
SUMMARY REPORT OF BUSINESS IMPACT ASSESSMENT

**PROJECT FOR REHABILITATION AND REFORMATION OF
NATIONAL HIGHWAY NO.20 – SECTION FROM DONG NAI
PROVINCE TO LAM DONG PROVINCE**

A.OVERVIEW OF NATIONAL HIGHWAY NO.20

Highway no. 20 has starting point of Km0 at intersection of Dau Giay, Dong Nai province, end point at Dran Town, Don Duong, Lam Dong province, the whole route length is 268km, it is crossed the area of provinces of Dong Nai with length of 75.6km and Lam Dong with length of 192.4 km, which is a blood line connecting Dong Nai, especially Lam Dong, Da Lat City – a famous tourism location, to Ho Chi Minh City – a economic, political, social and cultural center in the South.

In order to strengthen the capability of roadway flow, as well as bringing into play of strong points of Dong Nai province and Lam Dong province, in particular and the whole area, in general, in the past few years, some projects were invested and constructed in Highway no.20 by Ministry of Transportation such as, in the period of 1998-2000, the highway no.20, section of KM0=Km232 has been invested in the form of investment funding, charging for return of capital; the project for extension of highway no.20, the section crossing Di Linh Town and Duc Trong Town; Project for rehabilitation and upgrade of highway no.20 in section of Da Lat – Don Duong, with borrowed fund of JIBC; project of BOT for repair, upgrade and extension of some sections crossing the town in highway no.20 carried out by Company 7-5, however, the remaining sections have been used for more than 30 years, their road surface has been much damaged and cracked, not to meet the requirement of transportation and traffic safety security. The project of Dau Giay – Lien Khuong highway, which is not to be coincided with Highway no.20, will be carried out after 2015, in order to well satisfy the demand of use and traffic safety security in this phase, it is necessary to reform and rehabilitate highway no.20, connecting from Dong Nai province to Lam Dong province.

In the section from Km0 – Km123+105.17, the highway no.20 is one of the roadways for development of aluminum industry in case Ke Ga quay is not constructed completely, the extension of solution, ensuring traffic safety for aluminum industry development is also submitted by Ministry of transportation to Prime Minister for his consideration.

The project for rehabilitation and reformation of highway no.20, connecting from Dong Nai Province to Lam Dong province has been implemented by Ministry of Transportation according to Decision no. 3696/QD-BGTVT dated December 4th, 2008. Joint cooperation of Consultancy and Construction Design Survey Company - - Ministry of National Defense, Civil Engineering Consultants Joint Stock Company 625 and Southern Traffic Construction Consultant Investment Joint Stock Company are the companies winning the bid for package 1: Survey and making of project for rehabilitating and reforming highway no.20, connecting from Dong Nai Province to Lam Dong province. The survey work and project making have been carried out. This project is approved by Ministry of Transportation in Decision no. 3425/QD-BGTVT dated November 30th, 2010. However, due to difficult situation, the capital source has not been mobilized for deployment of construction work.

In order to solve the short-term difficulties regarding capital for investment and to meet the demand of highway no.20, it is agreed by Prime Minister to implement the project for rehabilitation and reformation of highway no.20 from Dong Nai province to Lam Dong province under the form of building – transfer as specified in Document no. 1250/TTg-KTN dated July 7th, 2011.

To implement the directions by Prime Minister dated September 14th, 2011, Document no. 5690/BGTVT-KHDT is issued by Ministry of Transportation on the assignment of task for update and supplement of project for rehabilitation and reformation of highway no.20 under the form of building – transfer.

NAME OF PROJECT AND AUTHORIZED STATE AGENCIES

Name of project: Rehabilitation and reformation of highway no.20, from Dong Nai province to Lam Dong province and dividing into 02 partial projects, including Part 1 (Km0-Km123+105.17) to be invested under the form of Building – Transfer (BT).

Authorized State agencies: Ministry of Transportation

- Address: No.80, Tran Hung Dao Street, Hoan Kiem District, Hanoi

- Project management: PMU 7 - Vietnam Road General Department

- Address: No. 63, Nguyen Xi Street, Ward 26, Binh Thanh District, HCM City

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B. OVERVIEW OF DISTRICTS ALONG THE PROJECT AREA

I. ECONOMIC – SOCIAL CONDITIONS IN PROJECT AREA

I.1. ECONOMIC – SOCIAL CONDITIONS OF DISTRICTS AT DONG NAI PROVINCE

I.1.1 *Thong Nhat district*

- Location: Thong Nhat is a midland district, administrative boundaries are identified: adjacent with Dinh Quan district in the North, adjacent with Long Khanh Town in the East, adjacent with Long Thanh district and Cam My district in the South, adjacent with Trang Bom district in the West.
- Total natural area: 247.21 km², accounting for 4.2% of the whole province.natural area.
- Avarage population in 2009: 148,273 people, population density 599,786 people/km².
- The district has 10 administrative units including communes of: Xuan Thien, Xuan Thanh, Bau Ham II, Gia Tan I, Gia Tan II, Gia Tan III, Gia Kiem, Quang Trung, commune road 25, and Hung Loc.
- The economic structure in 2009: Industry - Construction accounted for 12.23%; Agriculture - Forestry - Fishery accounted for 47.92%; Service accounted for 39.85%.
- Advantages of the district:
 - + The climate and land are advantageous for developing fruit trees, short-term and long-term industrial crops such as soybeans, tobacco, coffee, rubber...
 - + In the future there will be highway Saigon - Da Lat highway and Dau Giay - Long Thanh - Dist. Ho Chi Minh went through (the arteries on the trunk roads North - South and Central Highlands key economic areas in the region).
 - + There are conditions for developing technical infrastructure: electricity, water, traffic... (especially about traffic, has Highway 1, Highway 20 and railway line running through), which attract investment from outside. In the future there will be highway Sai Gon – Da Lat and highway Dau Giay – Long Thanh – Ho Chi Minh City running through (the artery of the traffic axis North - South, Tay Nguyen and key economic regions in the area).
 - + There are conditions to develop stronger in all the 3 fields: agriculture, industry - handicraft and services.

Traffic: The district's main transportation system is roadway and railway. About Highways, there are 2 main routes: Highway 1 and Highway 20 passing through a length of 25.5 km, the structure of asphaltic concrete. The two Highways intersect at Dau Giay intersection. About Provincial road, there are 3 routes with a total length of 29.1 km of road lines have been upgraded to asphaltic road. District managed road system consists of nine routes with a total length of 54,1 km, building line 19 metres.

Power supply system: The district's grid system is now supplied from 3 electricity branches: Thong Nhat Electricity, Long Khanh Electricity and Dinh Quan Electricity. Currently, 10 communes have low-voltage electricity and medium voltage to the commune centres, the percent of households with electricity use is about 93%.

Water supply and drainage: Almost in the district there hasn't been a water supply station for domestic activities and production. Mainly households, production facilities use groundwater from dug wells, drilled wells. The percentage of households using hygienic water reaches relatively high, reaching 93%. Drainage: drainage ditch system is mainly placed in densely populated areas, along two sides of some sections which national Highway pass through. But these ditch lines only serve rain-water drainage, and domestic waste water is still treated by self-absorbing or overflowing rivers and streams... On the other hand, these ditch sections are uncompleted so are still fulfilled by soil, rubbish causing inundating the road every heavy rain.

I.1.2 *Dinh Quan district*

- Location: In the East of Dong Nai province, adjacent with Tan Phu district in the North – North East; adjacent with Binh Thuan province in the South East; adjacent with districts Xuan Loc, Long Khanh, Thong Nhat in the South; adjacent with Vinh Cuu district in the West.
- Total natural area: 971.23 km², accounting for 16.40% the natural area of the whole province.
- Average population 2009: 193,150 people, density of 198.87 people/km².
- District has 14 administrative units including Dinh Quan Town and 13 communes: Thanh Son, Phu Tan, Phu Vinh, Phu Loi, Phu Hoa, Ngoc Dinh, Gia Canh, Phu Ngoc, La Nga, Tuc Trung, Phu Tuc, Phu Cuong, Suoi Nho.
- The economic structure: agriculture and forestry account for 49.90%, industry - handicraft account for 16.32% and service accounts for 33.78%.

- Advantages of the district:
 - + To the South East of Dinh Quan there are two big rivers flowing through: Dong Nai river 32km long, La Nga river 46.6 km long, advantageous for the development of waterway - roadway traffic and economic exchanges with regions. Dinh Quan is located on Highway 20 between tourist route Ho Chi Minh City - Da Lat so Dinh Quan Town has been shaped over many decades as the tourist destination with famous natural attractions: La Nga river, Ba Chong stone, Ba Giot waterfall, Mai waterfall...
 - + The centre town is a region with rather developed service - commerce activities, production facilities, individual households help labors be employed in non-agricultural labor force.
 - + Mineral resources of the district include: gold, gems and especially construction stone existing in the most of the district area with large reserves may be industrially exploited.
 - + These crops: tobacco, coffee, sugarcane, cashew, beans, crops and planted forest are the main strength of the district

1.1.3 Tan Phu district

- Location: Is a mountainous district in the north of Dong Nai province, the district centre is 100km from Bien Hoa city, 126 km from Ho Chi Minh City. Adjacent with Lam Dong province in the East and North East; adjacent with province Bình Thuận in the South East; adjacent with province Bình Phước in the North West; adjacent with Dinh Quan district in the South West; adjacent with district Vinh Cuu in the West.
- Total natural area: 775.67 km², accounting for 13.13% of the natural area of the province.
- Average population 2009: 156,684 people, the density of 201.998 people/km².
- The district has 18 administrative units *including*: Tan Phu Town and 17 communes: Phu Thinh, Phu Binh, Phu Xuan, Phu Son, Phu Loc, Dak Lua, Nam Cat Tien and Phu Dien, Tra Co, Phu Trung, Phu Lam, Ta Lai, Phu Thanh, Phu An, Phu Lap, Thanh Son and Nui Tuong.
- Economic structure: Industry - construction 4.91%, agriculture and forestry 59.46% and service 35.63%.
- Advantages of the district:

- + Nam Cat Tien forbidden forest with the area of 35,000 hectares, being invested into the National Park; significant reserve forest with many rare plants and animals, where there are 185 kinds of plants, 62 kinds of animals and 121 bird species, is attracting home and abroad tourists.
- + The land used for agriculture, forestry accounts for 86% of the natural land, which provides raw materials for processing industries.
- + Peat with a large reserve for the production of fertilizer, there was substantiation applying to the provincial People's Committee for approval to build the production factory.
- + Currently, Tan Phu District has planned Tan Phu industrial park with the area of 50 hectares located on Highway 20, being the area encouraging calling domestic and foreign investment.

I.2. ECONOMIC – SOCIAL CONDITIONS IN THE AREA OF LAM DONG

I.2.1 *Da Huoai district*

Da Huoai is the Southwest district of Lam Dong province; total natural area is 495.3 km²; The population in 2009 was 33,864 people. The average population density is 67.9 people/km², ranking 8/11 districts of Lam Dong province. Da Huoai has 8 communes, 2 towns, among these, there are 3 communes which are poor and especially difficult.

Da Huoai has average level of 300m compared to the sea surface. The climate is very different from Dalat, Bao Loc, and its climate is nearly with that of provinces of the South East region. The terrain is gradually low from the northwest to Dong Nai river. This is the terrain with transitional features between highland terrain and plain terrain.

Area of forest and forestry land in the whole district:

- Da Huoai afforestation yard manages 14,571 hectares of forestry land, 567 hectares of agricultural land and 61 hectares of other land; among this, plan for protection forest: 3,611 hectares, production forest: 11,588 hectares.
- The Project management unit of Nam Huoai forest manages 19,504 hectares; among this, plan for protection forest: 14,567 hectares, production forest: 4,907 hectares.
- Land using structure of Đà Huoai district is as below: Agricultural land 11,805 hectares (accounting for 23.8% natural area); Forestry land 35,845.4 hectares (accounting for 72.4% natural area); Single-purpose land 1,101.6 hectares (accounting for 2.2% natural area);

land which has not yet been used: 778,0 hectares (accounting for 1.6% natural area).

Economy:

Da Huoai is an area with potential in forest with many kinds of precious woods, especially there are plenty of bamboo supplied to the paper industry and many small industries: rattan, tooth-pick, bamboo, incense,...

Da Huoai's land is suitable with industrial trees, fruit trees and grain crops. As there are many rivers and streams with plenty of natural vegetation, and it is in the middle of the road which connects Ho Chi Minh city and Dalat, at the intersection of national road 20 with Đà Têh, Cat Tien by road 721, so Da Huoai has many advantageous conditions to develop the tourist services apart from its main economy of agriculture – forestry – industry.

The output of the grain crops in 2009 was 2,751 tons, per capita 81.8 kg; among this, rice output was 2,337 tons. Total actual production value in the district in 2009 was 843,916 million dongs.

Cashew is the long-day industrial plant with strong development of the district with output in 2009 of 2,066 tons on the area of 5,035 hectares – and Da Huoai is the district with largest cashew area in Lam Dong province. This type of tree is very suitable with the large area of empty lands and uncovered hills, and Da Huoai supplies cashew for Cashew processing enterprise.

I.2.2 *Bao Loc City*

Bao Loc City was established on April 08th, 2010 on the basis of preserving 23,256 ha of the natural area. Bao Loc City is situated in the 20 national road, 110km from Da Lat City, 190km from Ho Chi Minh City and 100km from Phan Thiet (Binh Thuan).

Bao Loc City makes up of 2.38% of Lam Dong Province, in which 17,294ha is for agricultural cultivation and 1,584ha for forestry. Most of whom living in Bao Loc City is Kinh people with 150,428 people/40,104 households; 745 households are minority people making up of 2.33% Bao Loc population.

Differing from Da Lat, Bao Loc has focused on developing agricultural and industrial sector. Up to now, Bao Loc is continuing to develop tea planting in both cultivation area and productivity. Currently, Bao Loc has 25 tea processing plants and hundreds of small

scale tea production plant which can process as much as 150,000 ton of fresh tea per year. Bao Loc has already established the high specialization of centralized production areas, combining material production and processing industry, meeting the demand and tastes of both domestic and oversea customers. Tea nearly plays the exclusive role for southern provinces.

Bao Loc is a locality which got the favorable condition to turn the mulberry cultivation into the large scale and advanced economic-technical sector, closing from mulberry raising to silk processing and production. Bao Loc has been known as a location where silk sector is originated and developed with 9 silk production plant and 18 bases, hundreds of supplier for the market with the amount of 400 tons of automatic silk, 500 tons of mechanical silk, 1,300 tons of cotton fiber silk, and more than 5 million meter of silk and other kinds.

Bao Loc is also suitable with growing some kinds of fruit trees and those kinds of fruit trees also gain high productivity because the province can grow and supply the fruits which are produced in different season in other southern provinces. Those fruits are durian, rambutan, “mit to nu” and avocado... In addition to cash trees, Bao Loc is also considered as a province rich of mineral resource. Bao Loc has attracted the investment of many businesses for construction material production, mining and mineral refinery.

Bao Loc has a large potential to develop mining industry and mineral processing. Bao Loc is preserving a huge storage of bauxite and kaolin in which 378 million tons of bauxite with 209 million tons of C1 ($\text{Al}_2\text{O}_3 = 44,69\%$; $\text{SiO}_2 = 6,7\%$)

Industry of Bao Loc City is accounting for over 40% industrial ratio of the whole Lam Dong province, including tea, coffee, silk and textile and garment processing... Plants, enterprises is concentrated on Loc Son industrial park, Ward 2 and Dao Lao commune. Up to now, 32 projects were certified and the total of investment registration is 1,240 billion Dong and 25.7 milion USD.

There are so many beautiful waterfalls, lakes, streams such as: Dambri waterfall, Seven floor waterfall, Nam Phuong Lake, Da Ban stream.... Dambri tourist base is famous for imposing waterfalls with the height of 57 m and primary forests, which can serve camping and resting...

C. STATISTICS OF BUSINESS ACTIVITIES ALONG THE PROJECTS

I. Number of business

I.1. Number of Business at Thong Nhat District

Please see to the attached file for detail.

I.2. Number of Business at Dinh Quan District

Please see to the attached file for detail.

I.3. Number of Business at Tan Phu District

Please see to the attached file for detail.




I.4. Number of Business at Da Huoai District





Please see to the attached file for detail





I.5. Number of Business at Bao Loc City

Please see to the attached file for detail

II. Typical business along NH20 (with illustration)

No	Category/Type of Business	Description	Description - Illustration picture				
I	FOOD FOOD AND BEVERAGE	<ul style="list-style-type: none"><i>Sell fresh/processed food and beverage.</i><i>Average customer volume per day: Low – Medium.</i><i>Sensitivity to road construction: Medium</i> <table><tr><td><i>Accessibility Risk</i></td><td><i>Pollution Risk</i></td></tr><tr><td><i>Medium</i></td><td><i>Medium</i></td></tr></table>	<i>Accessibility Risk</i>	<i>Pollution Risk</i>	<i>Medium</i>	<i>Medium</i>	<ul style="list-style-type: none"><i>- Accessibility risk: Risk from construction activities hinders the accessibility of customers to businesses. Potential risk arrived from reduction of parking area, sittings area.</i><i>- Pollution risk: Risk from construction activities affect the environments surrounding businesses. Potential risk arrived from dust pollution, noise pollution, which in turn affects the food hygiene.</i><i>- Overall sensitivity to road construction: Medium</i>
<i>Accessibility Risk</i>	<i>Pollution Risk</i>						
<i>Medium</i>	<i>Medium</i>						
1	Coffee Shop (Food and beverage)	<ul style="list-style-type: none">Most typical business on project route. Owners set up stalls and chairs to sell snacks & drinks to local residents and travelers.Customer volume per day: Low. (Due to large number of businesses)Distance from existing road : 5 – 7 meters.Distance from finished road: 2 - 4 meters.Sensitivity to road construction: Medium.	<div>(a) </div> <div>(b) </div> <div>(c) </div>				

2	Food Shop (Food)	<ul style="list-style-type: none"> • Sell processed foods like noodles, rice.... • Customer volume per day: Medium (Serve local residents and travelers) • Distance from existing road: 5 – 7 meters. • Distance from finished road: 2 - 4 meters. • For some business located 2 - 4 meters from the existing road and trespassed the road safety border, they will have to move their business inside when the road is finished / Example (b). • Sensitivity to road construction: Medium <ul style="list-style-type: none"> + Display and sittings area will be reduced. + Accessibility will be reduced. + As the business environment directly contact with construction environment, customer will be directly affected by dust and noise. 	<p>(a)</p>  <p>(b)</p>  <p>(c)</p>  <p>(d)</p> 
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3	Fruit barn (Food)	<ul style="list-style-type: none"> • Sell fruits, agriculture products • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 – 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 
4	Outdoor Markets (Food)	<ul style="list-style-type: none"> • Sell poultry, fishes, fresh meet, fresh vegetables....Set up by many small stalls. • Customer volume per day: High (Serve local residents) • Distance from existing road: 5 – 6 meters. • Distance from finished road: 2 - 4 meters. • For some stalls located 3 – 4 meters from the existing road and trespassed the road safety border, they will have to move their stalls inside when the road is finished. Example (a)(b) • Sensitivity to road construction: Medium 	<p>(a)</p>  <p>(b)</p>  <p>(c)</p> 

5	Grocery Store (Food and beverage)	<ul style="list-style-type: none"> • Sell groceries, miscellaneous items. • Customer volume per day: Medium (Only serve local residents) • Distance from existing road: 5 – 7 meters. • Distance from finished road: 2 - 4 meters. • For some shops located 3 – 4 meters from the existing road and trespassed the road safety border, they will have to move their shops inside when the road is finished. Example (b) • Sensitivity to road construction: Medium 	<p>(a)</p>  <p>(b)</p>  <p>(c)</p>  <p>(d)</p> 
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II	PRODUCTS PRODUCTS AND SERVICES	<ul style="list-style-type: none">Sell products and provide products related services.Average customer volume per day: Low – Medium.Overall sensitivity to road construction: Low <table><tr><td>Accessibility Risk</td><td>Pollution Risk</td></tr><tr><td>Low</td><td>Low</td></tr></table>	Accessibility Risk	Pollution Risk	Low	Low	<ul style="list-style-type: none">- Accessibility risk: Risk from construction activities hinders the accessibility of customers to businesses. Potential risk arrived from reduction of parking area, displaying area.- Pollution risk: Risk from construction activities affect the environments surrounding businesses. Potential risk arrived from dust pollution, noise pollution.- Overall sensitivity to road construction: Low. Most of the businesses in this category sell their products inside their house or rented location. Most of the business located 5 – 7 meters away from existing road and 2 - 4 meters away from the new finished road. These businesses have high oligopoly business position and high local customer base. Therefore, despite the difficulties in accessibility and pollution during construction period, their overall customer volume will not be affected.
Accessibility Risk	Pollution Risk						
Low	Low						
6	Gas Station (Products)	<ul style="list-style-type: none">Sell gasCustomer volume per day: Medium (Serve local residents and travelers)Distance from existing road: 15 – 20 meters.Distance from finished road: 12 – 17 meters.Sensitivity to road construction: Low	<div>(a) </div> <div>(b) </div> <div>(c) </div> <div>(Land acquisition pole in the right corner of the picture)</div>				

7	Aluminum and glass (Products)	<ul style="list-style-type: none"> Sell aluminum and glass products. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters. Some businesses will have their display areas moved inside after the road is finished. Sensitivity to road construction: Low 	<p>(a)</p>  <p>(b)</p> 
8	Fertilizer Veterinary Bran (Products)	<ul style="list-style-type: none"> Sell fertilizer/bran and provide veterinary service. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters. Sensitivity to road construction: Low 	<p>(a)</p> 
9	Factory (Products)	<ul style="list-style-type: none"> Local factory to manufacture and process lumber products. Customer volume per day: Very low Distance from existing road: 10 - 15 meters. Distance from finished road: 8 - 13 meters. Sensitivity to road construction: Very low 	<p>(a)</p> 

10	Construction Materials (Products)	<ul style="list-style-type: none"> Sell construction material such as sand, stone, cement. Customer volume per day: Low (Serve local residents) Distance from existing road: 6 - 8 meters. Distance from finished road: 3 - 5 meters. Sensitivity to road construction: Low 	(a) 
11	Wedding dress shop (Products)	<ul style="list-style-type: none"> Provide wedding service and sell wedding dress. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	(a) 
12	Lottery tickets (Products)	<ul style="list-style-type: none"> Sell lottery tickets Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	(a) 

13	Glass/Watches (Products)	<ul style="list-style-type: none"> Sell glass/watches. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	<p>(a)</p>  <p>(b)</p> 
14	Jewelry (Products)	<ul style="list-style-type: none"> Sell jewelries. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	<p>(a)</p> 
15	Furniture (Products)	<ul style="list-style-type: none"> Sell furniture. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	<p>(a)</p> 

16	Bookstore (Products)	<ul style="list-style-type: none"> Sell books. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	(a) 
17	Shoes store (Products)	<ul style="list-style-type: none"> Sell Shoes. Customer volume per day: Low (Serve local residents) Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	(a) 
18	Mechanical shops (Products/service)	<ul style="list-style-type: none"> Provide repair service and sell mechanical parts. Customer volume per day: Low. Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters. Sensitivity to road construction: Low 	(a) 
19	Telephone/Computer (Products/service)	<ul style="list-style-type: none"> Provide repair service and sell phones/computers/prepaid phone... Customer volume per day: Low. Distance from existing road: 5 - 7 meters. Distance from finished road: 2 - 4 meters Sensitivity to road construction: Low 	(a) 

			<p>(b)</p>  <p>(c)</p> 
20	Motorbike/Bicycle shop (Products/service)	<ul style="list-style-type: none"> • Sell motorbikes and bicycles. • Customer volume per day: Low. • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters • Sensitivity to road construction: Low 	<p>(a)</p>  <p>(b)</p> 

21	Pharmacy Clinics (Products/service)	<ul style="list-style-type: none">• Sell drugs and provide healthcare service.• Customer volume per day: Low (Serve local residents)• Distance from existing road: 5 - 7 meters.• Distance from finished road: 2 - 4 meters.• Sensitivity to road construction: Low	(a) 				
22	Advertisement agency (Products/service)	<ul style="list-style-type: none">• Provide advertisement agency.• Customer volume per day: Low (Serve local residents)• Distance from existing road: 5 - 7 meters.• Distance from finished road: 2 - 4 meters.• Sensitivity to road construction: Low	(a) 				
III	SERVICE	<ul style="list-style-type: none">• Provide service to local residents.• Average customer volume per day: Low – Medium.• Overall sensitivity to road construction: Low <table border="1"><thead><tr><th>Accessibility Risk</th><th>Pollution Risk</th></tr></thead><tbody><tr><td>Low</td><td>Low</td></tr></tbody></table>	Accessibility Risk	Pollution Risk	Low	Low	<ul style="list-style-type: none">- Accessibility risk: Risk from construction activities hinders the accessibility of customers to businesses. Potential risk arrived from reduction of parking area.,- Pollution risk: Risk from construction activities affect the environments surrounding businesses. Potential risk arrived from dust pollution, noise pollution.- Overall sensitivity to road construction: Low. Most of the businesses in this category provide their services inside their house or rented location. Most of the business located 5 – 7 meters away from existing road and 2 - 4 meters away from the new finished road. These businesses have high oligopoly business position and high local customer base. Therefore, despite the difficulties in accessibility and pollution during construction period, their overall customer volume will not be affected.
Accessibility Risk	Pollution Risk						
Low	Low						
23	Airline Agency (Service)	<ul style="list-style-type: none">• Sell airline tickets.• Customer volume per day: Very low (Serve local residents)• Distance from existing road: 5 - 7 meters.• Distance from finished road: 2 - 4 meters.• Sensitivity to road construction: Low	(a) 				

24	Bank	<ul style="list-style-type: none"> • Provide banking service. • Customer volume per day: Medium (Serve local residents). • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p>  <p>(b)</p>  <p>(c)</p> 
25	Insurance	<ul style="list-style-type: none"> • Provide insurance service. • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 

26	Billiards	<ul style="list-style-type: none"> • Provide billiards games. • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 
27	Garage	<ul style="list-style-type: none"> • Provide washing and repair service. • Customer volume per day: Low (Serve local residents and travelers). • Distance from existing road: 8 - 10 meters. • Distance from finished road: 6 - 8 meters. • Sensitivity to road construction: Low 	<p>(a)</p>  <p>(b)</p> 
28	Transportation terminal	<ul style="list-style-type: none"> • Transportation terminal for inter-province travelling. • Customer volume per day: Medium • Distance from existing road: 20 - 25 meters. • Distance from finished road: 18 - 23 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 

29	Karaoke/Massage	<ul style="list-style-type: none"> • Provide karaoke and massage service. • Customer volume per day: Low. • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 
30	Photocopy shop	<ul style="list-style-type: none"> • Provide photocopy service • Customer volume per day: Low. • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 
31	Motel	<ul style="list-style-type: none"> • Provide motel service. • Customer volume per day: Low. • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 
32	Funeral service	<ul style="list-style-type: none"> • Provide funeral service • Customer volume per day: Low (Serve local residents). • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	<p>(a)</p> 

33	Barbershop	<ul style="list-style-type: none"> • Provide hair cutting service • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	(a) 
34	Photographer	<ul style="list-style-type: none"> • Provide photograph service. • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	(a) 
35	Pawn Shop	<ul style="list-style-type: none"> • Provide pawn service. • Customer volume per day: Low (Serve local residents) • Distance from existing road: 5 - 7 meters. • Distance from finished road: 2 - 4 meters. • Sensitivity to road construction: Low 	(a) 

D. CONSTRUCTION ACTIVITIES AND IMPACTS ON BUSINESS ACTIVITIES

I. Summary of Construction activities

Started from November 2011, National Highway 20's Investor "BT20-Cuu Long" has commenced construction some essential and bad condition sections of NH20 project to ensure the safety and transportation of Dong Nai and Lam Dong residential.

In the section from Km0 – Km123+105.17, the project is divided into 11 packages as following:

TT	Package	Length
1	Km0+000 – Km8+000	8,000
2	Km8+000 – Km25+400	17,400
3	Km25+400 – Km34+900	9,500
4	Km34+900-Km36+553	1,653
5	Km36+553-Km50+400	13,847
6	Km50+450-Km61+000	10,550
7	Km61+000-Km68+000	7,000
8	Km68+000-Km71+800	3,800
	Km71+800-Km75+600	3,800
9	Km75+600-Km76+700	13,300
	Km79+800-Km92+000	
10	Km92+000-Km97+700	5,700
11	Km97+700-Km98	0,300
	Km108+458-Km123+105	14,647
	Total Length	109,497
	Total length of vertical drainage system (km)	59,250

- Whereas, from Km76+700 to Km79+800 (crossing Madaguoi town) is not a part of this project, as this section has already been constructed;
- From Km98 to Km108+450 (crossing Bảo Lộc pass) is not a part of this project, as this section has already been constructed.

II. National Highway 20 status and land acquisition area

II.1. National highway 20 status

(1) Traffic across an outdoor market



(2) Traffic across a town centre





(3) Traffic flow across remote area



II.2. Land acquisition

- Land Acquisition poles have been planted along the existing road to establish parameter area for construction and acquisition activities.



Existing road width: 3m – 4.5m / lane

New road width: 6 – 6.5m / lane

III. Construction activities

III.1. Culverts

Deployed at both directions on the road, which includes:

- Trenching
- Culvert and manholes installation
- Finishing

Illustration:



(Trenching and installing Culvert at both side of the road)





(Placing culvert)



(Temporary bridge)



(Temporary Bridge)



(Finishing



(Finishing)



(Finishing)

III.2. Excavation, embankment and aggregate base

Deployed at both directions on the road, which includes:

- Excavation
- Embankment
- Aggregate base

Illustration





(Aggregate base)



III.3. Pavement

Deployed at both disrections on the road, which includes:

- Leveling
- Stabilized aggregate base course
- Black macadam pavement
- Asphalt concrete

Illustration from other construction project





(Asphalt concrete)



IV. Impacts of construction

During construction period, the impact degree to business activities and livelihood will depend on the sensitivity of the business/livelihood. Construction activities (at any location on the road) that cause interruption to livelihood and business activities to the local area include:

IV.1. For Culvert installation

The approximated construction time	4 – 6 days.
Risk (high sensitivity) factor	Limited accessibility. Residents (customers) have to access by temporary bridge.
Impact extent	Culvert installation for ~60km, affects all the livelihood and business activities at site.
Business sensitivity	Low-medium for all business activities
Mitigation measurements	<ul style="list-style-type: none">• Use temporary bridge for transportation during construction period. Make priority to finish culvert installation in front of business households to help them return normal business activities.• Employ environment consultant to supervise the construction activities at site.• Working hour starts at 7h30 and stop at 5h30 to minimize noise impact to local households.• Make priority to finish culvert installation in front of business households and shorten construction period by mobilizing more equipments and workers if necessary.

IV.2. Excavation, embankment and aggregate base.

The approximated construction time	11-16 days
Risk (high sensitivity) factor	Air pollution/dust, noise caused by

	excavation, embankment and aggregate base activities. Accessibility will be hindered by construction materials gathering and construction activities.
Impact extent	Affect all the livelihood and activities at site
Business sensitivity	Low-medium for all business activities. Medium for business activities related to food and grocery such as Food stalls, outdoor market...
Mitigation measurements	<ul style="list-style-type: none"> • Periodically spray water during rush hours (2-4 times per day) to reduce the impact of air pollution. • Gather materials, equipments at material site, rented area to avoid obstruction to business activities. • Divided the project into 11 packages and commence working separately to reduce construction time. • Working hour starts at 7h30 and stop at 5h30 to minimize noise impact to local households. • Mobilizing equipments and workers to reduce construction time if necessary. • Employ environment consultant to supervise the construction activities at site.

IV.3. Pavement

The approximated construction time	10-14 days
Risk (high sensitivity) factor	Air pollution/dust, noise caused pavement activities. Accessibility will be hindered by construction materials gathering and construction activities.
Impact extent	Affect all the livelihood and activities at

	site
Business sensitivity	Low-medium for all business activities Medium for business activities related to food and grocery such as Food stalls, outdoor market.
Mitigation measurements	<ul style="list-style-type: none"> Periodically spray water during rush hours (2-4 times per day) to reduce the impact of air pollution. Gather materials, equipments at material site, rented area to avoid obstruction to business activities. Working hour starts at 7h30 and stop at 5h30 to minimize noise impact to local households Mobilizing equipments and workers to reduce construction time if necessary. Employ environment consultant to supervise the construction activities at site.

E. SUMMARY – CONCLUSION

- With the scope of National High20 Project, total number of affected business is approximately 3227 cases. Main risk factors include accessibility risk, pollution risk, which in turn affect customer volume and business income:

	Accessibility Risk	Pollution Risk	Business Sensitivity
FOOD FOOD AND BEVERAGE	Medium	Medium	Medium
PRODUCTS PRODUCTS AND SERVICE	Low	Low	Low
SERVICE	Low	Low	Low

- Through assessment evaluation, packed with BT20 construction experience, the investor BT20-Cuu Long has directed and supervised the Contractors to employ appropriate construction method to minimize impacts upon people and businesses in project area. Detail samples are described in mitigation measurements for construction activities.

- Project is divided into 11 packages, which reduce construction time significantly. Total construction time at any specific location is 25 – 36 days (With culvert installation) and 21 – 30 days (Without culvert installation)
- The current condition of National Highway 20 (As shown in pictures) is very bad, with many recurrent potholes, heavily damaged drainage systems, which in turn causes negative impacts to transportation, daily traffic. As a result, people at Dong Nai and Lam Dong province have urged for the project to happen and finish as soon as possible, because National Highway No.20 project is very crucial for people's life and local activities.
- The project length is 109km, with total number of business household is approximately 3227 units. Back in 2005 - 2007, Ministry of Transportation had worked with Dong Nai and Lam Dong People Committee to establish road expansion corridor for NH20, with the minimum distance from existing road is 4 – 7 meters. As a result, the affected case is insignificant. All the people at Dong Nai and Lam Dong province have been supporting this project since the beginning.
- The Investor BT20-Cuu Long has worked closely with PMU7 and Lam Dong , Dong Nai People Committee to carefully select qualified contractor for this project. Despite potential difficulties during construction works, BT20 will employ the proposed mechanisms to mitigate risk and impacts on local business and local households, in order to make sure that the construction period is met, with best quality and minimal impacts on their daily life.