

1.1 Overview (1/2)

- The report covers 1,000 upcoming rail projects (metrorail, rapid transit, subway, MRT, light metro, light rail, tram, streetcar, monorail, automated people mover, tram-train, airport rail link, passenger rail, commuter rail, intercity rail, inter-country rail, HSR, etc.) in five regions, namely, North America, Latin America, Asia Pacific, Europe, and Middle East and Africa. These projects together cover a network of over xxx km and require an estimated investment of more than USDxxx billion.
- Asia Pacific has the maximum number of projects coming up. Of the top 1,000 upcoming rail projects, xxx projects, which will together span over xxx km, will be developed .
- Metrorail/subway/rapid transit/light metro are the dominant modes of mass transit. Majority of these are being developed in Asia Pacific.

Region-wise analysis of projects

Region	No. of projects	Estimated length (km)	Estimated cost (USD billion)
North America	xxx	xxx	xxx
Latin America	xxx	xxx	xxx
Asia Pacific	xxx	xxx	xxx
Europe	xxx	xxx	xxx
Middle East and Africa	xxx	xxx	xxx

Mode-wise analysis of projects

Mode	No. of projects	Length (km)
Metrorail/ Subway/ Rapid transit/Light metro	xxx	xxx
Light rail/Streetcar/Tram	xxx	xxx
Monorail/APM/ ARL	xxx	xxx
Commuter Rail/ Suburban Rail	xxx	xxx
Inter-city/Inter-country/ Passenger rail	xxx	xxx
High speed rail	xxx	xxx

1.1 Overview (2/2)

- Of the upcoming length, the majority is under planning (xxx km in xxx projects), followed by under construction (xxx km in xxx projects).
- Of the 1,000 projects covered in the report, xxx projects will be partially or completely elevated, covering a network of xxx km. Another xxx projects will be partially or completely underground, covering a network of xxx km. Asia Pacific presents the largest opportunity for tunnelling players, with over xxx km of underground rail lines planned.
- A total of xxx projects, spanning over xxx km, are expected to be developed and modernised by 2025; xxx projects spanning around xxx km are planned to be operationalised and modernised between 2026 and 2030; and xxx projects spanning over xxx km will be developed and modernised beyond 2030. Completion dates for xxx projects are to be announced and xxx projects are not available.
- In terms of fare systems, majority of the projects will deploy more than one fare system including AFC. Majority of the developers plan to integrate the fare system with other modes of public transport in the city.
- All of this planned activity in the urban rail segment spells opportunity for contractors, consultants, rolling stock and technology providers, vendors, etc.

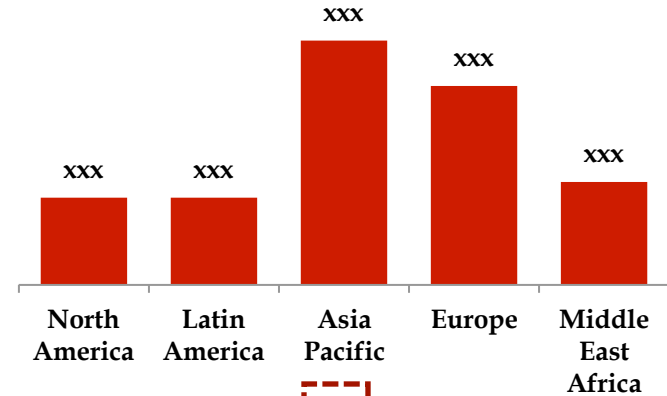
Timeline-wise analysis of projects

Timeline	No. of projects	Length (km)
By 2025	xxx	xxx
Between 2026 and 2030	xxx	xxx
Beyond 2030	xxx	xxx

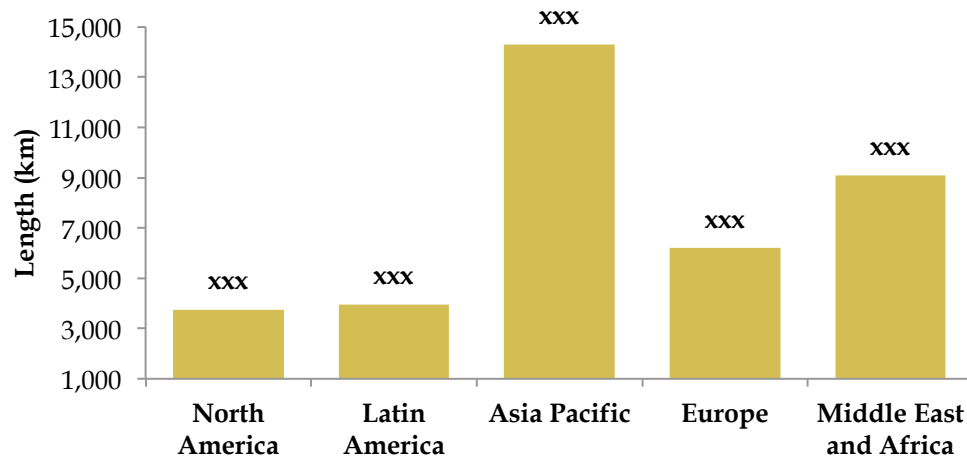
1.2.1 Introduction

- Asia Pacific has the maximum number of projects coming up. Of the top 1,000 upcoming rail projects, xxx projects are being developed in Asia Pacific. A total length of over xxx km will be developed in the region.
- Europe presents the second biggest opportunity in terms of number of projects. The report covers the top xxx upcoming rail projects in Europe.
- Middle East and Africa, although a relatively recent entrant into the rail segment, presents the third largest opportunity with xxx projects, followed by Latin America and North America (xxx projects each).

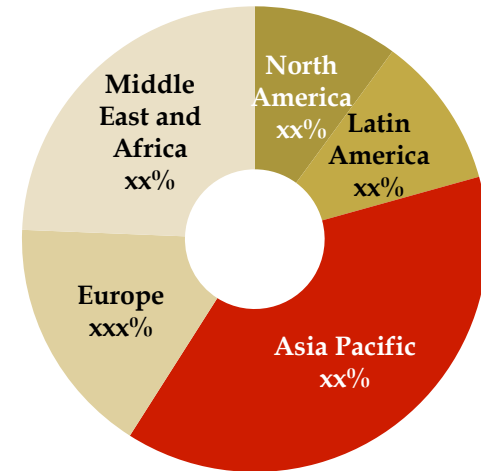
Distribution of number of projects by region



Distribution of length of projects by region

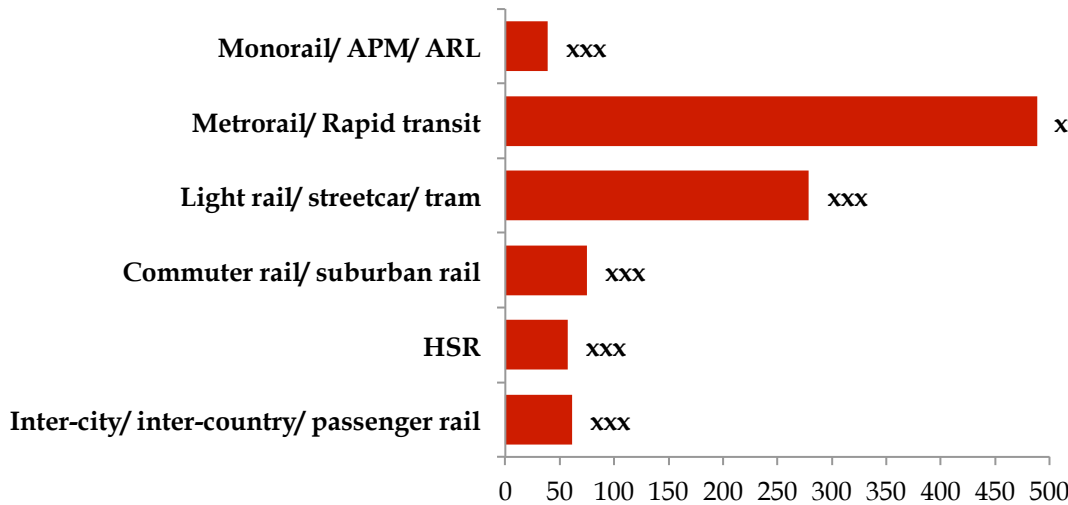


Share of projects by region



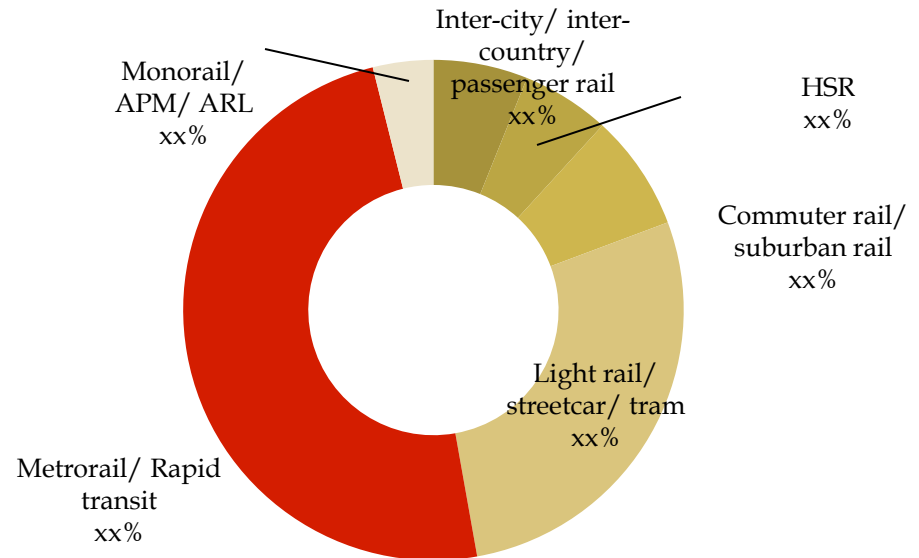
1.3.1 Introduction

Mode-wise no. of projects



- Metrorail/ subway/ rapid transit/ light metro are the dominant modes of mass transit. The majority of these are being developed in Asia Pacific.
- In contrast, majority of the LRT systems are being developed in Europe, North America and Middle East and Africa.

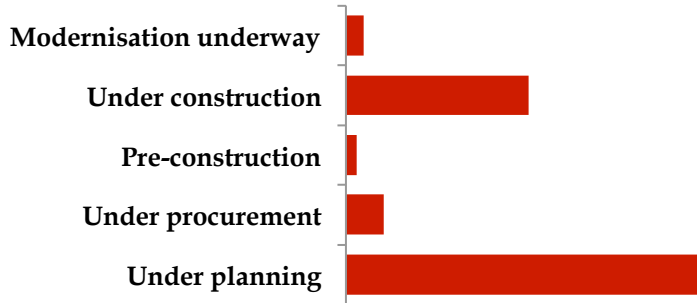
Mode-wise share of projects



- Of the xxx monorail/ APM/ ARL projects covered in the report, maximum are being developed in the xxx and xxx.
- Over xxx% of the commuter rail and suburban projects covered in the report are being executed in the Americas.
- A total of xxx high speed rail (HSR) and xxx inter-country/ inter-city and passenger rail projects have been covered in the report.

1.4.1 Introduction

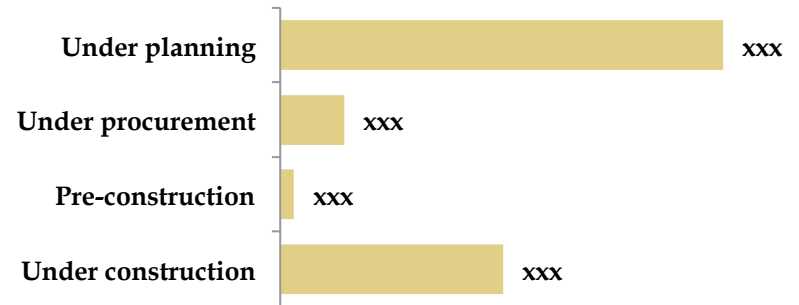
Distribution of number of projects by status



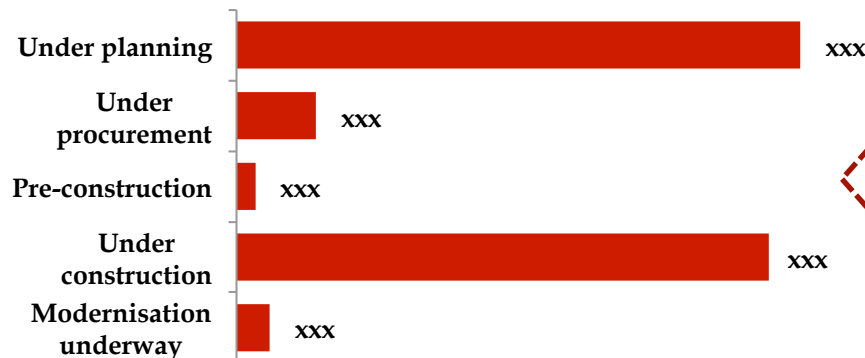
Of the xxx projects (excluding one project undergoing trials), xxx% are under planning, xxx% are under procurement, xxx% are under construction, xxx% are in pre-construction stage and xxx% are going through modernisation. The majority of projects are in the planning phase, representing significant investment opportunities for contractors/service providers across the urban rail transit value chain.

The xxx upcoming projects (excluding one project undergoing trials) collectively cover more than xxx km. The projects under planning together span more than xxx km, which accounts for around xxx % of the total length. Projects undergoing modernisation collectively span xxx km.

Distribution of length of projects by status (km)



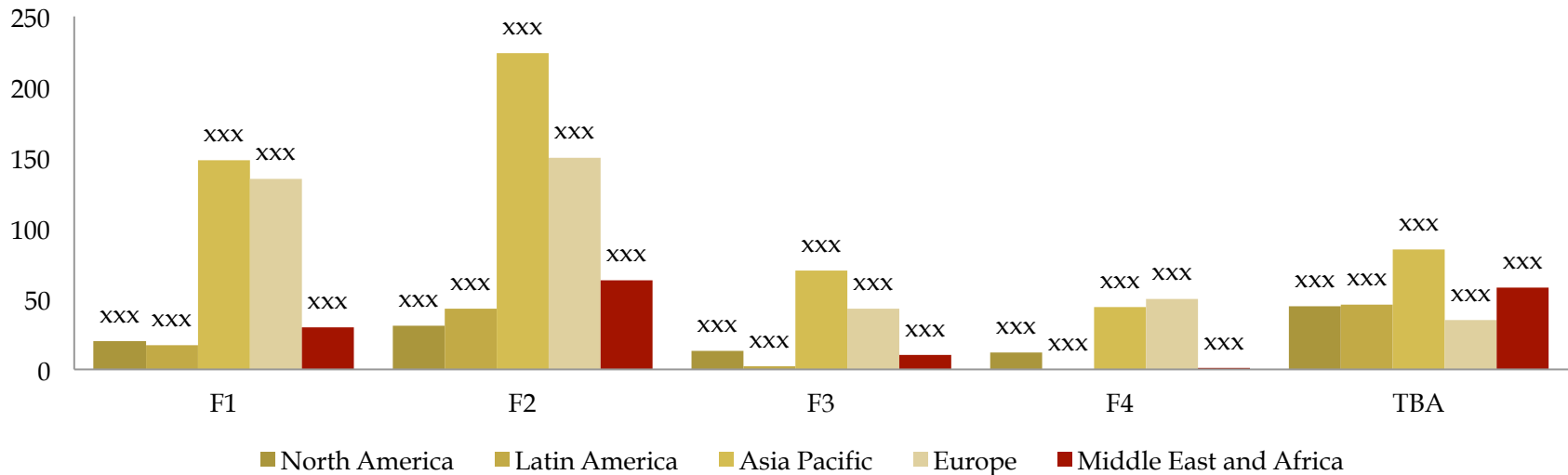
Distribution of cost of projects by status (USD billion)



More than USDxxx million is planned to be invested in public transport infrastructure. Of this, around xxx% of the projects are in the planning stage and around xxx % are under construction.

1.5.1 Analysis of fare systems (2/2)

Level of fare collection deployment planned by region



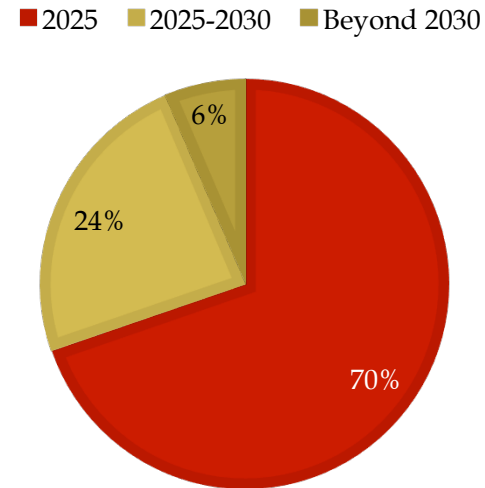
Note: Analysis based on 615 projects. In this report, the fare systems have been classified into four categories: paper tickets, magnetic-stripe tickets, tokens and cash as category F1; smartcards (contactless/contact-based) and rechargeable magnetic-stripe cards as category F2; mobile ticketing as category F3; and bank cards as category F4.

- Across regions, contactless smartcards, and paper tickets, magnetic-stripe tickets, tokens and cash are the most widely accepted as the mode of payment, and most upcoming systems have plans for the same.
- Asia Pacific has the largest share of systems planning to deploy mobile ticketing while maximum projects in Europe will witness bank cards.
- Advanced payment modes such as bank cards are gaining prominence but their current share is low.

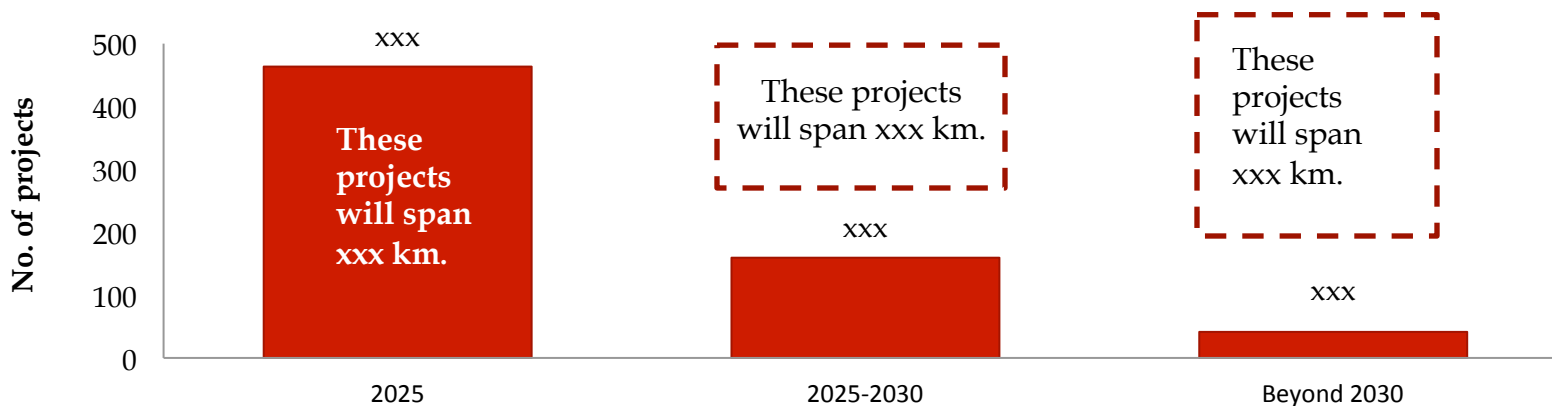
1.7.1 Introduction

- A total of xxx projects, spanning over xxx km, are expected to be developed and modernised by 2025; xxx projects spanning around xxx km are planned to be operationalised and modernised during 2025-2030; and xxx projects spanning over xxx km will be developed and modernised beyond 2030.
- The report covers 1,000 projects, of which the completion dates for xxx projects are available. Of these, xxx% of the projects are expected to be completed by 2025; xxx% are expected to be completed during 2025-30, and xxx% will be completed after 2030.

Distribution of projects by expected date of completion*



Projects by expected date of completion

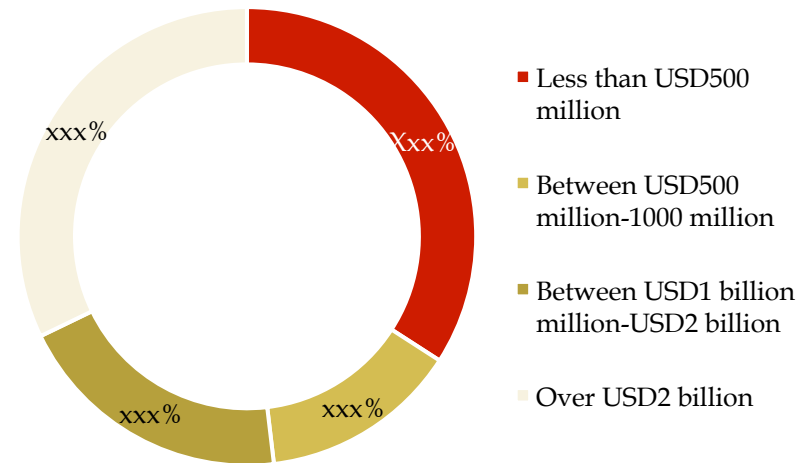


Note: Out of 1000 projects, completion dates for 319 projects are to be announced and 17 projects are not available.

1.8.1 Introduction

- The report covers 1,000 projects. Of these, xxx projects spanning around xxx km, will require investment of less than USD500 million each.
- A total of xxx projects, spanning around xxx km, will require investment ranging between USD500 million and USD1 billion each.
- Further, xxx projects, spanning around xxx km, will require investment ranging between USD1 billion and USD2 billion each.
- Finally, a total of xxx projects, spanning around xxx km, will require investment of more than USD2 billion each.

Share of no. of projects by cost*



Projects with highest investment requirement by region

Region	Project	Cost (USD billion)	Length (km)	Expected year of completion
North America	California HSR (All sections for Phase 1), California, United States	xxx	xxx	xxx
Latin America	Lima Metro Line 3, Lima , Peru	xxx	xxx	xxx
Asia Pacific	Chūō Shinkansen Nagaya-Osaka HSR, Japan	xxx	xxx	xxx
Europe	High Speed 2 (Phases I and II), London, UK	xxx	xxx	xxx
Middle East & Africa	GCC Railway (Gulf Railway)	xxx	xxx	xxx

Some of the largest projects, in terms of cost, involve development of new systems.

Note: *The planned investments for 231 projects are either not available or yet to be announced.

1.10.1 Expected investment in new build projects

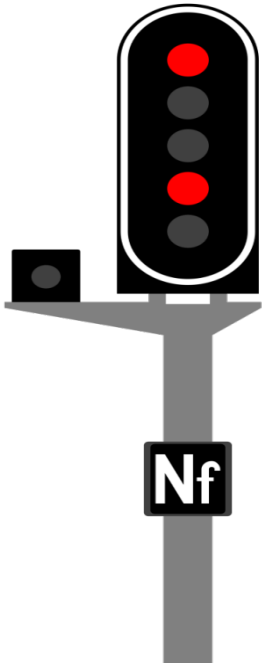
Huge investments are planned to be undertaken in construction, fare systems, rolling stock and signalling, train control, and telecommunications (STT) systems.



Construction

New build projects: USDxxx billion to USDxxx billion

Extensions and modernisation: USDxxx billion to USDxxx billion



Fare system

USDxxx billion



Rolling stock

USDxxx billion and USDxxx billion

STT

USDxxx billion

1.10.2 Expected investment in new build projects

An estimated USDxxx billion is planned to be invested globally in the development of new lines or systems globally. Majority of these investments are in the Asia Pacific, followed by the Middle East and Africa.

- Depending upon the type of project, the construction cost as a percentage of the total project cost (TPC) ranges between 40-55%.
- An estimated **USDxxx billion to USDxxx billion** is planned to be invested in the construction of new lines and systems.

Region-wise planned investment in construction of new build projects

