# Rapid Transit Rail System in India: A Soft Target for Lone-Wolf Militancy?

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# EXECUTIVE SUMMARY

Transnational militant groups like Islamic State (IS) and al Qaeda (AQ) have increasingly focused on attacks against soft targets including global transportation system like Rapid Transit/metro and underground rail networks across the world, with 2017 alone witnessing three such attacks in major cities in Russia, the UK and USA. Given the increasing sophistication in the security architecture ensured by governments across the world and global intelligence networks, it has been increasingly difficult for the central leadership of militant groups like AQ and IS to perpetrate sophisticated attacks in areas outside their traditional areas of operation in the Middle East region, Africa and certain areas of South Asia. With this in mind, these groups have increasingly resorted to online radicalization and subsequently inspiring lone wolf attacks, which continues to present a serious security challenge, given the inherent difficulties faced in the identification and mitigation of such threats. The Rapid Transit Rail/Metro system is thus increasingly at the risk of low intensity- high impact militant attacks by lone wolf actors inspired by these radical ideologies.

In case of India, the metro network is a fledgling project beyond major cities like Kolkata, New Delhi, Mumbai and Bengaluru and has been expanded into areas like Gurgaon, Hyderabad, Jaipur, Chennai, Kochi, Lucknow, Nagpur, Noida etc. with projects in different stages ranging from expansion to planning phase. However, the security model slightly varies in each city given the expanse, threat assessments, operational and administrative requirements in each city. Though no militant attacks have been recorded on the Indian metro system till date, the vulnerability and interest of militant groups to target the expanding network continues to remain.

This GRID91 report thus analyses the existing global trends of militant attacks targeting the rapid transit rail network, and based on that attempts to focus on the existing Indian security architecture, possible loopholes and recommendations to mitigate these threats.

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# GLOBAL MILITANCY TARGETING METRO SYSTEMS: A TREND ANALYSIS

On December 11, an Islamic State (IS)- inspired 'lone wolf' attacker reportedly detonated a low yield IED strapped onto himself, underneath Port Authority Bus Terminal's bustling Times Square Subway Station in Manhattan, New York. Four people, including the assailant, were injured in the incident. The attack follows an attempted IED detonation in London's Parsons Green tube station on September 15 which failed to detonate properly, yet resulting in 29 people being injured mostly with blister wounds. In both cases, the militants failed to inflict a mass casualty attack and were limited to injuries to passengers in the vicinity of the detonation. The aforementioned attacks, though remained unsophisticated, they were the third of its kind in 2017 alone (Russia's Saint Petersburg metro bombing in April being the first), highlights the renewed interest of transnational militant groups like IS to carry out attacks against global transportation networks such as metros and subways.

Though threats of attacks of this kind have been in contemporary security literature for a while, actual attacks have been relatively less frequent in the current decade. A trend analysis of the latest attacks targeting Metro and underground railway system highlights that majority of these attacks have been perpetrated by radicalised individuals and militant sympathizers, resulting in unsophisticated attacks like stabbings or low intensity IED detonations. Moreover, most of the perpetrators have been well-acquainted with the system and have a decent degree of understanding of the ridership peaks and falls, thus enabling them to strike during rush hours. This view is further bolstered by the fact that majority of the recorded attacks since 2014 have been perpetrated in some of the busiest metro stations and nodal junctions or those leading to it like the *Tekhnologichesky Institut* in St Petersburg, Maelbeek station in Brussels and Times Square station, New York. Areas in the vicinity of major metro station have also been targeted as was recorded in Istanbul's Bayrampasa-Maltepe station in December 2015.

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# Major Militant Attacks on Global Metro Network (May 2014- December 2017)
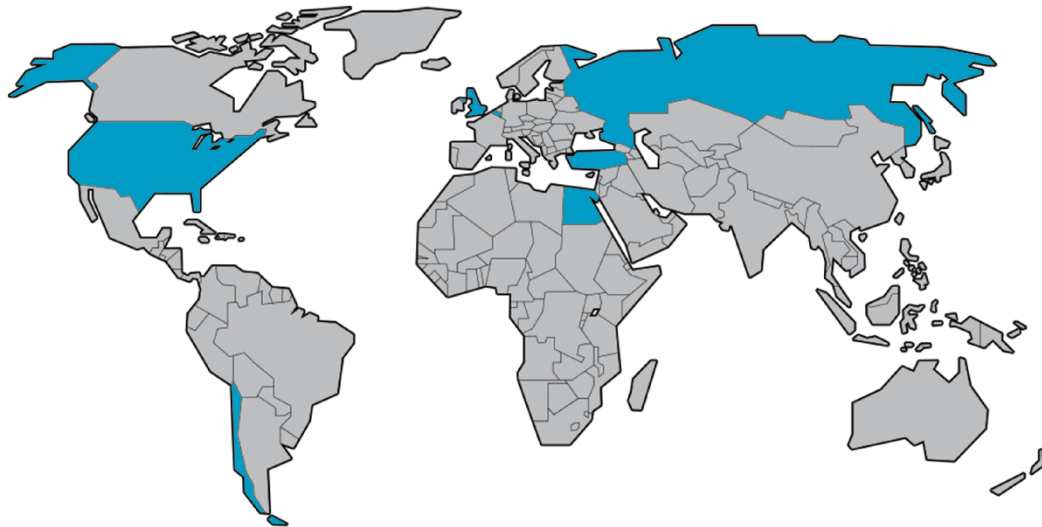


**May 1, 2014**
**Turkey**

Pipe bomb explode near Istanbul's Metro networks Bayrampaşa—Maltepe station; perpetrator unidentified

**July 13, 2014**
**Chile**

The Conspiracy of Cells of Fire claimed responsibility for subway bombing in Santiago city

**October 14, 2014**
**Egypt**

Ajnad Misr claimed responsibility for IED attack near Cairo subway

**March 22, 2016**
**Belgium**

IS targets Maalbeek Metro station in Brussels

**December 5, 2015**
**UK**

IS- inspired attack in London's Leytonstone subway station

**November 13, 2014**
**Egypt**

IED detonation at the Cairo's Helmiet Al- Zeitoun metro station; no official claim released

**April 3, 2017**
**Russia**

Suspected IS attack; no official claim released

**September 15, 2017**
**UK**

IS claimed responsibility for the IED attack in Parsons Green underground train

**December 3, 2017**
**USA**

IS inspired militant arrested in the failed plot

*Source: Global Terrorism Index*

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# WHY RAPID TRANSIT SYSTEMS?

Like other modes of transport, Metro infrastructure is classified as a soft target, given the congregation of unarmed civilians in a stipulated place at a definite time, as well as the operational difficulties in achieving 'target hardening' in case of other transport networks like Airports. Moreover, majority of, if not all, rapid transit stations are underground, which can further magnify the effects of explosives multifold as was clearly evident in the Maelbeek metro station in Brussels. Any low yield explosive detonated with precision during rush hour in an enclosed space thus carries immense potential to cause collateral damage and peak casualty figures. Another feature of carrying out attacks in such enclosed spaces is the panic and chaos such incidents trigger, which has also been known to result in injuries to those entities which may not have been injured as a result of the detonation but during the rush to evacuate from the location of the attack. Congregation of a large group of population in a space with limited exits has resulted in stampedes causing additional deaths. It also serves as a hindrance to operations of the first responders, further delaying the crucial initial response.

Chemical attacks have also posed serious threat to transport infrastructure, though no militant attack involving use of chemical attacks have been recorded since the March 1995 Sarin attack on the Tokyo subway perpetrated by Aum Shinrikyo. This can primarily be attributed to the requirement of specialised knowhow to weaponize such chemicals. However, unsophisticated chemical attacks involving chemical powders, pesticides, acids etc. disguised as medication, household cleaners remain a possibility. Use of lachrymatory agent, as used in Pepper spray, can also be used to induce panic.

The evolution of militant attacks and success of militant groups in the virtual domain, inspiring lone wolf attacks on areas far from the group's actual area of operation, thus presents a serious challenge to the security of this infrastructure. Moreover, with the increasing proliferation of information concerning the manufacturing of explosives and chemicals, the threat of development of increasingly effective IEDs to target sensitive infrastructure like Metro rail network becomes all the more likely.

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# RAPID TRANSIT RAIL SECURITY MODEL: CASE STUDY OF INDIA

The metro network is fledgling in India beyond the major cities like Kolkata, New Delhi, Mumbai and Bengaluru and now includes areas like Gurgaon, Hyderabad, Jaipur, Chennai, Kochi, Lucknow, Nagpur, Noida etc. with projects in different stages ranging from expansion to planning phase. Depending on the threat levels and based on inputs from security audits that are conducted at regular intervals, upgrades to the existing security architecture have been implemented. Unlike the US and UK model of covert/ non-intrusive security measures, India, like Russia and China has resorted to an overt security model featuring visible security presence, including deployment of personnel from both public and private sectors in addition to the deployment of a network of closed-circuit cameras, metal detectors, x-ray baggage inspection systems and dog squads.

The rationale for such a measure relies on two premises

1.  A visible security presence is likely to deter 'inexperienced' lone wolf militants from perpetrating an attack.
2.  Effective access control measures are aimed at preventing assailants from reaching the main metro station and nodal junction, thus minimizing the damage. To tackle the problem of bottlenecks in entry and exit area, which also form a lucrative target for attacks, multiple entry and exit gates have been devised along major nodal junctions.

Given the added responsibilities of safeguarding the extensive rapid transit rail infrastructure, coupled with the inherent vulnerabilities of the network to new age militancy tactics, each metro network has established its own unique security protocol. With the exception of the New Delhi Metro, which is the most expansive network in the country, no other network in the country has a complete Central Industrial Security Force (CISF) cover. The CISF, thus provides advisories and regular training to security agencies tasked with security of metro network in other parts of the country. Other cities have thus witnessed a multi-agency security approach involving state and private security personnel, while continuing to adhere to the two aforementioned basic security premises.

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# Operational Metro Lines in India and their respective Primary Security Providers

## KOLKATA METRO

| | | |
|---|---|---|
| Number of operational lines | ▶ | 1 |
| Number of Stations | ▶ | 24 |
| Primary Security Provider | ▶ | State Police Force |

## Delhi Metro

| | | |
|---|---|---|
| Number of operational lines | ▶ | 6 |
| Number of Stations | ▶ | 165 |
| Primary Security Provider | ▶ | CISF |

## Namma Metro (Bengaluru)

| | | |
|---|---|---|
| Number of operational lines | ▶ | 2 |
| Number of Stations | ▶ | 42 |
| Primary Security Provider | ▶ | State Industrial Security Force |

## Chennai Metro

| | | |
|---|---|---|
| Number of operational lines | ▶ | 2 |
| Number of Stations | ▶ | 42 |
| Primary Security Provider | ▶ | State Police Force |

## Rapid Metro (Gurgaon)

| | | |
|---|---|---|
| Number of operational lines | ▶ | 1 |
| Number of Stations | ▶ | 11 |
| Primary Security Provider | ▶ | PEREGRINE (Pvt) |

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# VULNERABILITIES AND RECOMMENDATIONS

**Deployment of State Police Force**: Deputation of state security apparatus to duties involving safeguarding of critical infrastructure like Metros involves certain inherent risks. Unlike the Delhi Metro, which has a detailed security cover by the CISF that is specifically trained to handle contingencies related to critical infrastructure, five out of ten metro services rely on the state police force as the primary security provider. Given the shortage of trained manpower, coupled with engagements in other law and order related contingencies, the state police force is unlikely to be completely adept at handling potential militant attacks on major Metro stations. Moreover, the transference of skills gained through focused workshops remains limited in the long run.

While Kochi and Bengaluru metro services have deployed the state equivalent of the CISF, Mumbai has raised the Maharashtra Security Force (MSF), a force primarily trained in handling contingencies related to the security of the metro services. It also continues to be a versatile force and augments the capabilities of the state police forces in other duties concerning law and order as and when required. This model can be adopted in other locations which solely rely on state police force to provide security to the metro infrastructure.

**Outsourcing Services:** According to a report of the subcommittee on Operations and Maintenance (O & M) systems for metro railways released by the Ministry of Urban Development in 2013, no metro rail systems in India has outsourced entire O & M activities. However the scenario is currently witnessing a change with private service partners/ vendors increasingly gaining contracts for O & M, albeit at a slower pace. This scenario is likely to change as the number of Metro services expand. Furthermore, according to the aforementioned report, while O & M of major assets are generally undertaken in-house, certain segments under the civil infrastructure maintenance continues to be outsourced. This includes station management services like Ticketing, Housekeeping, Parking, among others. In multiple cases, auxiliary security services have also been outsourced with main security responsibility being a prerogative of the state

security apparatus. O & M in Rapid Metrorail Gurgaon Limited (RMGL) being an exception.

While outsourcing of certain O & M projects is beneficial as it involves adopting best industrial practices, and service providers are known to undergo through due diligence and background checks before gaining contracts, there continues to remain some degree of vulnerability at the lower end of the hierarchy. It remains likely that certain radicalized elements at the service end may infiltrate the lax background checks at that level, gaining regular access to multiple sections of the metro stations and nodal junctions. This access thus can be used to carry out detail recee aimed at identifying potential loopholes at any given station. In the backdrop of this vulnerability, thorough screening coupled with monitoring of the support and maintenance staff should be undertaken along with regular rotation of duties from stations, aimed at preventing familiarization of the maintenance staff with particular metro premises.

**Vigilant Civilians as force Multipliers:** While security of critical infrastructure is not a sole prerogative of the state security architecture, active cooperation and vigilance from the civilian population is also expected. In this regard, awareness programmes and training on identifying and reporting suspected items and behavior should be imparted through multiple media outlets. This also augments the capabilities of the state and central intelligence agencies in gathering preventive intelligence which may result in mitigating the threat of a potential militant attack.

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# Operational Metro Lines in India and their respective Primary Security Providers

## Mumbai Metro

| | |
|---|---|
| Number of operational lines | ▶ 1 |
| Number of Stations | ▶ 11 |
| Primary Security Provider | ▶ MSF |

## Jaipur Metro

| | |
|---|---|
| Number of operational lines | ▶ 1 |
| Number of Stations | ▶ 9 |
| Primary Security Provider | ▶ State Police Force |

## Kochi Metro

| | |
|---|---|
| Number of operational lines | ▶ 1 |
| Number of Stations | ▶ 22 |
| Primary Security Provider | ▶ State Industrial Security Force |

## Lucknow Metro

| | |
|---|---|
| Number of operational lines | ▶ 1 |
| Number of Stations | ▶ 8 |
| Primary Security Provider | ▶ Provincial Armed Constabulary |

## Hyderabad Metro

| | |
|---|---|
| Number of operational lines | ▶ 2 |
| Number of Stations | ▶ 24 |
| Primary Security Provider | ▶ State Police Force |

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# CONCLUSION

While the Indian Rapid Transit system has not recorded any militant attacks till date, given the evolving nature of militant attacks as well as case studies of attacks witnessed across the globe, this critical infrastructure continues to remain vulnerable. Given the inherent difficulties, though it is impossible to completely mitigate militant attacks, through regular assessments and audits, security agencies continue to adopt measures aimed at target hardening, thus making it difficult for militants to carry out attacks against such installations.

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