Nomination of

**Trans-Iranian Railway**

for Inscription on the World Heritage List

**Executive Summary**

UNESCO
World Heritage Convention
Tehran 2019
In the Name of Allah; The Beneficent, The Merciful...
## Contents

### Executive Summary

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Preface

The ancient Persia has an almost 7 Millennia years of history which is a land of unique geographical diversities due to the existence of Alborz and Zagros mountain ranges in this area, and that leads to cultural diversities among different Iranian ethnic groups in various climatic region, in which Many of these diversities, communities and settlements were not accessible Before constructing the Trans-Iranian Railways. Trans-Iranian Railway the interconnection was not only done hardly inside of the Persia, but it also was difficult for the north and the south neighbor countries in both margins of Caspian see and Persian Gulf, and also may of the mentioned countries had not have a way to high seas.

Thus, on the second half of the 19th Century and in Qajar era, the concept of constructing Trans-Iranian Railways was initiated due to the development and transformation of cultural and political relations between Iran and Europe and it was considered as a strategic decision for the country and even through the region. Although a small part of this rail routes, such as Shah Abdolazim, Rasht, Anzali, Jolfa, Mirjaveh, etc. was constructed in northern, central, and eastern points of Iran, in order to establish an internal and external communication, but the concept of the construction of Trans-Iranian Railway for connecting two seas, which is crossing through the country and through the mountainous, forest, desert, and coastal regions, was an incredible dream.
on 1907, an Iranian scholar, Saneeoldowleh, published a book entitled “Rah-e- Nejat” (Rescue path) and in abovementioned book he has explained about his drawn map of Trans-Iranian Railway on a scale of 1:1000000 and considered its implementation through contribution of local communities, in such a way that the concept of the railway became accomplished on early the 20th century.

In spite of all problems and complexities crossing along the various geographical regions and geological formations, the Trans-Iranian Railway construction was initiated on 1927, and finished on 1938 after 11 years, while after 3 years of its establishment it played a vital historical role in alliances’ victory and in ending up the World War II where it was considered as the victory bridge. The Trans-Iranian Railway, alike other major railways, has not only affected on the social, economic and cultural development of railways and its associated regions, but also, due to its ancient historical background coupled with important roads such as Silk road and Spice Road, has boosted the ancient roads and relations between Iranian ethnics groups with neighboring countries.

The Trans-Iranian Railway, which was crossing along an impossible and inaccessible mountainous, forest and desert like routs, has made the connection between rural and nomadic communities with other Iranian tribes which have not had any relationship before the construction of the mentioned railway, and that led to make eye-catching landscape accessible. Therefore, the railway, itself could be considered as an inseparable part of it.

The followings are some of the other significant points which made Trans-Iranian Railway unique:

- Contrary to other African and Asian countries, the government is liable to pay the construction costs through taxes.

- Trans-Iranian Railway is indeed being a complement to the technology and transformations of 19th and 20th century, which prepare the ground for the other railways.

- It has a key role in connecting Iran to the neighboring countries such as countries on the western, northern and southern borders, and it is facilitated the interaction of the associated communities.

- The Iranian society, whom commuting for the pilgrimage or commercial purposes, they faced to individuals who have been using the train as the tourist vehicle.

- The large number of international professionals, and many Iranian experts who are contributing in the project remarkably.

- The railways and associated structures and infrastructures such as bridges, viaducts, tunnels and stations were constructed with such a high quality material that has still retained its authenticity and integrity after 9 decades of its establishment, which could be considered as a live museum.
Country (and State Party if different)

Islamic Republic of Iran
State, Province or Region

Golestan Province  
Mazandaran Province  
Semnan Province  
Tehran Province  
Qom Province  
Markazi Province  
Lorestan Province  
Khuzestan Province

Map 2: Location of the Golestan, Mazandaran, Semnan, Tehran, Qom, Markazi, Lorestan and Khuzestan Province
Source: ICHHTO archive
Trans-Iranian Railway

<table>
<thead>
<tr>
<th>Zone</th>
<th>Length (km)</th>
<th>Stations</th>
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<tbody>
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<td>30</td>
</tr>
<tr>
<td>South</td>
<td>933</td>
<td>59</td>
</tr>
</tbody>
</table>

Map 3: Location of Tran-Iranian Railway in eight Provinces
Source: ICHHTO archive
Name of Property

Trans-Iranian Railway

Picture 1: Veresk Bridge

Picture 2: Bisheh Station

Picture 3: Zarrindasht-Mahabad

Picture 4: Se-khat-e-Tala

Picture 5: Shahbazan- Mazu
Geographical coordinates to the nearest second

<table>
<thead>
<tr>
<th>Name of the nominated</th>
<th>Province/City</th>
<th>Geographical coordinates</th>
<th>Area Nominated property (ha)</th>
<th>Area Buffer zone (ha)</th>
<th>Total (ha)</th>
</tr>
</thead>
</table>
| A                     | Bandar-e Torkaman (Start Point) | E: 36°53'36.00"  
N: 54° 3'56.64" | 5784 | 32755 | 38539 |
| B                     | Tehran (Middle Point) | E: 35°39'27.96"  
N: 51°23'50.49" | | | |
| C                     | Bandar-e Imam Khomeini (End Point) | E: 30°26'3.48"  
N: 49° 4'43.63" | | | |

Textual description of the boundaries of the nominated property

**Description of the Nominated Property**

The core zone initiates from the C1 point, where the first station placed within Bandar-e Torkaman city, moves southwards along the Miankaleh gulf in Caspian Sea. Passes the Gorgan and Mazandaran plains, turns westwards towards Mazandaran province until it reaches C2 at Bandar-e Gaz station within the city, proceeds westwards along Alborz Mountains and coastal area of Caspian Sea, gets to C3 at Galugah station, moves upward and resume its routes, passes the vicinity of Abbas Abad World Heritage Garden, Behshahr city and approaches C4 point at Behshahr station, moves towards C5, southwards and gets to Neka station, passing through C6 shahid Nobakht station, the plains and several road junctions, it reaches the Tajan river and proceeds as a viaduct upon the river until it gets to Sari station within Mazandaran Province at C7. The route, then progresses southeastwards along the Sari- Qaemshahr road to approach C8 at Gunibafi station and Qaemshahr station at C9, where the second zone of the railway route begins, follows towards south, passing Shapur historic bridge and reaches C0 at Shигah station, stretches southeastwards, gets to C11 at Zirab station, proceeds its route until C12 at Pol Sefid and starts a south-east direction, passes Do-Ab, Sorkhabad and Veresk stations at C13, C14 and C15, enters a loop, passes Veresk viaduct and leads to Se-khat-e-Tala, follows another loop until C16 at Dogal station, proceed the last loop and go through a bow-shape path and Shirub viaduct, reaches Gaduk tunnel and C17 point at Gaduk station at the ending point of the 2nd zone where the route enters the border of Tehran province. The railway continues towards southwest in Tehran province from C18 and Firuzkuh station, goes towards C19, C20, C21 and C22 at Mahabad, Zarrindasht, Simindasht and Kabutar-darreh stations, enters Semnan province at C23, Bon-e Kuh station and reaches C24 at Garmmar station, the ending point of the 3rd zone. The 4th zone initiates at C25 Kavir station in Semnan province, return to Tehran province at C26 Abardezeh station, moves northwards and reaches C27, C28, C29 and C30 at Pishva, Varamin, Bahram and Rey stations until it gets to C31 at Tehran station and enters the capital city. The route, then, descends to point C32 at Tappeh sefid station, follows southwards, towards Aprin station at C33 and C34 Shahriari station, enters Markazi province at C35, Rudshur station, moves westwards to C36 at Parandak station, descends vertically towards south, passes C37, C38 at Shahid Kheiripour and Kuhpang stations and Anjilavand at C39 where the route cross Qom province at C4 Nodezh station, goes towards south with a lean to the east, passes pol station at C4 and reaches Qom station in Qom city at C42, turns to west and extends to C43, C44 at Sagheh and Baghyek stations where it meets Savarian station at C45 which is located on the very common extents of Qom.
and Markazi province. At C46 Raahgard station, the route continues in Markazi province westwards, passes through C47, C48 and C49 at Naangard, Moshkabad and Molkabad stations respectively where it reaches Arak city at C50, of which is the ending point of the 4th zone.

Along the route, downwards, the 5th zone starts at C51 Samangan station, passes C52 and C53 at Shazand and Nurabad stations where the railway enters Lorestan province at C54, the Somayyeh station. The railway, afterwards, proceeds to C55 at Momenabad station, starts a westward move towards Azna station at C56, goes through C57, C58 and C59 at Darband, Rudak and Dorud stations.

Moving southwestwards the route reaches Qarun station at C60, passes Bisheh viaduct, the waterfall and its station at C61. Proceeds to C62 Sepid-dasht, Chamsangar historic viaducts and station at C63, Keshvar station and viaduct at C64 and passes several historic bridges such as Tang-e haft, Sakooye-Lashgar and Absirom until it gets to Tang-e Haft station at C65. The route, then, reaches to Saleh Hamid, Siavash, Mahoor, Do-Ab, Soori and Tal-e Zang viaduct as it goes through C66 Tang-e Panj. At C67 the route exits Lorestan province, reaches Talezang at C67 and Shahbazan station at C68 in Khuzestan province. The 7th zone initiates from C69, passes through Dom viaduct and Shahbazan bridges as well as the Mazu station at C69, turns west towards C7 at Balarud station, descends to C71 at Golmahak, C72 at Dokuheh and reaches to C73 ay Andimeshk station at the ending points of 7th zone.

The last zone, 8th zone, joins to the previous zone at Andimeshk station at C73, proceeds downwards to C74 Sabz-Ab station, C75 Shush station adjacent to the extents of Susa World Heritage Site’s boundaries C76 Haft-Tappeh, C77 Mian-Ab, C78 Ahudasht, C79 Bamdezeh, C80 Khavar, C81 Nezamieh stations until it reaches C82 within Ahwaz city, pass through Karun river at C83 on Karun bridge, moves southeastward through C84 Miandasht, C85 Janbazan, C86 Shohadaye Gomnam, C87 Gorgor and C88 Sarbandar stations until it reaches the last point of its core zone C89, at Bandar-e Imam Khomeini.

Description of Buffer zone of Trans-Iranian Railway
The buffer zone of the property stretches parallel to the core zone line with somewhat 100 m distance from the extents of the nominated property, each side. It lengths from B1 to B148 and B’1 to B’149; It worth mentioning that this distance may partially differ in some parts along the path depending on the natural, urban and rural obstacles.

Description of Landscape Zone of Trans-Iranian Railway
The right side of the landscape zone initiates at the Northern extents of the route, at L1, descends vertically towards south within the plains in Golestan province until it gets to the L4 point at the eastern sides of the landscape zone on the peaks of Alborz mountains, moves westwards on the mounts to L5, proceeds south-west wards on the heights until it gets to L10 and turns to south at L11 where the last point of the first zone is located.

On the left side of the landscape zone, the line starts at L’1 within Mian Kaleh Gulf, descends to the south to reach L’2 parallel to the coastal edges of the Caspian Sea, then, turns westwards with a lean towards south until it gets to L’4 where the line starts to pass through the farms and gardens in its
route, goes through L’5, L’6 and gets close to the urban neighborhood of Sari city until it reaches L’7. It proceeds its path and approaches Qaemshahr city at L’8. It, then, moves southwards until it reaches the last point of the first zone at L’11 on the left side.

The second zone starts of L13, moves south-eastwards on the hillsides, pass to L21. It passes by Espahbod Khorshid cave and proceed south-westwards to L23 at the ending point of the second zone.

On the left side the landscape zone passing through the farms, reaches L’17, starts ascending the mountain south-eastwards until it reaches L’20. The route, then, moves south-westwards to L’23 where the second zone ends, the line enters the 3rd zone and the climate starts to alter.

The landscape zone enters Tehran province at L24, where the decrease in humidity and greenery density is recognizable, moves towards southwest perpendicular to the Alborz mounts, pass several seasonal rivers.

Along its route until L29, enters a half loop and reaches L31 at the northern extents of Garmsar plain, gets close to Garmsar city at L32, moves towards the vast farms and gardens and reaches the 4th zone. At the western side of the route, the landscape zone moves along the foothills south-westwards reaches from L’25 to L’29, passes by Burnik cave, turns eastwards, reaches L’30 and resumes its route towards southwest at L’31 to L’33, leans towards south direction and reaches with an eastward-turn to L’38. Then, proceeds westwards, gets close to Garmsar industrial state at L’40, where the 3rd zone comes to its end.

At L35, when the 4th zone initiates, a large loop forms from east to west direction passing the arid plains, moves along Garmsar-Qom freeway at L36 until it reaches Varamin plain at L38 and L39, in this place landscape zone come across along the secondary buffer zone till Parand industrial state and a growing industrial districts and again started from L41. The line, then, turns to the south and passes a mounted area, proceeds to L43 and L45 where tracks of Qanat wells can be seen on the land, progressing within the farms and the industrial district of Qom city at L48 and L53, here again landscape zone come across along the secondary buffer zone and the route enters the city of Qom within the urban lands, resumes its path south-westwards at L54, passes Salafchegan industrial district, moves passed L60 and L61 amidst mounts within a valley, approaches Haftad Qolle protected area at L61, passes the adjacent hills, proceeds its path south-westwards from L65.

On the left side of the route, the 4th zone starts at the nearest point to Garmsar city by the foothills, proceeds eastward on the mounted area to L’41 and L’42, then, enters Varamin and Rey-Tehran plains of L’44.

Approaches the new residential town of Parand between L’45 & L’46 proceeds within arid lands and several ballast mines, turns southwards from L’47 to L’49, passing several hills and arid lands. At L’50 track of Qanat wells appears and the route enters farmland until L’52. At L’54 the path benefits from a hillside landscape, enters the urban vicinity of Qom city.

At L’55 the route starts a westwards move, parallel to Qomrood within the arid lands, proceeds south-westwards towards L’57. At L’60 the landscape zone enters a valley between two foothills and enters farmlands, passes by Meyghan Salt Lake at L’61 and L’62. It, then, reaches Arak, the ending point of the 4th zone.
At the 5th zone at the railway path, the landscape zone moves south-westwards from L66, down Arak city, passes the hills at L69, reaches an industrial state, passes through farms and gardens and goes through Rashband wildlife refuge area and approaches the mountainous parts of Nurabad at L75 and moves downwards inside the arid lands from L76 to L77, goes through farmlands between L79 and L82. From L82 to L83 turns around Sefidkuh mounts and proceeds within the valleys between Sefidkuh and Zagros mountain ranges until it get to Doroud at L86. The ending points of 5th zone, the greenery density increase where the route approaches the foothills at Zagros mountain ranges.

On the west side at the landscape zone within the 5th zone at the path, the line moves south-westwards from L′65, passes a mounted area, the Senejan garden and scattered villages along its route, proceeds L′66, the industrial area and farmlands and reaches a mount peak at L′69, forms a loop towards south to L′70, Goes through farms dispersed within the area L′73 to L′74 on the Sefidkuh heights, continues its route on its high areas until it gets to L′75. Where the 5th zone ends and surrounds the green plains inside the valleys.

The 6th zone of the route is located mostly amidst the heights at Zagros mountain ranges, starting from L74, moving south-westwards, reaches L75, turns towards south gets to L78 and resumes its route towards southwest to get to L79. Turns in to the southeast direction and approaches the last point of the landscape zone at the right side of the 6th zone at L83.

On the left side at the 6th zone, the landscape zone starts at L′83 point within Zagros mountain ranges and oak forests, where a more density in Greenery can be seen within this area, the route, then continues its southwest direction along the mountains area, passes L′84 and L′88, turns towards south with a lean to the east direction, reaches L′90 at the end of the 6th zone.

Within the 7th zone, the line starts and east to west path, passes by the Dez Dam Lake between L97 and L99. It then moves south-westwards from L99, pass through a part of Dez Dam Lake and reaches L100 at the hillsides, enters Khuzestan plain, the 7th zone reaches to Andimeshk urban vicinity within its mountains agricultural lands at L101 where it enters the 8th zone.

The west side of the 7th zone initiates from L′92, moves south-westwards reaches L′94 of hillsides, L′95 and turns eastwards L′97 close to Andimeshk city.

The 8th zone, as the last zone of the route, starts of Andimek city at L102, moves towards south reaches to the vicinity of south at L105, proceeds south-eastwards passes through Dez protected area between L107 and L108, continues its path until it gets close to urban vicinity and Ahvaz city with a lean towards east. It progresses its path towards the Persian Gulf.

Towards the industrial state of L113, farms and gardens until L120 and Bandare-Imam Khomeini of its ending point, where the line reaches to Khor-e Musa.

On the west side, the landscape zone initiates its move from L′98 by Karkheh Dam, goes parallel to Karkheh River towards south, passes Karkheh wild like refuge between L′98 and L′100, approaches Ahvaz city within the farms and gardens to L′108, goes by industrial states and farms until it reaches to L′109 and passes by Shadegan wetland and wildlife refuge until it gets to L′114 and L′116 where the route comes to its end by the Persian Gulf.
Total Length: 104 km

<table>
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<td>C18 Firuzkuh</td>
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<td>C24 Garmsar</td>
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Total Length: 147 km

Boundaries

- Nominated Property
- Buffer Zone
- Landscape Zone

References: IRR Research Base

All Iran Map: Maps, Vol. 1, Z-5 (No. 28)

Extraction Type: Other

Classification: Class 3

Persian Gulf

Date: 2019

Chaharmahal-Bakhtiari

Fundamental Map: Google Terrain, 2017

Location

Geographical Coordinates

Point | Station
--- | ---
C50 | Arak | 319880 | Gar
C51 | Samangan | 338820 | Class 1
C52 | Shazand | 353170 | Class 2
C53 | Nurabad | 374660 | Class 3
C54 | Somanyeh (Sepid-Cheshmeh) | 388110 | Class 3
C55 | Momenabad | 401370 | Class 3
C56 | Azna | 419030 | Class 1
C57 | Darband | 440010 | Class 2
C58 | Rudak | 455050 | Class 3
C59 | Dorud | 465881 | Gar

Basic Map Ref.: Google Terrain, 2017
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Criteria under which property is nominated

The property is nominated under criteria (ii) & (iv)

Criterion (ii): Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

The TIR serves as a living manifestation of multi-faceted interchange of human values, modern and innovative mountain railway skills and experience for its construction, emergence of a mixture of Iranian-western architectural style as well as new structures, boosting the economy and trade by speeding up transportation which led in reviving cultural-historical routes such as the Silk Road and the Spice Route at a specific period of the contemporary history in central and western Asia during the early 20th century and later on with the European countries.

In addition, at the time it was opened, the TIR drew global acclaim for the exemplary project management achieved by the successful working relationship between the Iranian Government, the project managers and the 43 construction contractors from many countries, particularly Denmark, Norway; Sweden; Germany; Switzerland; Austria; Italy; Greece, U.S. and Turkey. This indeed manifests, clearly, a critical interchange of human values over an important and rather decisive part of human history.

Due to the mountainous landscape with many crossing rivers and dangers posed by landslides and rockslides, much extra work had to be made in construction of bridges and tunnels so that the outcome could be considered as a work of an exceptional magnitude. It proved an outstanding way of solving unexpected problems through the international breadth of experience arose during construction enabling the TIR project overall to stay on time and on budget. It led to new technological developments which were later used by international experts in other parts of the world. clearly showing the exchange of technical know-how and cultural interaction at global scale.

Criterion (iv): Be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history; Ensemble or landscape which illustrates (a) significant stage(s) in human history; virtue

The Trans-Iranian railway is a fine example of a technological and architectural ensemble representing major stages of long-term development of human, technical and economic activities early in the 20th century in the western Asia. It has resulted in the formation of varied landscapes in relation to the assimilation and interaction of railway with natural landscapes on one hand and overcoming natural obstacles on the other hand. It has also caused a huge increase in trade, cultural and economic relations between Iran and other countries of the region; thus it has marked a significant and decisive stage in the process of historical development of Iran, regional states and consequently other countries of the world so that later on has played a key role in relations between Iran and European countries as since it was fully opened in 1938, the railway has been a busy main line of standard track gauge 1435 mm from the very outset. Consequently, not only this railway played a pivotal role in later architectural and technological development of the country and the region but it also had profound effect on the countries beyond. As mentioned above the whole process of the construction of the system had its mark on similar technological advancement through transfer of knowledge and know-how.
The TIR system with its various technical and architectural features is considered to be remarkable engineering feat in creativity and innovations on a wide scale encompassing technological and architectural variety in the construction of novel and innovative architectural structures and train stations in early twentieth century.

The TIR remains a busy mainline railway operating almost to capacity with passenger and freight trains. This continued use reflects its success as a railway and is part of its value. Despite frequent earthquakes, all the original engineering features is in continued use, reflecting the outstanding quality of their design and construction. The rich architectural legacy of 89 station buildings has also survived with remarkable integrity. The magnificent Tehran Station befits a capital city, presenting a world scale railway, with its outstanding values.

The property is a showpiece for a creative and new style emerging from the mixture of the Iranian and western architecture with a great effect on the architecture and town-planning of the era and in subsequent years. Moreover, it symbolizes the creative usage of various technologies for gaining access to plains, highlands, forests and coastal regions on both ends of Iran, linking the Caspian Sea to the Persian Gulf and the Oman Sea.

Furthermore, the technological ensemble represents a significant stage of the human history because of its role in terminating the WWII and establishing a sustainable peace via the so-called Persian Corridor.

In addition, the intricacies of its construction due to harsh climate and rugged terrain of parts of Iran led to the improvement of the technical knowledge in building bridges, tunnels, aqueducts, retaining walls, roads as well as carriage of equipment, surveying and mapping in other parts of the world. It is worth mentioning again that, the foreign companies and engineers used the new technical experiences and developments yielded from the TIR project in other parts of the world. On the whole, the Trans-Iranian railway is not only a unique museum of human creativity and endeavor but also a technological and architectural masterpiece resulting from human ingenuity and boasting unique values.

**Statement of Outstanding Universal Value**

**a) Brief synthesis**

The 1394-km-long Trans-Iranian Railway, TIR, connects the Caspian Sea in the north to the Persian Gulf and Oman Sea in the south. It links the Iranian ports of Bandar-e Torkaman in the northeast to Bandar-e Imam Khomeini in the southwest. Opened fully in 1938, the railway is a busy main line of standard track gauge 1435 mm.

The topography of Iran includes two major mountain ranges stretching across the country. These are continuations of the major Himalaya range. There also exist a large number of rivers, highlands, forests, seashores and plains. When the decision was made in 1925 to establish a national railway system, and to build a north-south line across the mountains, the scale of this Iranian geomorphology became a defining factor.
Because of moving across, over or through deep valleys, high peaks and fast-flowing rivers in various geographical regions with different climates (including temperate, plain, mountainous and desert), the construction project faced many technical complications especially in Alborz and Zagros mountain ranges. This required special engineering arrangements as well as designing and building of several tunnels, viaducts, retaining walls, minor roads and huge engineering structures. On the whole, the rail links pass through eight geographical regions and the above-said climates which is highly exceptional route. Considering the geographical variety of Iran, its rugged mountains and impassable paths, the TIR can be regarded not only as an engineering masterpiece but also a fine example of well taming the nature besides creating industrial and cultural landscapes.

The TIR exhibits exceptional scale as a major mountain railway that rivals the best in the world. TIR combines spectacular mountain settings with sustained steep mountain grades of 2.2% - or even 3.0% which is today considered the maximum practical mountain railway grade. Railways with grades steeper than 3% have proved uneconomic to operate. The TIR mountain railway design hits the critical design balance point between the outstanding and the impractical. Exceptional mountain railway scale of the TIR is also exhibited by the proliferation of major engineering structures on the route: 174 large bridges, 186 smaller bridges, and 224 tunnels, including 11 spiral tunnels. These structures are distinguished by the high quality of their 1930’s construction which has enabled them to survive to the present day in as-built condition.

As Christian Wolmar, 2009, states: “Iran built one of the most ambitious projects of the inter-war years ... the Trans Iranian Railway. This was yet another heroic railway encountering a new set of engineering challenges such as a foiled attempt to carve a tunnel through a salt dome and a hill made of pumice.”

Although the history of bridge construction in Iran dates back to 3000 years, but the Trans-Iranian mega bridges such as Veresk and Se-khat-e-Tala were the first using metal and concrete materials based on modern technical and engineering calculations.

Additionally, several tunnels were built at different altitudes with various gradients and curvatures based on specific calculations and despite a shortage of facilities. Tunnels like Gaduk and Chahar-Abdiz are among innovative technological and engineering achievements of the contemporary era in the region.

This know-how has its roots in 3000-year history of tunnel construction within the Iranian Plateau, and in particular in the ancient underground hydraulic systems, known as Qanat, which helped the railway construction, especially in impassable and treacherous areas, salt dome contexts, lush grounds and large tunnel constructions.

The role of the railway industry in the social, economic, industrial and cultural growth of Iran and the region as well as in international trade and transactions is undeniable. Not only this railway has boosted the economy and trade by speeding up transportation but also it has made possible cultural interactions and social relations with the Western Asian countries and from there to Europe and beyond.

Historically, several trade routes such as the Silk Road and the Spice Route which linked together the continents of Asia, Africa and Europe passed through Iran. As a matter of fact, construction of the TIR in early 20th century puts emphasis on the key role of the region on global communications in terms of cultural, commercial, social and even political relations.
Executive Summary

It has led to the propagation of trade and sharing of diverse rites, ceremonies and beliefs among various regions in early twentieth century especially in the western and central Asia.

The advantage of Iran’s late start was that important lessons learned about railways by other countries were applied in Iran from the outset. For example: foreign investment and control was avoided; standard gauge was adopted enabling future link to Europe; moderate gradients were specified despite the extensive mountain terrain; powerful locomotives enabled; aerial photogrammetric surveying optimized the route through rugged terrain, and some of the world’s best design and construction talent was engaged. Such significant factors enabled an exceptional railway to be designed and constructed in Iran.

During the construction of the TIR, although the Iranian government undertook direct supervision but the project was subcontracted to multiple companies from various countries such as Iran, Germany, Greece, Italy, Switzerland, France, Belgium, Britain, former Czechoslovakia, Sweden, U.S. and Denmark. Thanks to the high quality of tunnels, bridges and other parts, the whole route and its constituents are still in use although all along the line major strengthening operations are being carried out regularly while preserving overall authenticity and integrity of the property.

Some parts of TIR, particularly in the mountainous areas were built with the help and cooperation of the above-mentioned countries. The intricacies of its construction due to harsh climate and rugged terrain of some parts of the country led to the improvement of the technical knowledge in building bridges, tunnels, aqueducts, retaining walls, roads as well as carriage of equipment, surveying and mapping in other parts of the world, as the experts and engineers of the said countries benefitted from the new technical advancements and experiences gained and later exported these technical knowhow and innovations to other parts of the world. This clearly proves the exchange of technical know-how and cultural interaction at global level.

Following the construction of the TIR created a new style of mixed Persian-Western architecture and which had a profound influence on the architecture of its time. Moreover, the architectural design of train stations, personnel residents, warehouses, fuel storage depots, affiliated industries and the majority of buildings along the route have been done using modern materials and following an eclectic style consisted of indigenous and western architecture. Consequently, this style became part of the architectural identity of each region.

During the implementation of this project, several purpose-built factories and facilities were established as a part of the history of the Iranian industry which also includes metal and cement industries, sleeper-manufacturing plants, silos and several hospitals, mosques, churches, and related buildings. New architectures and functions, combined with the global proceeding of architectural and urban development, have led to the exchange of global cultural values.

Regarding its effect on social developments of the world, TIR played a pivotal role in the WWII. For example, daily, 75 trains and 1368 wagons (every 25 minutes a train), crossed Veresk Bridge within the northern path of the route. In July 1943, a prominent transfer took place from Khorramshahr to northern area of Iran. The train includes a diesel locomotive with 48 wagons this day. On side of the train, it was written in capital letters: “By sending this train, five million tons of military equipment were shipped by TIR to the Soviet Union.” The important role of TIR in the victory of the Allies was to the extent that the post-war Iran Railroad was nicknamed by the Allies as “Victory Bridge”. Further, Tehran in 1945 was where the three Allied leaders: Leader Stalin, Prime Minister Churchill, and President Roosevelt met to reach an agreement on ending the war. A part of key negotiations
took place in a TIR carriage that has been preserved up to now. This can indeed be considered as a major impact of TIR on the global political, economical, and cultural values which in it turn had profound effect on the world peace. Consequently, TIR as an engineering masterpiece changed the political setting of the world at WWII and as such on the political and cultural setting of the world for years afterward.

Since its inauguration, TIR has continued to play a key role in the rural and urban life of the region. At the same time, it has continued to be a crucial factor in trade and cultural transactions between the region and other near and far countries. It has served as the turning point for all-embracing developments in region covering a wide spectrum of various economic, political, commercial, social, cultural, and later touristic aspects at a critical juncture of the contemporary history of the world.

On the whole, the TIR is not only a distinctive museum of human creativity and endeavor but also a masterpiece resulting from human ingenuity boasting unique values.

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**Picture 9: Trans-Iranian Railway Staffs, 1970**
Source: The Center for Documents and History of Diplomacy, Ministry of Foreign Affairs (IRI)

**Picture 10: Veresk**
Photo by: Hamid Binaei Faal- 2017
b) Justification for Criteria

**Criterion (ii): Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;**

The TIR serves as a living manifestation of multi-faceted interchange of human values, modern and innovative mountain railway skills and experience for its construction, emergence of a mixture of Iranian-western architectural style as well as new structures, boosting the economy and trade by speeding up transportation which led in reviving cultural-historical routes such as the Silk Road and the Spice Route at a specific period of the contemporary history in central and western Asia during the early 20th century and later on with the European countries.

In addition, at the time it opened, the TIR drew global acclaim for the exemplary project management achieved by the successful working relationship between the Iranian Government, the project managers and the 43 construction contractors from many countries, particularly Denmark, Norway; Sweden; Germany; Switzerland; Austria; Italy; Greece, U.S. and Turkey.

Due to the mountainous landscape with many crossing rivers and dangers posed by landslides and rockslides, much extra work was made in construction of bridges and tunnels so that the outcome can be considered as a work of an exceptional magnitude. It proved an outstanding way of solving unexpected problems through the international breadth of experience arose during construction enabling the TIR project overall to stay on time and on budget. It led to new technological developments which were later on used by international experts in other parts of the world. This clearly proves the exchange of technical know-how and cultural interaction at global level.

**Criterion (iv): Be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history; Ensemble or landscape which illustrates (a) significant stage(s) in human history; virtue**

The Trans-Iranian railway is a fine example of a technological and architectural ensemble representing major stages of long-term development of human, technical and economic activities early in the 20th century in the western Asia. It has resulted in the formation of varied landscapes in relation to the assimilation and interaction of railway with natural landscapes on one hand and overcoming natural obstacles on the other hand. It has also caused a huge increase in trade, cultural and economic relations between Iran and other countries of the region; thus it has marked a significant and decisive stage in the process of historical development of Iran, regional states and consequently other countries of the world so that later on has played a key role in relations between Iran and European countries as when it was fully opened in 1938, the railway has been a busy main line of standard track gauge 1435 mm from the very outset. This paves the way for later communication and transportation with many parts of the world.

The TIR system with its various technical and architectural features is considered to be remarkable engineering feat in creativity and innovations on a wide scale encompassing technological and architectural variety in the construction of novel and innovative architectural structures and train stations in early twentieth century.
The property is a showpiece for a creative and new style emerging from the mixture of the Iranian and western architecture with a great effect on the architecture and town-planning of the era and in subsequent years. Moreover, it symbolizes the creative usage of various technologies for gaining access to plains, highlands, forests and coastal regions on both ends of Iran and linking the Caspian Sea to the Persian Gulf and the Oman Sea.

The technological ensemble represents a significant stage of the human history because of its role in terminating the WWII and establishing a sustainable peace via the so-called Persian Corridor.

The intricacies of its construction due to harsh climate and rugged terrain of parts of Iran led to the improvement of the technical knowledge in building bridges, tunnels, aqueducts, retaining walls, roads as well as carriage of equipment, surveying and mapping in other parts of the world. As a matter of fact, the foreign companies and engineers used the new technical experiences and developments yielded from the TIR project in other parts of the world. On the whole, the Trans-Iranian railway is not only a unique museum of human creativity and endeavor but also a technological and architectural masterpiece resulting from human ingenuity and boasting unique values.

c) Statement of Integrity

Integrity of the Trans-Iranian railway has been completely preserved within the proposed core zone so that it contains all the characteristics needed for the introduction of OUV. The Railway Company of the Islamic Republic of Iran has formulated and enforced rules and regulations aimed at conservation, supervision and maintenance of the rail link. As a result, the Trans-Iranian has preserved its function and use as one of the most cardinal lines in the rail network of Iran. In the meantime, its landscapes and buffer zones have also kept their initial outward appearance because no intervention is allowed.

Additionally, the entire rail link together with its stations, tunnels, bridges, buildings and other appurtenances have kept their structural integrity in full. At present the railway infrastructure is very close to its original characteristics concerning form and state. Regarding the infrastructure, technical function and social use which show its outstanding values, is in good condition. Integrity of the property in its setting has been well preserved concerning physical and technical aspects. Future policies and plans are also in line with preserving the physique and productivity of the Trans-Iranian railway. Therefor it can be safely claimed that the rail link is fully compatible with integrity standards.

d) Statement of authenticity

All the constituting parts of the Trans-Iranian (its rail route, tunnels, bridges, train stations, buildings and other appurtenances) have totally preserved their authenticity in form, design, materials, function, management and technical systems, setting, intangible heritage and authenticity of the spirit. As a matter of fact, they have suffered the least possible damage from development pressures as well as from major natural and manmade factors. Due to the formulation of buffer zone rules and regulations as well as functional, technical and visual requirements, the authenticity has been
regularly under control and supervision since the railway inception. Altogether, the Trans-Iranian has preserved the various aspects of its authenticity quite well so that its present infrastructure is very similar to their original form and condition in the past century. All the principal and particular characteristics of the rail link as well as its universal values can be observed within the defined boundaries of the route. At the same time, it should be accepted that as the Trans-Iranian is a living and dynamic industrial and engineering structure, its changes and developments are continuous and inevitable. Finally, it can be concluded that the Trans-Iranian railway and the industrial heritage dependent on it represent high technological and industrial values both in past and present but despite the effects of artificial and natural factors, it still enjoys a high degree of authenticity. Totality of the property has remained almost intact thanks to the existence of laws and regulations for buffer zones as well as technical, visual and functional requirements. Necessary conservation management as well as related rules have been formulated and enforced by the Ministry of Road and the Railway Company of the Islamic Republic of Iran. On the whole, the rail link has preserved its major economic and social role in providing necessary services to people.

e) Requirements for protection and management

Since its establishment, the Trans-Iranian has had a comprehensive plan for management and conservation. The conservation and management plans of the proposed property and its boundaries in the domains of planning, implementation, restoration, maintenance, supervision, evaluation and feedback have been devised and stored in relevant data banks. Additionally, formulation and execution of special plans and regulations including modern management and conservation programs resulted from development in transportation systems as well as advancement in technical and engineering sciences and related administrative activities have improved the process of preservation and management of the railway so that they have become better and better on a yearly basis. As a result, the Trans-Iranian and its affiliated industrial heritage are now in a good state of preservation and management. Furthermore, they are under regular monitoring and maintenance. The railway has a management master plan for long-term conservation in sections related to: technological, non-technological, operational, financial, commercial, safety, security, civil engineering, mechanics, electricity, signals and telecommunications. These plans preserve methods and processes which guarantee the continued existence of rail links in accordance with the outstanding universal value.

Conservation, repair, maintenance and management of the railway is controlled by the Railway Company of the Islamic Republic of Iran. The Trans-Iranian has been under conservation for many years and has uninterruptedly been in constant use. Based on its engineering characteristics, the technical requirements are handled by trained personnel in various sections. According to their technical skills and competence, managers, engineers and workers are deployed in specific units; additionally, higher education institutes have been targeted for technical and managerial training of railway staff. Also when possible the personnel are sent for more advanced training to private or public institutes and even to other countries. Governmental managers and planners in both the Railway Administration and the ICHHTO fully cooperate with each other in conservation management plans about the Trans-Iranian and industrial heritage. Despite pressures caused by the technical development of the railway system in recent decades as well as many other natural and artificial factors harming the property, principled planning has prevented any damage to the railway and its dependent structures. Following the establishment of a conservation and organization base for
the Trans-Iranian in the railway company, all the operations related to conservation, monitoring and maintenance of railway links, bridges, tunnels and other appurtenances are carried out under the supervision of the base only after obtaining its authorization. Additionally, special regulations for conservation, restoration, maintenance and monitoring of related historical buildings and facilities have been devised.

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