
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# Setting up the picture

*Motor vehicles per 1K people (2014)*



## Setting up the picture



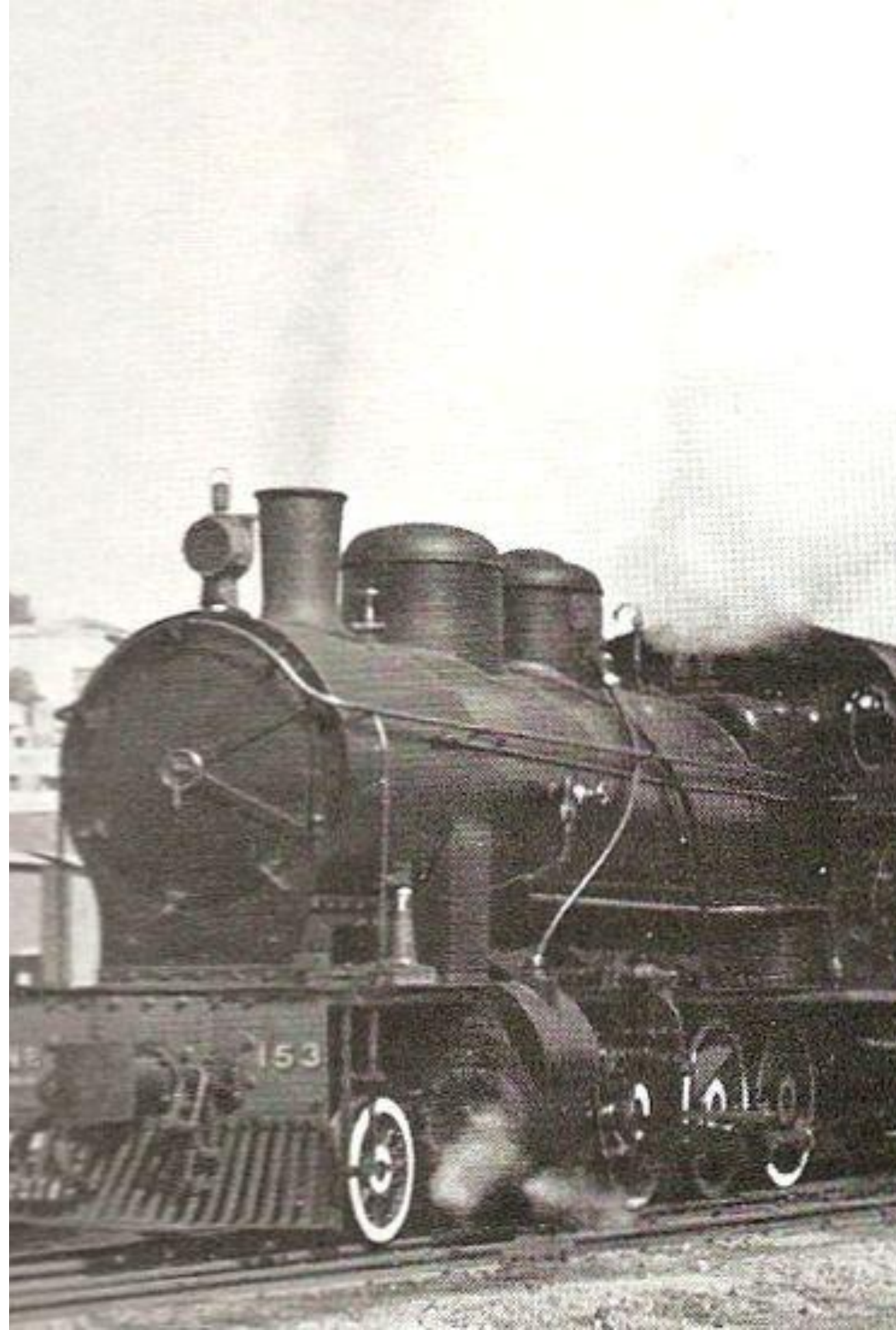
Sum of Motor vehicles per 1K people (2014) for each Country broken down by Region. Color shows details about Region. The marks are labeled by Country.



## *A Bit of history...*

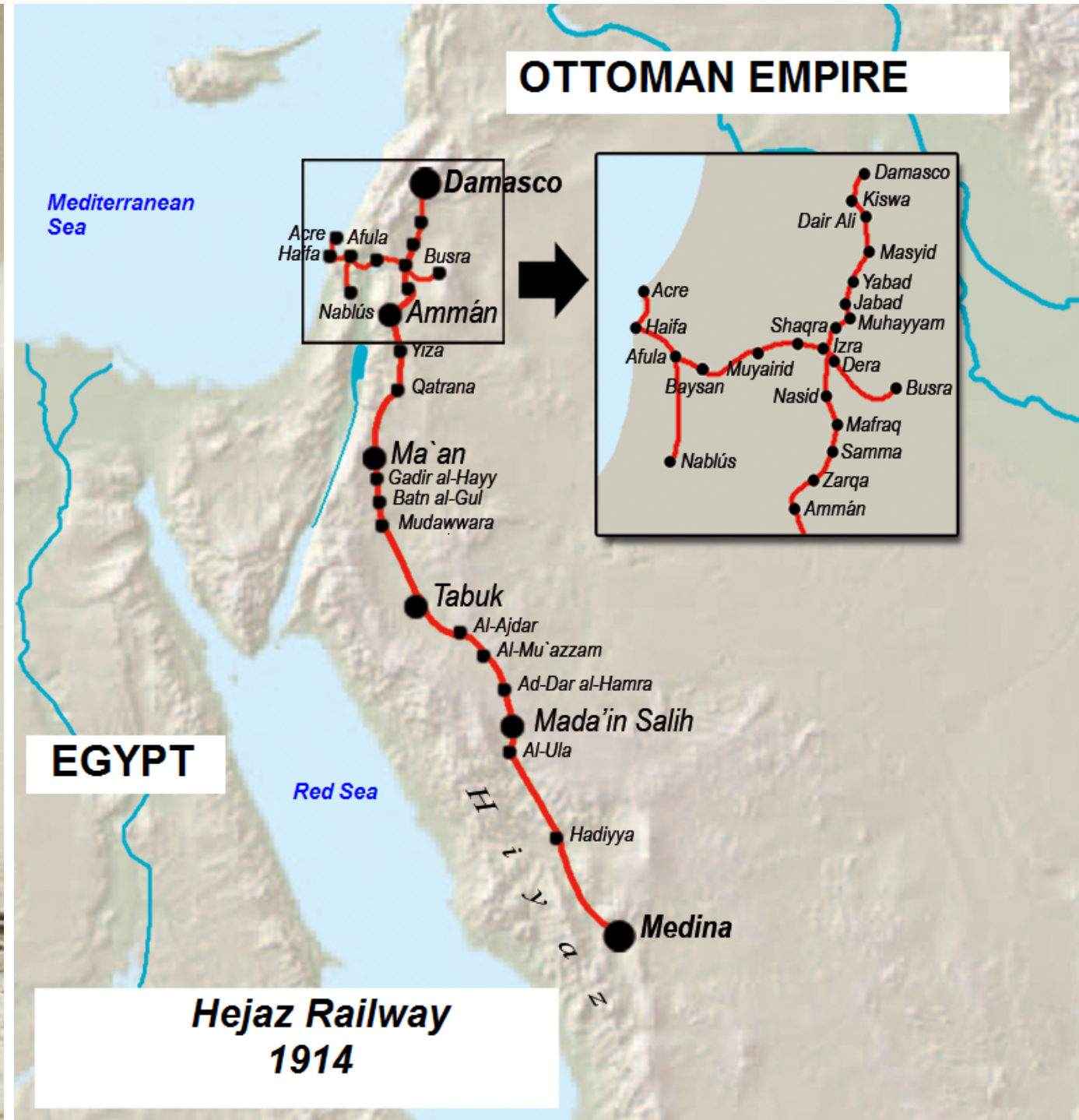
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- The first railway in the Arab World was opened in the 1850s in Egypt. Railways were subsequently built in Morocco, Algeria, Tunisia, Sudan, Syria, Lebanon, and Iraq.
- The most important railway at that time was the Hejaz Railway, linking Medina in Saudi Arabia with Damascus in Syria, via Palestine, and Jordan. The railway was opened in 1908 and was closed in 1920.





*A Bit of history...*



# What were we looking for?

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## Location

State, region, city



## Phases and Lines

Specification on the transit lines and construction phases/extensions



## Coverage Type

National, regional, or urban



## Duration

Years from announcement until project's delivery



## Network Length

Track length by lines and extensions



## Tunneling

Type and length of tunnels (if exists)



## Stations

Amount and type



## Contractors

Managing, design, and construction



## Costs

Converted by year and currency



## Collected data

Category	Quantity
Countries	16
Projects	72
Progressed	38
Postponed	30
Valid Entries	90

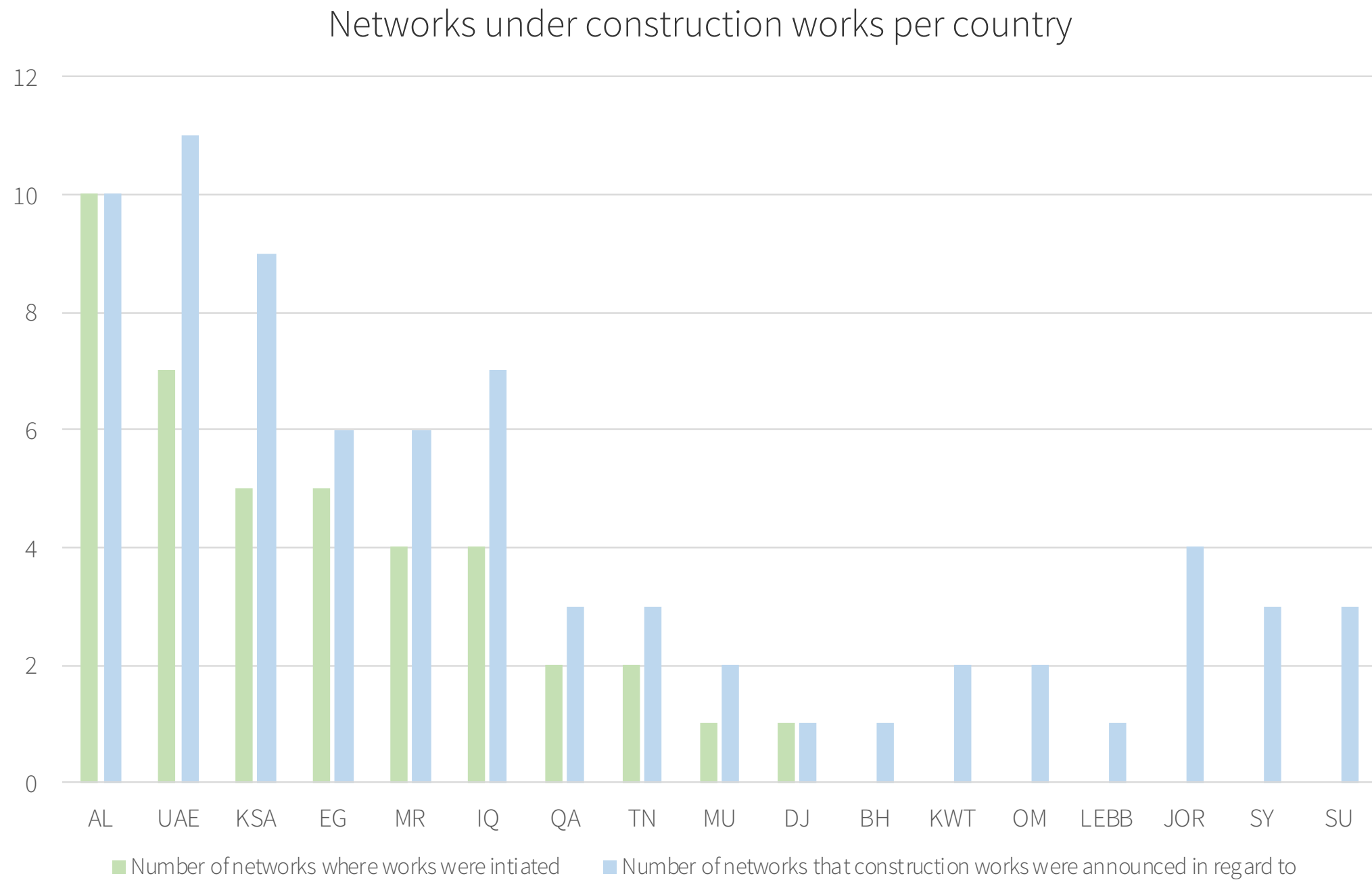


Constantine, Algeria



# Collected data

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## *Qualitative insights*

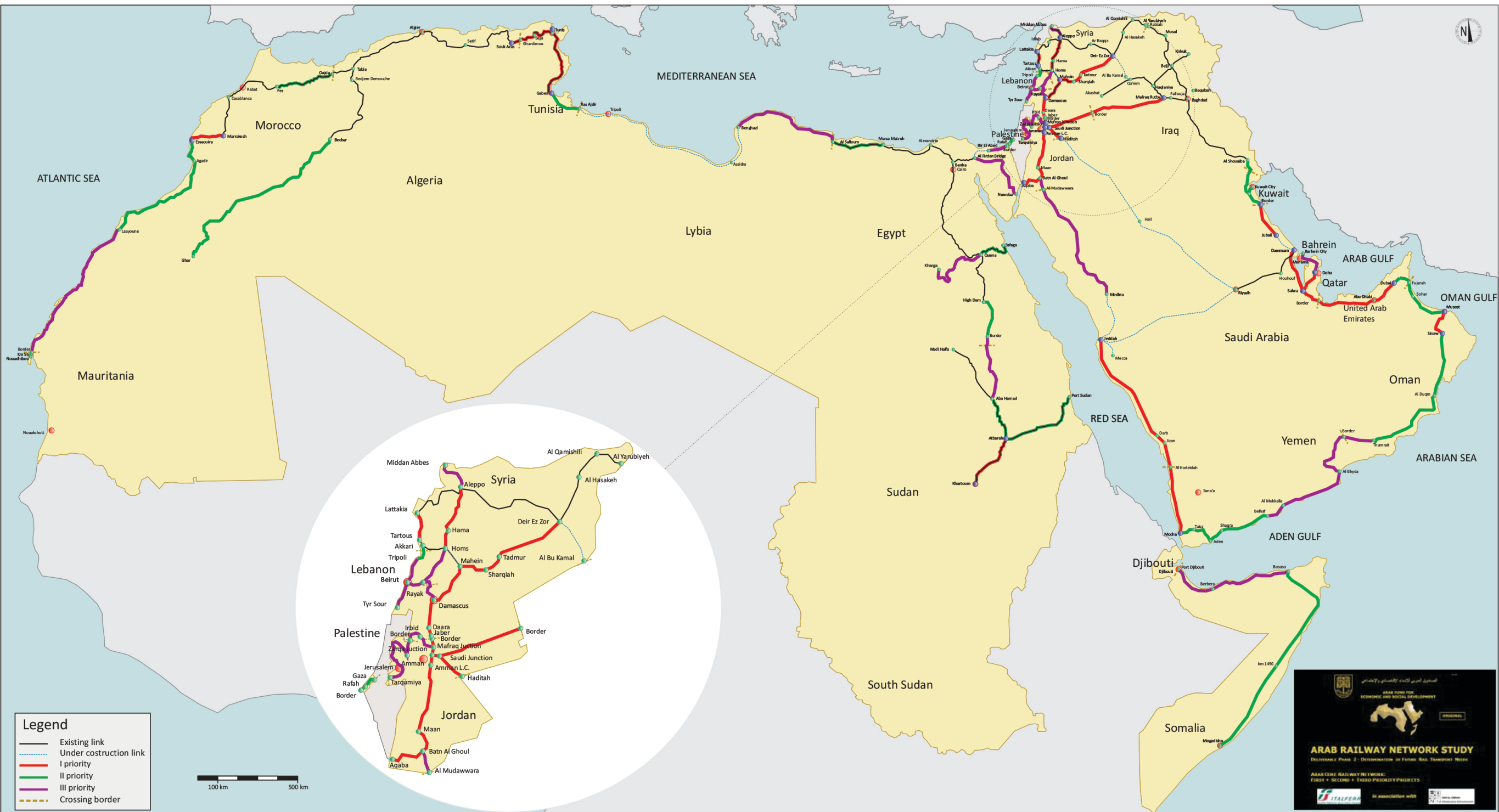
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- Unsurprisingly, transit infrastructure construction is much related to geo-political and global economic trends. Examples for that are: Syria, GCC project, Saudi Arabia, and Qatar.
- Syria, who had a decent railway infrastructure and relevant bodies (Arab Union of Railways), has almost completely vanished from the map of running projects and operating systems.



Rabat, Morocco

# Arab Railway Network (Arab League Study)



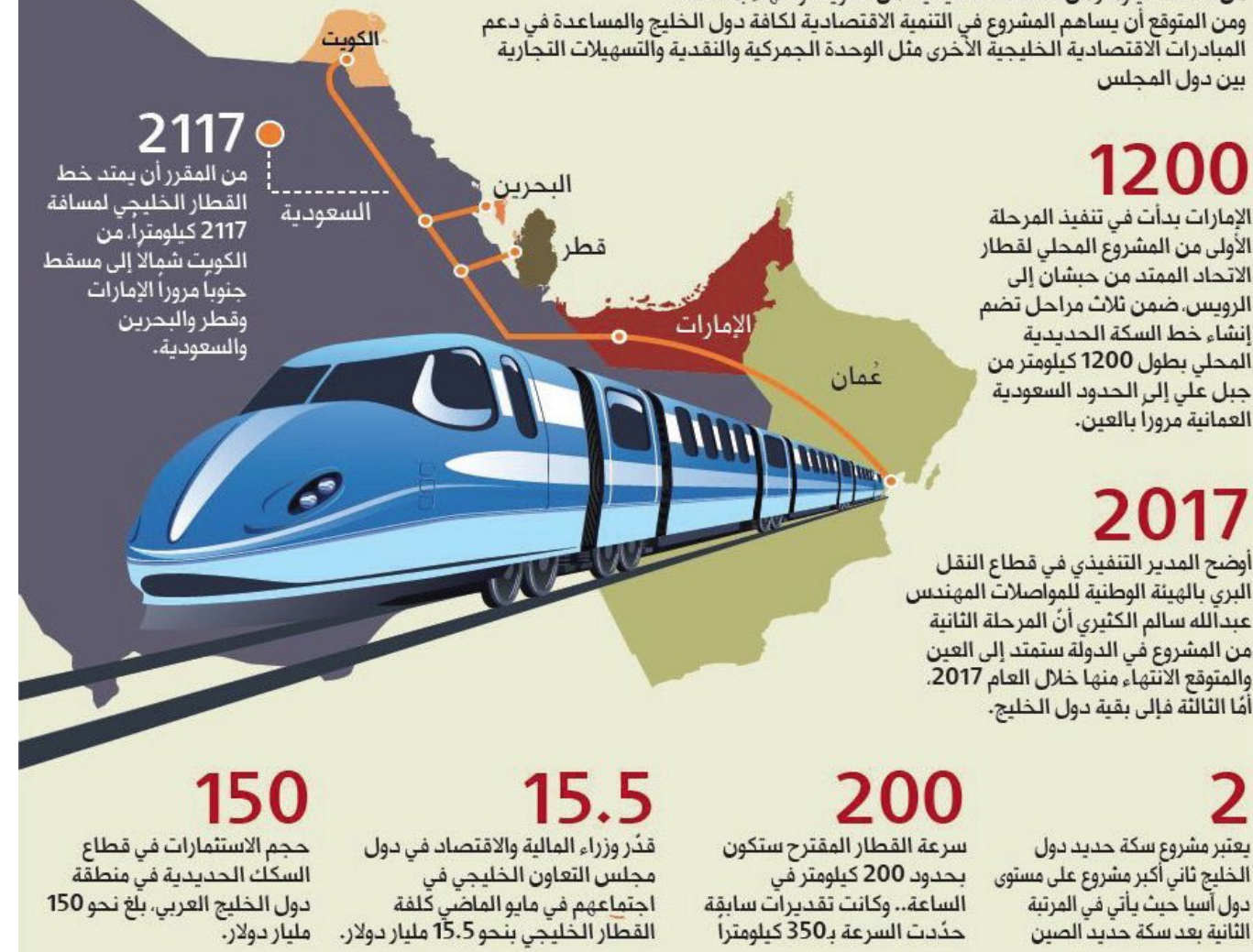


# Gulf Railway (GCC)

Country	Line length	Local Plans
Kuwait	145	511-574
Bahrain	36	
Qatar	283	400
Saudi Arabi	663	
United Arab Emirates	684	
Oman	306	

## القطار الخليجي .. مشروع عملاق ينتظر

تقدّر الدراسات التفصيلية لمشروع القطار الخليجي تكلفته بنحو 15.5 مليار دولار.. وسيتمد لأكثر من 2000 كيلومتر من السكك الحديدية: من الكويت وانتهاء بمسقط.. ومن المتوقع أن يساهم المشروع في التنمية الاقتصادية لكافة دول الخليج والمساعدة في دعم المبادرات الاقتصادية الخليجية الأخرى مثل الوحدة الجمركية والنقدية والتسهيلات التجارية بين دول المجلس





## *Qualitative insights*

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- Transparency and accessible official information are NOT widespread among official leaders and entities. Often, they themselves are “fed” by state officials or executing contractors.
- Most detailed information was found in Western media outlets, or contractors’ websites.



Dubai, UAE



## *Qualitative insights*

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- Inter-urban or regional systems' costs per KM are generally lower than urban systems' costs.
- Gulf countries and North African countries had the most significant number of transit construction projects in the last two decades. Algeria, UAE, and Saudi Arabia stand at the top of the table in terms of transit projects.
- There are almost no projects in the Levant region.



Cairo, Egypt

## *Qualitative insights*

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- Roughly speaking, costs for North African countries were lower than the costs of the Gulf countries.
- Many reasons can be attributed to this difference. Such as the characteristics of the projects, the local topographies, the past-experience, and relations.
- This also can raise questions about post-colonial relations, projects' “necessity” and demands, and willingness to pay.



Mecca, KSA



## *Qualitative insights*

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- Some European enterprises operate on the local-national level in North African countries, most notably, in Algeria as the example of Alstom Algerie SPA has been operating in Algeria since 2002. This, in contrast to the ad-hoc consortiums' establishment in Gulf countries.
- The involvement of the French government and European banks is also noteworthy in the context of Morocco, Tunisia, and Algeria.



Rabat, Morocco



# Featured projects' comparison

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Name	al-Haramain, KSA	al-Boraq, MR
Duration (years)	9	11
Network (KM)	453	363
Tunneling (%)	0	0
Stations	5	4
Construction/KM	0.077478	0.016601

# Featured projects' comparison

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Name	Lusail LRT, QA	Algiers Tramway, AL
Duration (years)	7	7
Network (KM)	18	16.2
Tunneling (%)	0	0
Stations	25	28
Construction/KM	0.277778	0.076167



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**Thank you!**

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