

## Technical condition of railway infrastructure in 2019

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19,503 km – this is the length of railway lines in operation in Poland. As compared to 2019, the length of the lines in operation increased over the year by 155 km. Most sections of the network allow for speed between 80 and 120 km/h. The share of lines in a good technical condition increased. However, the share of lines in a satisfactory condition decreased.

Capacity improvements, speed limits and technical condition of railway lines are the basic criteria for assessing the effectiveness of infrastructure investments. The quality and accessibility of infrastructure is steadily improving due to investment programme implemented in recent years.

### TECHNICAL CONDITION OF RAILWAY INFRASTRUCTURE

PKP PLK, the national infrastructure manager, is assessing the condition of railway infrastructure in annual reports on safety of railway traffic. In the last report for 2019 PKP PLK states that 60.3% of the infrastructure is in a good condition, 20.2% is acceptable and 19.5% is considered unsatisfactory (of which 7.3% is in a poor condition).

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Ocena stanu technicznego infrastruktury kolejowej PKP PLK w latach 2015-2019  
Infogram

In 2019, for the second consecutive year, the share of railway infrastructure classified as unsatisfactory and in poor technical condition rose. Since 2017 there is a slight increase (by 1%) in the share of infrastructure in a good condition. It means that infrastructure previously classified as acceptable is gradually deteriorating.

The changes in technical condition of PKP PLK network are reflected in the change of the maximum accessible speed (see graph below).

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Struktura torów kolejowych eksploatowanych w Polsce w latach 2017-2019 wg dopuszczalnych prędkości

Accessible speeds on PKP PLK network have indeed increased. Since 2017 the share of lines on which accessible speed falls within a range from 80 to 120 km/h grew by 2.7%. However, for interregional passenger services it is often insufficient. The optimal train speed for this type of connections is from 120 to 160 km/h. In Poland there is still a high proportion of tracks with the lowest speed parameters. Since 2017 the share of tracks with maximum speed up to 60 km/h fell only by 2.2%.

## RAILWAY INFRASTRUCTURE CAPACITY

The capacity of the railway network is one of the basic factors influencing the organization and volume of both passenger and freight transport services. Therefore, infrastructure investments should have a measurable impact on increasing capacity of the network.

UTK reviews the reports of licensed rail operators. In 2019 operators were asked to describe problems with capacity, both organizational and technical. The answers were divided into 9 main groups:

1. capacity limitations during traffic peaks (growing demand for transport during morning and afternoon peaks, cumulation of local and long-distance traffic during peaks);
2. impact of passenger transport on freight transport (the growth of passenger connections without required infrastructure investments limits the access to infrastructure for freight carriers);
3. unsatisfactory condition of infrastructure (permanent or temporary speed limits, axle load restrictions or damage to the track bed severely limit the commercial speed of freight services);
4. outdated rail traffic control devices (which extend the train stop time at stations or sidings and thus reduce line capacity);
5. usable length of the station tracks (the minimum usable length of the station track should be 750 meters, but there are still sections of railway lines where the traffic posts do not meet this requirement or only partially meet this requirement, which makes it impossible to run long freight trains);
6. limited length or number of platform edges;
7. single-track railway lines (capacity restrictions on single-track lines, low frequency of trains);
8. time of work of traffic posts (short time of work affects the flow of traffic and availability of service facilities and sidings);

9. limited size of traffic posts (limited number of tracks or insufficient length of tracks, inability to allow for simultaneous entry of two or more trains or for a change of direction of train affect the capacity of the railway infrastructure).