General Department of
Economic and Financial Affairs of Khuzestan

Preparation and Compilation of Investment Opportunities in The Province

Investment Opportunity Studies Report

Business Plan for Construction of West ANDIMESHK Ring Road

(Attachment Number 1)

Date: 2023/06/26

V2

In the name of God

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Tables and Figures

1) Location of the project

1-1- Province

Khuzestan province is located in the southwest of Iran (in 47° 42′ to 50° 39′ east of the Greenwich meridian and 29° 58′ to 32 ° 58′ north of the equator). The area of Khuzestan province is 63,238square kilometers. With a population of 4,994 thousand people in 1400SH, it is the fifth most populous province in Iran (after Tehran, Khorasan Razavi, Isfahan and Fars provinces). **Ahvaz** is the capital of Khuzestan province and is located in the 880km of Tehran. This province is bordered by ILAM province from the northwest, Lorestan province from the north, CHAHARMAHAL and BAKHTIARI, KOHGILUYEH and BOYERAHMAD provinces from the northeast and east, the Persian Gulf (330km long) from the south and Iraq (330km long) from the west. The location of Khuzestan is in the west of Zagros mountains. Due to the vastness of its plains, the border with Iraq and the Persian Gulf, and the distance from other provincial centers have placed this province in a strategic position.

Figure (1): The Province location in Iran

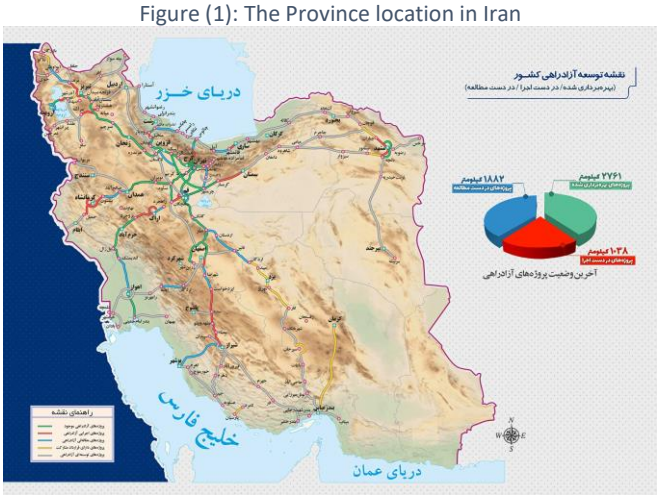


Figure (2): Location map of the route in Khuzestan

1-2- County

According to the latest national divisions of 1401 of the Ministry of Interior, this province has 29 counties, 70 districts, 145 villages, 90 cities and 3 special governorates. The latest political divisions of the province are described in figure (3).

West ANDIMESHK ring road was built in ANDIMESHK city and it connects Shush Ahvaz to ANDIMESHK highway in Khorramabad with ANDIMESHK freeway. The construction of this route considering that the points of origin and destination are important and increases the security of the route and also reduces the number of accidents. This belt starts from Sed Karkheh square on ANDIMESHK-SHOSH highway and after passing west of ANDIMESHK, it ends at Zal bridge on Azad Road of KHORAMABAD-ANDIMESHK. This axis is 22 kilometers long and has two lanes.

Figure (3): Political divisions of Khuzestan province

2) Project Status

The construction project of the western ANDIMESHK ring road in Khuzestan province starts from Karkheh dam square on the ANDIMESHK-SHOSH highway and after passing through the west of ANDIMESHK, it ends at the Zal bridge on the Azad Road of KHORAMABAD-ANDIMESHK. The approximate length of this axis is 22 kilometers and the distance between the UTM geographic coordinates is as follows.

Table (1): Geographical coordinates of the beginning and end of the western belt of ANDIMESHK

Point	latitude	Longitude
B22	3609879.625	245085.075
A1	3591329.091	248942.158

This project consists of two parts. Below are the location maps of the first and second parts of this project.

Figure (4): Ring Road west of ANDIMESHK - first section (distance between +0000 to +13+482 km)

Figure (5): West ANDIMESHK beltway - second part (between km +13 +482 to +21 +100)

2-1- Access to infrastructures

At the time of construction, there are necessary accesses at the construction site of the project, and the supply and transportation of construction materials will not be a problem.

Table (2): access to infrastructures

No.	Required Infrastructure	Distance From Project Status(km)	Location Of Infrastructure Provision
1	Water	0	ANDIMESHK
2	Electricity	0	ANDIMESHK
3	Gas	0	ANDIMESHK
4	Telecommunication	0	ANDIMESHK
5	Main road	0	ANDIMESHK
6	Side road	0	Communication ways of Imam Khomeini port
7	Airport	12	ANDIMESHK Airport
8	Port	251	Imam Khomeini
9	Railway Station	12	ANDIMESHK Railway

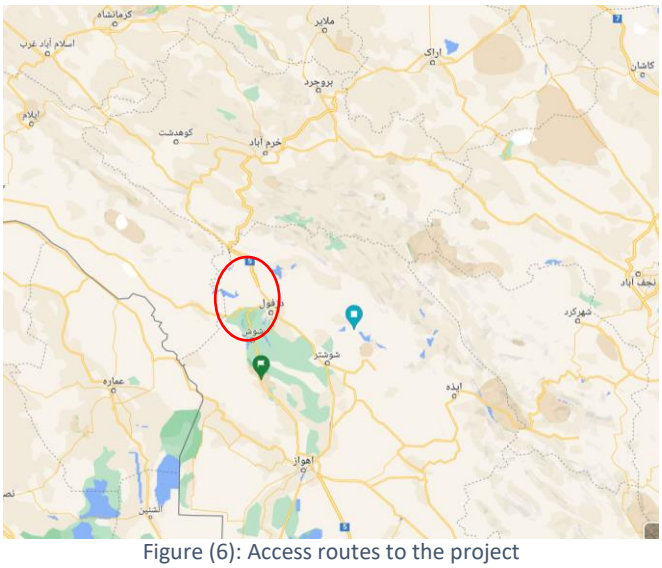


Figure (6): Access routes to the project

Road construction requires materials, some of which, such as rebar and cement, are the product of industrial units, and others, such as earth materials required for the body of the road, or sand and stone required for paving and technical buildings, are from mines and reserves. Land, mountain and river are obtained. The table below shows the places of access to such materials.

Table (3): Location of mines that can be used in the project

Marked coordinates of the depot location	General position	The name of the mine	Mining number in croquis
X= 249581.00 Y=3591567.00	2+800 km of ANDIMESHK-Ahvaz Road (from Azadi Square of ANDIMESHK)	Civil Company	No.1
X=248616.00 Y=3593050.00	1+800 km of Karkheh Road (zero from ANDIMESHK-Ahvaz Road)	ABOLFAZL	No.2
X=244506.00 Y=3608225.00	0.1 km from ZAL-ANDIMESHK Road (north of DO KOHE)	DO KOHE	No.3

Table (4): Sources and mines and distances proposed for the project

Shipping distance (km)	place of preparation	Type of material	Row
10	ANDIMESHK	Base and sub-base materials	1
10	ANDIMESHK	Sand and concrete materials	2
25	purchased	Preparation of embankment materials	3
180	Ahvaz Steel Factory	iron tools	4
370	BEHBAHAN	Cement	5
15	ANDIMESHK	Water	6
275	Abadan Refinery	Pure bitumen	7
712	Shiraz Refinery	soluble bitumen	8

3) Technical specifications of the project

3-1- Product

This project aims to reduce the traffic load of ANDIMESHK city and reduce accidents caused by it, maintain urban infrastructure, facilitate the passage of heavy machinery, free connection of ZAL bridge to ANDIMESHK-Ahvaz highway, strategic exploitation as an alternative route to the eastern ring road of ANDIMESHK. It has been on the agenda since 2015 and during two separate contracts. The specifications of this project and its current status are summarized as follows.

Table (5): Project specifications and its latest status

Route specifications	Specifications of the first piece	Specifications of the second piece
The number of bands	2	2
Asphalt width	22.6	22.6
Number of large bridges	2	2
Number of small bridges	41	19
The number of intersections	1non-level intersection	2uneven intersections
Land delivery date	27/11/1395	09/08/1391
Last renewal:	29/12/1401	09/02/1397
Initial contract amount	468862.3456	110120
Date and contract number	-99778A 5 dated 10/29/1395	-46200A-5-10/7/1397
The initial period of the contract	30	22
base year (price list)	The third quarter of 2015	- 1388base index of 1391
Physical progress percentage	٪28	٪45
Rial progress percentage	٪27	٪100

The following are the reasons for the delay in the implementation of the project:

- Failure to release the route due to the presence of agricultural land opponents along the route.
- Suspension of executive operations in the area of km 9+125 due to the intersection of the project route with the cultural heritage hill.
- 3. Lack of proper and optimal access to the project route due to non-implementation of specific project bridges.
- The need to design and build a variant of the cultural heritage hill and prevent the acquisition and destruction of nomadic houses located in the 11th kilometer.
- The removal of the remaining opponents of the first plot and the acquisition of land with a length of 2565 meters and an area of 194940 square meters is equal to 300 billion Rials.
- The removal of the remaining opponents of the second plot and the acquisition of 3025 meters of land with an area of 230,000 square meters is equal to 350 billion Rials.

Table (6): Route traffic specifications

	Estimated daily traffic in 1402	Average annual traffic growth rate	Travel equivalent
Riding	2,068,820	٪12	1.2
Minibus	30,660	٪1	17
Bus	10,328	٪8	17
Truck	717,624	٪8	2

Table (7): technical specifications of the route traffic

	Estimated daily traffic in 1402	Average annual traffic growth rate	Average fuel consumption when stopped	Average fuel consumption when stopped
Riding	5,668	٪12	18	12
Minibus	84	٪1	35	23
Trucks and buses	1,994	٪8	48	32

Table (8): Estimation of the amount and cost of fuel savings on the route

Fuel saving price (Million Rials)	Fuel economy (liter)	Fuel consumption on the ring road	Fuel consumption on the route	Daily traffic			Year
				Trucks and buses	Minibus	Riding	
876,136	5,331,920	11,881,064	17,212,984	1,994	84	5,668	1402
963,429	5,861,902	13,062,722	18,924,624	2,154	85	6,348	1403
1,059,722	6,446,381	14,365,894	20,812,274	2,326	86	7,110	1404
1,166,144	7,092,207	15,805,858	22,898,065	2,512	87	7,963	1405
1,283,855	7,806,391	17,398,249	25,204,641	2,713	88	8,919	1406
1,413,937	8,595,468	19,157,634	27,753,102	2,930	89	9,989	1407
1,557,789	9,467,881	21,102,843	30,570,725	3,164	90	11,188	1408
1,717,017	10,433,352	23,255,551	33,688,903	3,417	91	12,531	1409
1,893,179	11,501,281	25,636,720	37,138,002	3,690	92	14,035	1410
2,088,199	12,683,301	28,272,288	40,955,590	3,985	93	15,719	1411
2,304,240	13,992,478	31,191,390	45,183,868	4,304	94	17,605	1412
2,543,496	15,442,037	34,423,517	49,865,554	4,648	95	19,718	1413
2,808,654	17,048,232	38,004,908	55,053,140	5,020	96	22,084	1414
3,102,593	18,828,430	41,974,294	60,802,724	5,422	97	24,734	1415
3,428,429	20,801,436	46,373,599	67,175,034	5,856	98	27,702	1416
3,789,596	22,987,963	51,249,013	74,236,976	6,324	99	31,026	1417
4,190,340	25,413,665	56,657,742	82,071,407	6,830	100	34,749	1418
4,634,890	28,104,039	62,656,633	90,760,672	7,376	101	38,919	1419
5,128,288	31,089,519	69,313,549	100,403,069	7,966	102	43,589	1420
5,676,003	34,403,089	76,702,041	111,105,129	8,603	103	48,820	1421
6,284,110	38,081,398	84,903,826	122,985,224	9,291	104	54,678	1422
6,959,477	42,165,876	94,011,286	136,177,162	10,034	105	61,239	1423
7,709,895	46,703,530	104,129,235	150,832,764	10,837	106	68,588	1424

Table (9): Estimation of the amount and cost of fuel savings on the route

The total benefits and positive consequences of the project	Benefits of saving travel time	Save travel time	The amount of riding equivalent to a household	Daily traffic			Year
				Trucks and buses	Minibus	Riding	
1,464,501	588,365	1,028,849	4,614,628	1,994	84	5,668	1402
1,606,873	643,443	1,125,162	5,046,616	2,154	85	6,348	1403
1,764,123	704,401	1,231,756	5,524,715	2,326	86	7,110	1404
1,938,034	771,890	1,349,771	6,054,040	2,512	87	7,963	1405
2,130,492	846,636	1,480,477	6,640,286	2,713	88	8,919	1406
2,343,386	929,449	1,625,288	7,289,798	2,930	89	9,989	1407
2,579,018	1,021,229	1,785,780	8,009,641	3,164	90	11,188	1408
2,839,997	1,122,980	1,963,708	8,807,690	3,417	91	12,531	1409
3,129,000	1,235,821	2,161,028	9,692,716	3,690	92	14,035	1410
3,449,197	1,360,998	2,379,919	10,674,496	3,985	93	15,719	1411
3,804,141	1,499,901	2,622,812	11,763,928	4,304	94	17,605	1412
4,197,574	1,654,078	2,892,415	12,973,161	4,648	95	19,718	1413
4,633,911	1,825,257	3,191,749	14,315,740	5,020	96	22,084	1414
5,117,956	2,015,363	3,524,179	15,806,770	5,422	97	24,734	1415
5,654,973	2,226,545	3,893,464	17,463,098	5,856	98	27,702	1416
6,250,793	2,461,198	4,303,791	19,303,513	6,324	99	31,026	1417
6,912,334	2,721,995	4,759,836	21,348,979	6,830	100	34,749	1418
7,646,808	3,011,917	5,266,812	23,622,884	7,376	101	38,919	1419
8,462,582	3,334,294	5,830,537	26,151,326	7,966	102	43,589	1420
9,368,840	3,692,837	6,457,506	28,963,430	8,603	103	48,820	1421
10,375,801	4,091,692	7,154,967	32,091,702	9,291	104	54,678	1422
11,494,961	4,535,484	7,931,008	35,572,428	10,034	105	61,239	1423
12,739,275	5,029,379	8,794,661	39,446,117	10,837	106	68,588	1424

3-2- Project Requirement

3-2-1- The (initial) costs of constructing the route

During the construction period, the project costs are related to the construction costs, and during the operation period, the project costs are the maintenance and operation costs. The construction costs of the West ANDIMESHK ring road include the initial costs (engineering and design, road right-of-way acquisition costs, physical structure construction costs, and the costs of required technical buildings). Based on the initial estimate at the time of the contract, as well as the latest estimate, the total project costs are summarized in the table below.

Table (10): Amount of investment in land, landscaping and building

Row	The name of the operation	Project investment specifications	
		Project cost estimation with all coefficients for 2015	Project cost estimation with all coefficients in 1401(first part + second part)
1	Demolition operation	76	282
2	Earthworks by hand	323	1,009
3	Earthmoving by machine	217,278	249,268
4	Masonry operation with stone	1,120	4,806
5	Molding and wood fasteners	8,285	110,094
6	Steel works with rebar	2,318	124,752
7	Light steel work	40,355	466,366
8	Situ concrete	22,860	119,630
9	Precast concrete	12	1,076
10	It is below the base and above	52,744	246,971
11	asphalt	101,855	1,698,031
12	Buildings and signs and safety equipment	2,552	23,752
13	Other	1,032	9,748
14	Transportation	1,661	406,250
15	Other main equipment – domestic	16,390	138,481
total		**468,862**	**3,600,514**

3-2-2- Annual expenses

The costs of maintenance and operation of West ANDIMESHK belt include the amounts that are used to maintain it in the initial conditions after construction as much as possible. Items include maintenance of asphalt surface, maintenance of asphalt shoulders, canals, excavations and embankments, maintenance of technical buildings including bridges and culverts and other drainages, maintenance of roadsides, installation of guard rails and safety guards, foundation Guides, signs and other means of control, making lines, digging and picking small stones, etc. Roughly and empirically, these costs will usually be equivalent to a quarter of the budget during the construction period. If the operation period is equal to 20 years, the construction costs will be around 1% every year.

3-2-3- Management and human resource

This project will be implemented by the selected contractor. The amount of direct employment of the project implementation during the construction period will include the manpower working in the contractor's company. During the operation of the project, the employment of the project will be mostly indirectly and its direct employment will not be significant. There is no accurate information about the amount of direct and indirect employment of the project during construction and then during operation.

4) Ownership and legal permissions

4-1- land ownership

Although the construction path has interfered with the scope of the plans of some organizations and institutions, but the related issues can be resolved with the follow-ups. In the case of the private sector, among the primary options, the selected option is such that the route is as far away from the city as possible and away from the expected territory of the city. However, the road land under construction of this project now has opponents, and some of the problems related to the delay in its implementation have been related to its opponents.

4-2- Intellectual Property and Concessions

The implementation of the project has been entrusted to the competent contractor according to the contracts concluded, and the obligations of the parties during the construction period and after that will be in accordance with this contract.

4-3- Legal permissions

The legal permits related to the implementation of this plan have been followed up and obtained by government institutions and the General Administration of Roads and Urban Development of Khuzestan province before its implementation.

5) market research and competition

5-1- Target market introduction

Appropriate access and routes suitable for the speed required for traffic is one of the most important factors for the progress and welfare of the society. The negative effects of the lack of proper access in economic, cultural and demographic growth make this gap more visible. Transportation plays an effective multilateral role to achieve development goals. Transportation causes the exchange of raw materials, manpower, and products between production and consumption centers, and provides more distribution of capital to agricultural and industrial sectors, and as a result, increases the volume of production. On the other hand, the reduction of various costs due to the improvement of transportation, such as the reduction of the length and time of travel (which reduces the cost of transporting goods and increases the power of production) all contribute to the endurance and maintenance of the foundations of a healthy economy. In the table Below are the details of transportation and roads of the province compared to the whole country.

Table (11): Details of the condition of roads in Khuzestan province compared to the whole country (in 1401)

Row	Indicator	whole country	Khuzestan	The share of the province
1	population	79,926,270	4,710,509	5.90%
2	area	1648195	64,055	3.90%
3	The length of roads under the Ministry of Roads and Urban Development (without rural areas) - km	86,738	6,271	7.20%
4	Length of freeways and highways - km	23,125	1,445	6.20%
5	Length of arterial roads - km	34,633	1,668	4.80%
6	Length of transit ways - km	25,329	1,642	6.50%
7	Length of rural roads - km	134,243	12,722	9.50%
8	Length of roads with lighting – km	6,226	363	5.80%
9	The number of existing tunnels	391	12	3.10%
10	Length of existing tunnels – km	221,000	3,671	1.70%
11	The number of bridges with a span of 10 meters or more	332,000	324	0.10%
12	The number of existing highways	1,063	32	3%
13	The number of machines and road equipment	2,880	506	17.60%
14	Number of existing police stations	340	15	4.40%
15	The number of service complexes and active shooting parks	987	51	5.20%
16	The number of cargo terminals and active transport towns	82	4	4.90%
17	The number of active public passenger terminals	285	24	8.40%
18	The number of active border terminals	25	2	8.00%
19	The number of domestic freight companies and institutions	4,712	349	7.40%
20	The number of domestic travel companies and institutions	2,468	181	7.30%
21	The number of international companies and institutions	1,029	1	0.10%
22	The number of active mechanized technical examination centers	181	8	4.40%
23	The number of crash points has been fixed	605	15	2.50%
24	The number of traffic counters on the line	2,705	128	4.70%
25	Number of video surveillance cameras	947	49	5.20%
26	The number of road speed control cameras	2,146	87	4.10%
27	The number of people killed in extra-urban traffic accidents - people	13,543	726	5.40%
28	Ton. Kilometers of goods traveled - million	267,915	30,089	11.20%
29	Amount of transported goods – thousand tons	550,000	45,890	8.30%
30	Number of freight trips – thousand trips	33,380	2,386	7.10%
31	person Passenger kilometers traveled - million	42,213	1,603	3.80%
32	The number of passengers transferred - one thousand people	127,000	4,920	3.90%
33	Number of passenger trips – thousand trips	13,360	715	5.40%
34	The amount of goods imported – tons	4,235,000	250,922	5.90%
35	Export amount of goods - tons	9,520,000	807,983	8.50%
36	The number of passengers crossing road borders - thousand people	18,300	3,806	20.80%

6) Physical progress of the project

■ No ☐ Yes

The percentage of physical progress of the first section is equal to 28% and the percentage of physical progress of the second section of West ANDIMESHK belt is equal to 45%.

7) Operational plan and implementation scheduling

The implementation of the construction stages until the operation of the belt is planned for 36 months, and the operation of the project is expected from the beginning of 1405. The period of operation of the plan is considered equivalent to 20 years. The useful life of the road is equal to 50 years.

8) Financial Plan

8-1- Cost Estimation

In general, the investment of the project according to the stages of construction and exploitation is in two forms: fixed investment and initial working capital, and the necessary capital in the period before exploitation and creation of the project through fixed capital and necessary capital in the operating period is provided by working capital. The fixed investment of the project is related to the supply of materials and items related to the construction operations of the project in its different parts. These types of costs are incurred at the beginning of the project and before operation and are consumed during the life of the project according to their useful life. In this section, the evaluation and estimation of the investment needed to carry out the project (based on the price of the base year 1401) has been estimated and calculated.

Table (12): Cost Estimations

No.	Subject	Amount (Million Rials)
1	Fixed investment	3,663,058
2	Working capital	0
3	Annual production cost	157,512
4	Annual depreciation of investment	73,261
5	Estimate the total capital required	3,663,058

Table (13): Fixed Capital Estimations (Capital Costs)

No.	Subject		Cost (Million Rials)
1	Purchasing land		0
2	Landscaping and land improvement		0
3	Civil operations and construction of buildings		3,663,058
4	Production machinery and equipment		0
5	Service equipment		0
6	Protection and environmental equipment		0
7	Overhead costs		0
8	Pre-Production Expenditure (As described in)	Pre-investment studies	0
		Project management and organization	0
		Technology education	0
9	Unexpected costs		0
Total			3,663,058

Table (14): Total Net Working Capital Requirements (Production Costs)

No.	Subject	Amount (Million Rials)
1	Raw Materials Inventory	0
2	Work In Progress	0
3	Finished Product	0
4	Accounts Receivable	0
5	Cash and cash balance	0
6	(Commercial Accounts Payable)	0
Total Net Working Capital Requirements		**0**

8-2- Sales Revenue

The positive consequences and beneficial effects of the implementation of transportation plans are countless. In order to evaluate the economic effects of implementing the project and estimate part of the Riyal value of these external works, only regarding the reduction of fuel and saving time, estimates have been made based on the route traffic. The Riyal value of beneficial external effects of the project per year in the first year of project implementation has been estimated based on the Riyal value of fuel (FOB Persian Gulf price) and the Riyal value of the household's hourly income. The Riyal value of these beneficial works (fixed prices of 1402) is estimated to be 1,938 billion Riyals. This figure will increase in the following years due to the increase in production capacity and will increase to about 2,840 billion Rials in the fifth year.

Table (15): Project Revenue in The First 5 Years of Production Phase (Billion Rials)

No.	Subject	Q_1	Q_2	Q_3	Q_4	Total 1st Year	Total 2nd Year	Total 3rd Year	Total4 Th Year	Total 5th Year
1	Save fuel	292	292	292	292	1,166	1,284	1,414	1,558	1,717
2	Saving time	193	193	193	193	772	847	929	1,021	1,123
Total		485	485	485	485	1,938	2,130	2,343	2,579	2,840

8-3- Length of Production Phase

The construction completion period of the project is estimated to be 36 months after the financing of the project. The duration of the project is considered to be 20 years.

8-4- Cost-Benefit Analysis

In project analysis, one of the most common methods is the **Benefit-Cost Ratio**. In this method, the ratio of the current value of possible benefits to the current value of costs is obtained. If this ratio is greater than one, the plan has economic justification for implementation. In terms of this index, the plan has favorable conditions.

Net Present Value is one of the other evaluation methods which is calculated according to the following relationship:

NPV= The Present Value of The Total Cost of The Period of Construction Phase and Production Phase - The Present Value of The Total Income of Construction Phase and Production Phase

NPV= The Present Value of The Fixed Assets Depreciation + Initial Investment - The Present Value of The Future Cash Flows

The **net current value** of the project at a discount rate of 20% is 7,952 billion Rials, which shows that the project is economically feasible.

One of the other methods of evaluating investment plans **internal rate of return**. In fact, the internal rate of return is the interest rate or the discount rate in which the current value of all the plan benefits is equal to the current value of its expenses.

According to the calculations, the internal rate of return of the project is estimated at 44.6% and compared to the Minimum Attractive Rate of Return, it is favorable.

Table (16): Project Return Index

Index	Amount	Unit of measurement
The Present Value of The Total Cost of The Period of Construction Phase and Production Phase	2,673,580	Million Rials
The Present Value of The Total Income of Construction Phase and Production Phase	10,626,447	Million Rials
NET PRESENT VALUE (NPV)	7,952,867	Million Rials
Cost-benefit RATIO (B/C)	3.97	-
INTERNAL RATE OF RETURN (IRR)	٪44.6	Percent
NPV RATIO (PI)	2.60	Rial per Rial of investment
NORMAL PAYBACK	1.85	Year

Profitability Index (PI) indicates how much economic profit will be obtained for each unit of money invested during the lifetime of the project.

Project Investment Payback Period is the period of time to get the initial capital of the project from its income. In other words, the capital return period shows the time it takes to recover the initial investment. This measure shows the speed of money return and the project's protection against risk. The return period (simple) of the plan is estimated to be equal to 1.85 years according to the calculations.

8-5- Sensitive Analysis

In the sensitivity analysis of the plans, the percentage of changes in the internal rate of return (IRR) is measured in relation to the change in some basic parameters and variables. In this plan, the analysis has been carried out by major variables such as sales, fixed and operating costs. Table (17) shows the results of the sensitivity analysis regarding the variables of sales income, fixed assets and operating costs.

Table (17): Sensitivity Analysis (Percentage of IRR changes caused by fixed assets and operating costs alteration)

Variation (%)	Investment costs	Operating costs
-20%	51%	45%
-4%	46%	45%
0%	44.6%	44.6%
4%	44%	45%
20%	40%	44%

8-6-1- Fixed Assets

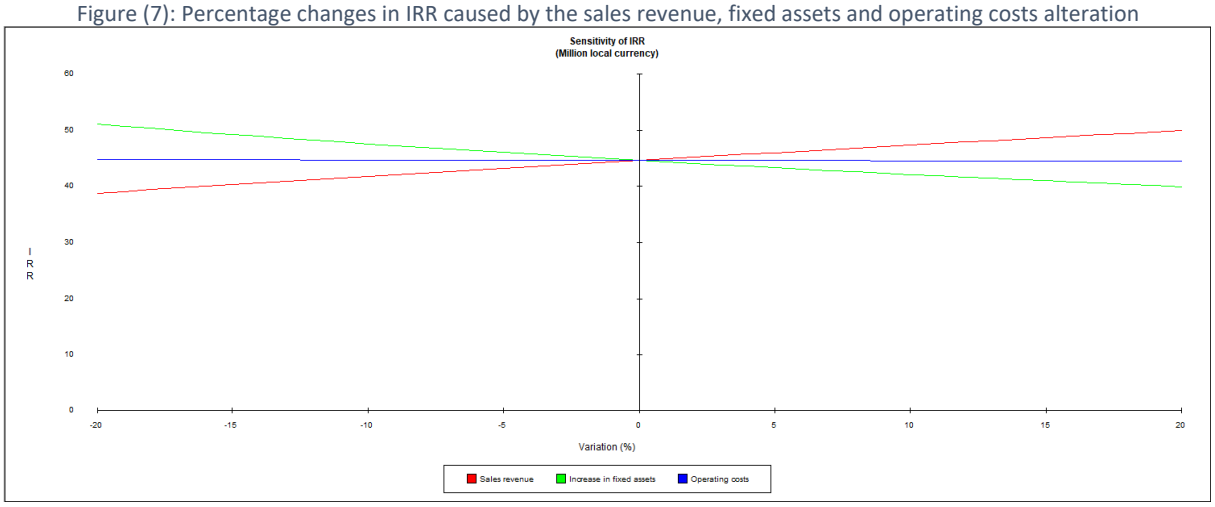
The change in the fixed assets of the plan is caused by the change in the fixed costs of the initial investment of the plan. The results of the analysis of the sensitivity of the plan to the changes of the fixed costs of the plan have been done and it shows; In case of an unexpected 20% increase in fixed investment costs of the project, the internal rate of return will decrease from 44.6% to 40%. On the contrary, in case of a 20% decrease in the fixed investment costs of the plan, the internal rate of return of the plan will increase and reach 51%.

8-6-2- Operating Costs

The operating costs of the plan is one of the crucial items in terms of sensitivity analysis regarding its changes. Therefore, unexpected and possible changes should be investigated.

The change in project operating costs is mainly caused by changes in raw material costs, necessary costs, changes in manpower costs, and finally changes in other overhead costs of projects. The change of these parameters can happen as a result of the change in the technical coefficients of product production or the change in their purchase price. The sensitivity analysis carried out regarding the present plan indicates; In case of a 20% increase in the operating costs of the plan, the efficiency rate of the plan will decrease to 44%. In the opposite case, if the total operational costs of the project are reduced by 20%, the internal rate of return of the project will increase to 45%. Finally, the results of the sensitivity analysis of the plan show; The current plan shows a very high sensitivity to changes in sales income (changes in sales amount or sales price) and more considerations should be made in this regard.

Figure (7): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration



As you can see, the slope of the IRR change curve is higher relative to the changes in sales revenue compared to other items while the slope of the IRR change curve is lower relative to the changes in fixed assets, which indicates the greater sensitivity of the plan's internal rate of return to sales revenue and its lower sensitivity relative to operating costs and fixed assets.

8-6- Conclusion

The cost of implementing this project is estimated at 36,000 billion Rials based on the latest estimates. The total investment of the plan is predicted from the sources of its investors.

The Riyal value of beneficial external effects of the project per year in the first year of project implementation has been estimated based on the Riyal value of fuel (FOB Persian Gulf price) and the Riyal value of the household's hourly income. The Riyal value of these beneficial works (fixed prices of 1402) is estimated to be equal to 1,938 billion Riyals.

This figure will increase in the following years due to the increase in production capacity and will increase to about 2,840 billion Rials in the fifth year. The internal rate of return (IRR) of the project is also estimated at 44.6% and the investment return period (PBP) is estimated at a maximum of 1.85 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 20%, is equal to 350 billion Rials.

The liquidity status of the plan and the payment of dividends to the shareholders from the company's funds are also suitable. Therefore, if the assumptions and predictions are fulfilled, the plan under consideration has favorable profitability and according to the financial results obtained, its implementation is recommended. The economic discussions of the plan are summarized as follows.

Table (18): Summary of Economic Features

Nominal Capacity and Unit of Measurement	Product Name	Title Of the Project with ISIC Code	Title Of the Project
-	Road, railway and airport runway -	Road, railway and airport runway (-)	Construction of the western belt of ANDIMESHK
Required Human Resource (Person)	Equity Shares (Million Rials)	Total Fixed Capital (Million Rials)	Project Duration
0	0	3,663,058	36
B/C	Applicant Available Cash (Million Rials)	Net Present Value (NPV) (Million Rials)	IRR (%)
4.0	3,600,514	7,952,867	٪44.6
ROI (%)	NPV Ratio / Profitability Index (Rial per Rial invested)	Dynamic Payback Period (Year)	Normal Payback Period (Year)
68	2.60	3.05	1.85
Average Assets Turnover Ratio	Average Net Profit Margin (%)	Average Annual Profit (%)	Maximum Annual Sales (Million Rials)
0.31	٪95.1	2,490,535	3,449,197

8-7- Estimation of currency rate fluctuation during the project implementation

The exchange rate at the time of evaluation is included as described in Table (19). The purchase prices of materials are under the market prices and are adjusted to some extent under the influence of the increase in the exchange rate.

Table (19): Currencies exchange Rate

Unit of Measurement	Unit Price	Currency
Rials	413,204	USD
Rials	451,531	EURO

Exchange rate of Central Bank, Exchange Trading System (ETS) dated 05/25/1402

9) Investment Required, method of fundraising and guarantees

9-1- Foreign Currency Required

The total fixed capital of the plan is Riyal.

Table (20): Foreign (Fixed) Currency Required

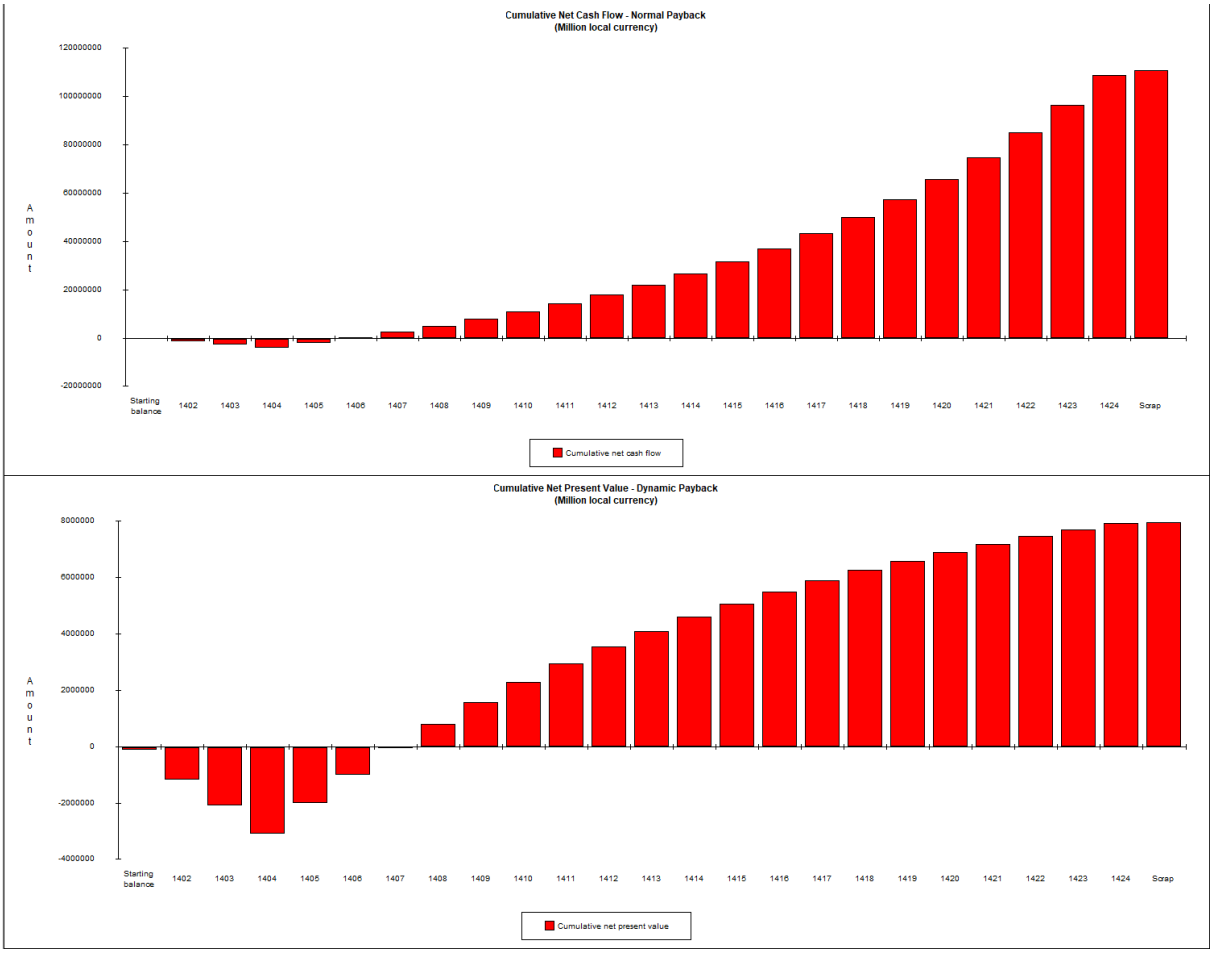
No.	Year	Required Investment
1	Year 1(403 SH)	0
2	Year 2	0
3	Year 3	0
4	Year 4	0
5	Year 5	0

9-2- Model Of Partnership and Fundraising

Participation in the present project and its financing is foreseen in the form of establishing a company inside the country. The total financial resources needed are predicted through the investor's contribution and have not been included in order to implement the facility plan of domestic banks.

9-3- Payback Period

The payback period is the period of time when the initial investment of the plan is compensated from the annual cash funds. The payback period (simple) of the plan is estimated to be 1.85years (equal to 1406) according to the calculations of CAMFAR.



Dynamic Payback Period of the plan is also estimated at 3.05years.

10) Incentives, features and benefits of the plan

The financial support of the production units includes the granting of bank facilities and how to repay them, as well as tax exemptions, which, if appropriate, facilitate the implementation of the plan and provide the conditions for investment. In the following, some of these conditions will be discussed.

One of the important banking facilities for production units is the payment of long-term bank loans up to 70% of fixed investment by the country's state banks. This amount can be increased up to 90% for deprived areas if foreign machinery is used. The interest rate of long-term riyal facilities in the industry sector is 23%, which in case of good calculations, a part of the interest of the facilities can be repaid - the repayment period of long-term bank facilities according to the nature of the production plan, the type of technology and the possibility of exporting the product to the maximum It has been 8 years and there is a possibility of using a one- to two-year breathing period to repay the installments.

Another important bank facility is short-term bank loans (6 to 12 months) for use as working capital needed to carry out production processes, which the banking network provides up to 70% of. Obtaining short-term facilities to this extent depends on gaining the trust of the operating banks and having a favorable record in repaying the previously received facilities.

To encourage investors and guide them to build factories in disadvantaged areas, tax exemptions have been considered, some of which are:

- Tax exemption for up to 10 years for project implementation in deprived areas
- Tax exemption for up to 4 years for project implementation in industrial towns

Investments in the project during implementation include investments in developed towns with industrial and mining activities, and due to being located within 30 kilometers of cities with more than 300,000 people, they are not considered tax exempt. But if he settles in another industrial town within a range of more than 30 kilometers from cities with a population of more than 300 thousand people, he can have tax exemptions under Article 132 of the Direct Taxes Law and up to 4 80% of the year after the date of operation

is exempted from the tax of Article 105 (Direct Taxes Law). Based on this, the effective tax rate on performance (annual profit) can be reduced to 4% in the first 4 years, and then it will be considered on the basis of 20%. Obviously; If the place of establishment is in one of the deprived areas, it will be subject to 10 years of 100% exemption.

If the manufactured products (provided that they are in excess of the domestic market's needs) are sold in foreign markets, they can be exempted from Article 141 and 100% of the income from exports will be exempt from taxes.

Obviously; If the legal personality of the partnership is defined as a joint stock and it can be considered as one of the companies accepted in the stock exchange market during its operation (in such a way that the transfer of its shares can be done through the stock broker) is subject to Article 143 of the Direct Taxes Law and up to ten percent of the company's tax is forgiven.

(Attachment Number 2)

Summery Sheet

Project introduction
1. Project Title: Construction of the western belt of ANDIMESHK Road
2. Sector: railway and airport runway sub-sector: way and transportation
3. Products/services: railway and airport runway
4. Location: Khuzestan
5. Project description: The cost of implementing this project is estimated at 36,000 billion Rials based on the latest estimates. The total investment of the plan is predicted from the sources of its investors. The Riyal value of beneficial external effects of the project per year in the first year of project implementation has been estimated based on the Riyal value of fuel (FOB Persian Gulf price) and the Riyal value of the household's hourly income. The Riyal value of these beneficial works (fixed prices of 1402) is estimated to be equal to 1,938 billion Riyals. This amount will increase in the following years due to the increase in production capacity and will increase to about 2,840 billion Rials in the fifth year. The internal rate of return (IRR) of the project is also estimated at 44.6% and the investment return period (PBP) is estimated at a maximum of 1.85 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 20%, is equal to 350 billion Rials.
6. Annual Capacity: -

Project Status
7. Local/internal raw material access: 100%
8. Sales: - **Anticipated local market:** 100% **Anticipated export market:** 0
9. construction period: 36 months
10. project status: - Feasibility study available? Yes. The feasibility of the project has been evaluated from different aspects and the results of the feasibility study are favorable in terms of market, engineering, financial and economic indicators. - Required land provided? The land of the construction site has been provided to the contractor, but the construction route has objections. - Legal permission (establishment license, foreign currency quota, environment) taken? The relevant permits have been obtained by the General Department of Roads and Urban Development of Khuzestan Province. - Partnership agreement concluded with local/foreign investor? No. - Agreement with local/foreign contractor(s) concluded? Yes, two clauses of the contract for the construction of the first and second parts of this project have been concluded with its (domestic) contractor. - The infrastructure utilities (electricity, water supply, telecommunication, fuel, road, etc.) procured? Yes. - List of technical know-how, machinery, equipment, as well as companies that sell or manufacture the product? In the construction of a belt, the knowledge related to the construction of main roads is used. There are countless contractors in this field in the country and they have sufficient knowledge in this field. - Financing agreement for machinery, equipment and know-how concluded? No

Financial structure

11. Financial table:

Description	Local Currency Required			Foreign Currency Required	Total Euro
	Million Rial	Exchange Rate	Euro		
Total Fixed Investment Costs	3,600,514	451,531	7,974,013	0	7,974,013
Total Net Working Capital Requirements	0	451,531	0	0	0
Total Investment	3,600,514	-	7,974,013	0	7,974,013

- Value Of Foreign Equipment/Machinery:	0	Euro		
- Value Of Local Equipment/Machinery:	7,184,809	Euro		
- Value Of Foreign Technical Know-How:	0	Euro		
- Value Of Local Technical Know-How:	0	Euro		
- Net Present Value (NPV):	17,613,113	Euro	Net present values discounted to:	1402
- Internal Rate of Return (IRR):	%44.6	٪		
- Normal Payback:	1.85	year	Equivalent to 22.2 months	
- Minimum Attractive Rate of Return:	%20	٪		

General information

12. Project Type: new Project ☑ Explanation / Rehabilitation project ☐

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Local entrepreneur: Private Sector ☑ government /public sector ☐