

APPENDIX 5C

Profile of Key Projects

ANNEX 5C: PROFILE OF KEY PROJECTS

1) Waterway Projects

(1) Northern Region

(a) Hai Phong–Ha Noi Route

Location

- (i) Route from Hai Phong to Ha Noi goes along Kinh Thay River or Kinh Mon River.
- (ii) Along Kinh Thay River, it is 154.5km long routing from Hai Phong Port via rivers of Cam, Han, Kinh Thay, Thai Binh, Duong to Ha Noi Port on Hong River. Along Kinh Mon River, it is 166km long starting from Hai Phong Port via rivers of Cam, Kinh Mon, Kinh Thay, Thai Binh, Duong to Ha Noi Port on Hong River.
- (iii) The route connects with the waterway to Quang Ninh beyond Hai Phong.
- (iv) Main ports located along this route are Hai Phong Port, Pha Lai Port and Ha Noi Port.

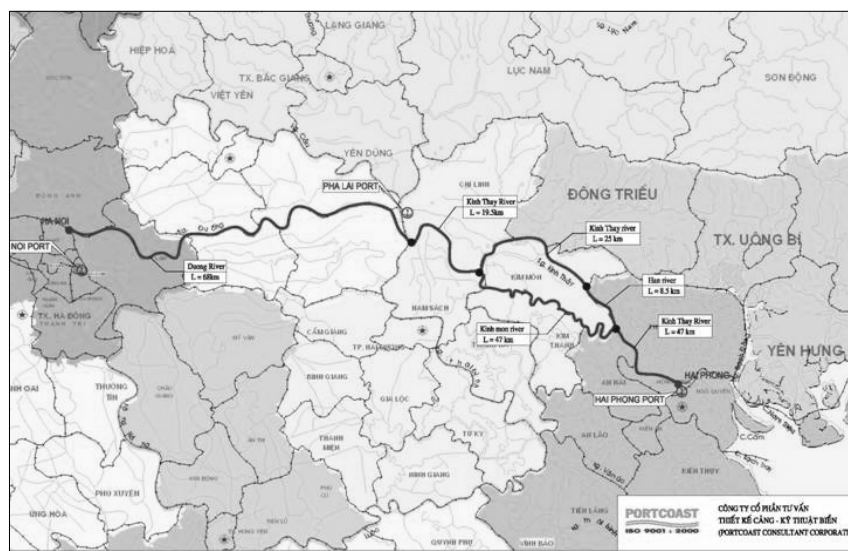
Role of the route

- (i) Connection of Thai Binh River system with Hong River PORT system via Duong River and Luoc River
- (ii) Transportation of sand, rock, gravel for flatten province, fuel for Hai Phong, Hoang Thach cement factory etc.

Target

- (i) Grade II
- (ii) Width 70m
- (iii) Depth more than 2.0m

Figure 5C.1 Hai Phong–Ha Noi Route



No	Route	Length	Grade		width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N1-1	Quang Ninh,Hai Phong –Hanoi	166	III, partially I	II	40–50	70	2.0–2.5	2	Upgrading

(b) Ha Noi–Lach Giang Route

Location

- (i) Route from Ha Noi Port to the mouth of Lach Giang River along Hong River and Ninh Co River with total length of 192km.
- (ii) Ha Noi and other inland area shall be connected with the south and central areas through this route.
- (iii) Main ports located along this route are Hanoi Port and Khueyen Loan Port.

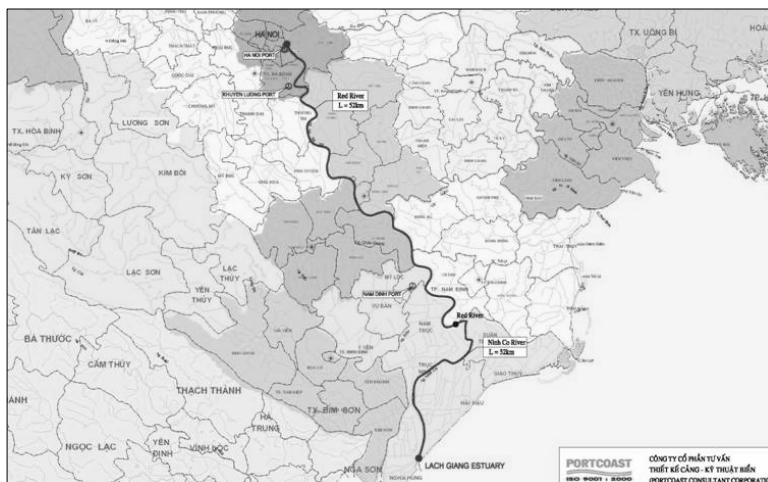
Main Role

- (i) Inland waterway route to the sea via Lach Giang estuary connecting the southern and central regions with Nam Dinh and Khuyen Luong Ports by river and sea vessels.
- (ii) Transportation of cements, raw material of shipbuilding and repair for dockyards at Hai Tinh (at Ninh Co River) and others

Target

- (i) Grade I
- (ii) Width 70m
- (iii) Depth more than 3.0m

Figure 5C.2 Ha Noi–Lach Giang Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Future	Present	Future	Present	Future	
N1-2	Lach Giang –Hanoi	192	II	I	30–60	70	0.9–2.4	3	Upgrading

(c) Ha Noi–Lao Cai Route

Location

- (i) Route goes along Hong and Thao River to Lao Cai with length of 362km.
- (ii) Section from Yen Bai to Lao Cai is 166km long characterized as mountainous river.
- (iii) The transportation route shall be connected to the border of China.
- (iv) Main ports located along this route are Hanoi Port, Viet Tri Port and Lao Cai Port.

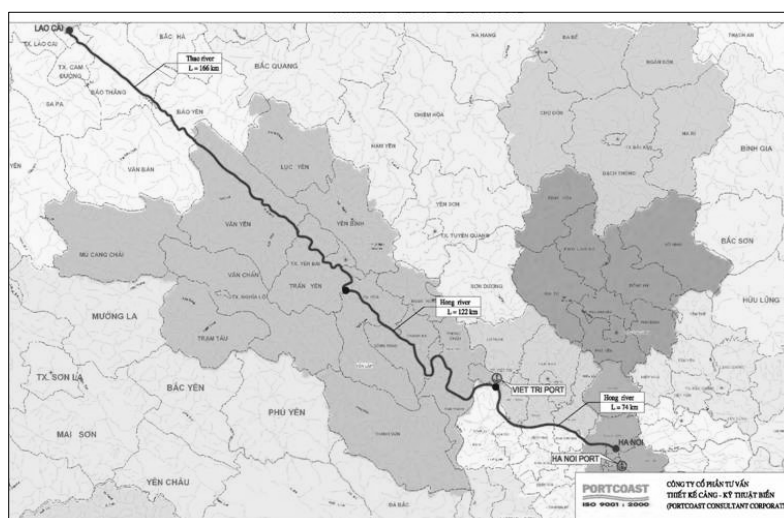
Role

- (i) Support for economic development of Lao Cai Province by transporting apatite ore
- (ii) Support for connection between Van Nam Province connect and the sea
- (iii) Transportation of coal for Bai Bang paper, Viet Tri chemical, Lam Thao phosphate and cement for Vinh Phuc, Phu Tho, Yen Bai Province

Target

- (i) Ha Noi–Viet Tri: II, 70m, more than 2m
- (ii) Viet Tri–Yen Bai: III, 50m, more than 1.5m
- (iii) Yen Bai–Lao Cai: IV, 30m, more than 1.2m (III, 50m, 1.5m in case of dry dock)

Figure 5C.3 Ha Noi–Lao Cai Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N1-3	Hanoi-Viet Tri–LaoCai	362.0	IV,V,VI	II, III, IV	30–40	70	less than 1.0–2.2	2	Upgrading

(d) Quang Ninh–Ninh Binh Route (Dao River, Hai Phong)

Location

- (i) Route from Hon Gai Port, along Ba Mom channel via Cai Trap canal, Bach Dang River, Dinh Vu canal, Cam River, Dao Noi Thanh River, Lach Tray River, Van Uc River, Khe canal, Thai Binh River, Luoc River, Hong River, Dao River to Ninh Binh Port on Day River with length of 266.5km
- (ii) Route through Lach Tray estuary provides another waterway bypassing area of Hai Phong Port.
- (iii) Main ports located along the route are Hong Gai Port, Hai Phong Port, Nam Dinh Port, Ninh Phuc Port and Ninh Binh Port.

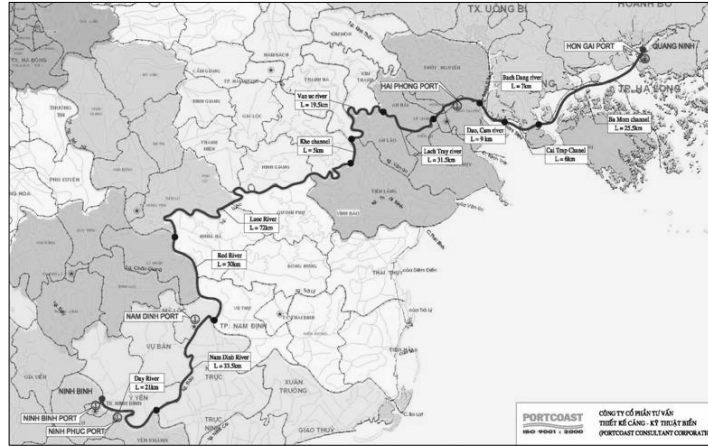
Main Role

- (i) Connection between north-eastern provinces (most important sites of coal mining) with industrial areas which such factories as Ninh Binh thermo-electricity , But Son, Bim Son, Tam Diep, Duyen Ha, Vinakansai and Phu Son cement are located.

Target

- (i) Grade III
- (ii) Width 50m
- (iii) Depth more than 1.5m

Figure 5C.4 Quang Ninh–Ninh Binh Route(Dao River, Hai Phong)



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N2-1	Quang Ninh, Ninh Binh (Dao River, Hai Phong)	266.5	I and III, partially IV	III	25–150	50	1.6–4.5	1.5	improving: widening etc.

(e) Cua Day–Ninh Binh Route

Location

- (i) Route from Ninh Binh to Cua Day which provides a route to the sea via Day estuary with 47km in length
- (ii) Transport in Day River is regulated by Phung Dam.
- (iii) Main port located along the route is Ninh Binh Port.

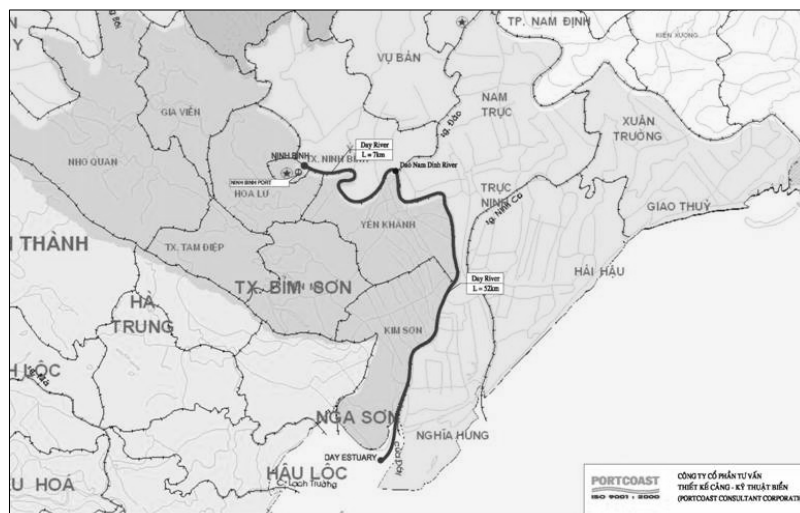
Main Role

- (i) Navigation of sea and river ships approaching to Ninh Binh and Ninh Phuc Ports.
- (ii) Connection between provinces in the northern region and other provinces in the south and central regions directly

Target

- (i) Grade I
- (ii) Width 70m
- (iii) Depth more than 3m

Figure 5C.5 Cua Day–Ninh Binh Route



No	Route	Length	Grade		width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N2-2	Cua Day–Ninh Binh	74.0	II	I	40-80	70	2.5–3.0	3	Upgrading

(f) Quang Ninh–Pha Lai Route

Location

- (i) Route from Hon Gai Port to Pha Lai Port with 128km in length
- (ii) Section from Hon Gai Port to Chanh River mouth goes along Ba Mom channel and other sections go through rivers of Chanh, Da Bach, Phi Liet, Kinh Thay and Thai Binh.
- (iii) Main ports located along the route are Hong Gai Port and Pha Lai Port.

Main Role

- (i) Connection between Quang Ninh Province and northern provinces.
- (ii) Transportation of coal for factories such as Pha Lai thermo-electricity, Bac Giang nitrogenous fertilizer, Dap Cau Glass, and Hoang Thanh and Phuc Son cement
- (iii) Transportation of imported goods from Cai Lan Port to Bac Ninh and Bac Giang Provinces.

Target

- (i) Grade II
- (ii) Width 70m
- (iii) Depth more than 2m

Figure 5C.6 Quang Ninh–Pha Lai Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-1	Quang Ninh–Pha Lai	128.0	Mainly III, some I	II	30–60	70	2.3–2.5	2	Upgrading

(g) Pha Lai–A Lu Route

Location

- (i) Route via Thuong River from Lác confluence to A Lu Port on Thuong River with length of 33km
- (ii) Main ports located along the route are Pha Lai Port and A Lu Port.

Main Role

- (i) Transportation of coal and raw materials for Bac Giang, Cao Bang Provinces
- (ii) Transportation of fertilizer produced at Ha Bac Nitrogenous Fertilizer

Target

- (i) Grade III
- (ii) Width 50m
- (iii) Depth more than 1.5m

Figure 5C.7 N3-2 Pha Lai–A Lu Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-2	Pha Lai–A Lu	33.0	IV	III	30	50	2.0	1.5	Upgrading

(h) Pha Lai–Da Phuc Route

Location

- (i) Route in Cau River routing from Lac confluence at the intersection of Cau and Thai Binh River to Da Phuc Port with length of 87km
- (ii) Main Port located along the route is Dap Cau Port

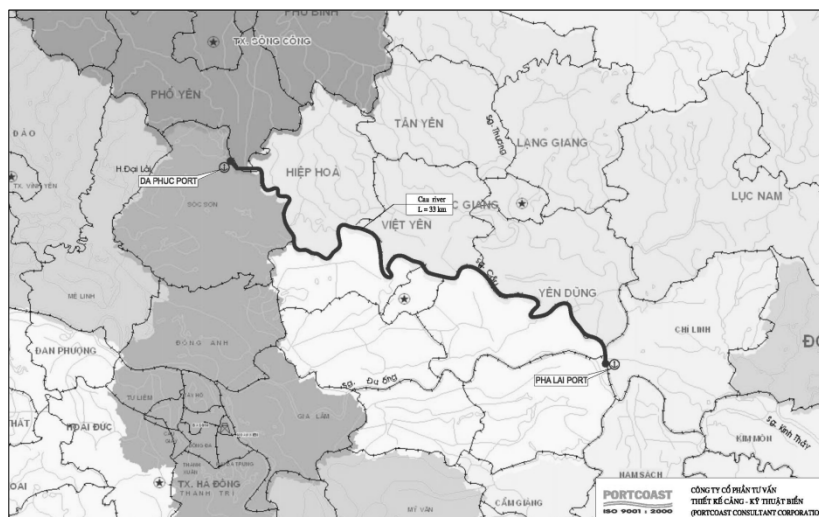
Main Role

- (i) Transportation of coal, cement, ore and gravel for Thai Nguyen, Bac Can and Soc Son provinces

Target

- (i) Grade III
- (ii) Width 50m
- (iii) Depth more than 1.5m

Figure 5C.8 Pha Lai–Da Phuc Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-3	Pha Lai–Da Phuc	87.0	V	III	20-30	50	1.0-2.0	1.5	Upgrading

(i) Viet Tri–Tuyen Quang–Na Hang Route

Location

- (i) Route starting from Viet Tri Port to Tuyen Quang Port with length of 115km on Lo River
- (ii) Main ports located along the route are Viet Tri Port and Lao Cai Port

Main Role

- (i) Transportation of construction materials such as sand and gravel at Lo River
- (ii) Transportation of coal for Bai Bang paper factory

Target

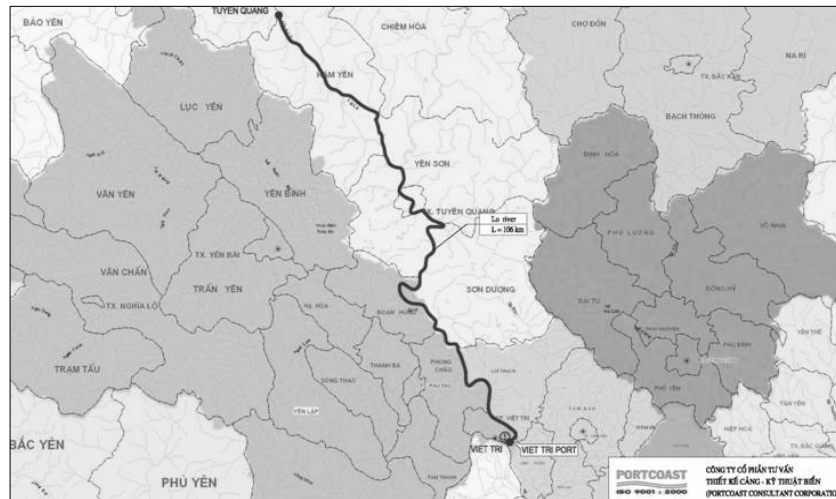
Viet Tri–Tuyen Quang

- (i) Grade III
- (ii) Width 50m
- (iii) Depth more than 1.5

Tuyen Quang–Na Hang

- (i) Grade V
- (ii) Width 30m
- (iii) Depth more than 1.2

Figure 5C.9 Viet Tri–Tuyen Quang–Na Hang Route



No	Route	Length	Grade		width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-4	Viet Tri–Tuyen Quang– Na Hang	115.0	IV	III,V	30	50	1.2	1.5	Upgrading

(j) Hong Đa Confluence–Hoa Binh Route

Location

- (i) Route from Hong Đa confluence to Hoa Binh Port on Da River with 58km in the length
- (ii) Main port located along the route is Hoa Binh Port.

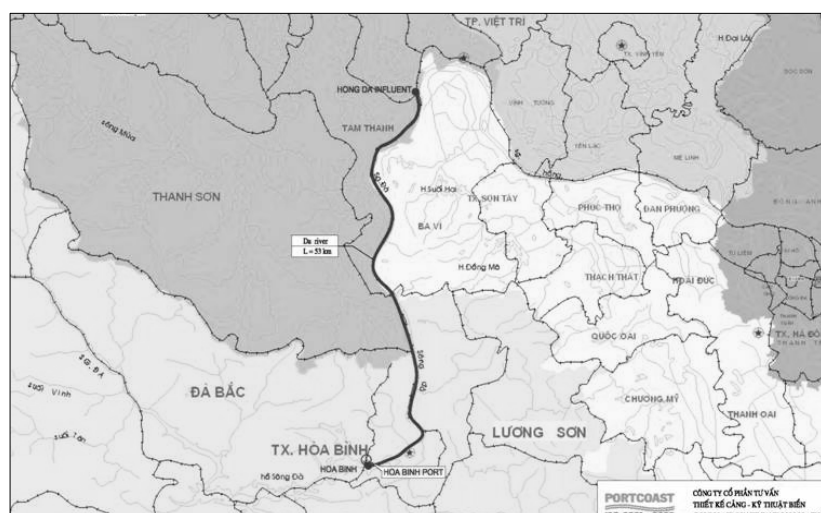
Main Role

- (i) Transportation of raw material and machines for construction of Son La hydro-electricity
- (ii) Transportation of goods for daily life and agricultural materials for Hoa Binh, Son La and Lai Chau Provinces.

Target

- (i) Grade III
- (ii) Width 50m
- (iii) Depth more than 1.5m

Figure 5C.10 Hong Da Confluence–Hoa Binh Route



No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-5	Da river's Hydropower dam down stream section (Hong Da T-junction–Hoa Binh Port)	58.0	III	III	30	50	2.0	1.5	improving: widening and deepening etc.

(k) Ninh Binh–Tainh Hoa Route

Location

(i) Route from Ninh Binh to Tainh Hoa

Target

(i) Grade III

(ii) Width 30-50m

(iii) Depth more than 1.2m

No	Route	Length	Grade		Width		Depth		Project
			Present	Target	Present	Plan	Present	Plan	
N3-6	Ninh Binh–Tainh Hoa			III–IV		30–50		1.2	.

(2) Southern Region

(a) Waterways between Ho Chi Minh and North Western Region of Mekong Delta

(i) Sai Gon–Kien Luong/Lap Vo Canal Route

Location

- Route connecting Ho Chi Minh City with Western sea at Ba Hoan and Ha Tien via Provinces of Tien Giang, Dong Thap; Hau Giang, Kien Giang.
- The route is 315km long via Cho Gao canal to Tien River, Lap Vo–Sa Dec canal to Hau River, Rach Soi–Hau Giang and Rach Gia–Ha Tien to Ha Tien, Ba Hon Canal to Ba Hon mouth.
- Main river ports located along this route are ports in Ho Chi Minh City, My Tho Port,

Sa Dec Port and Ha Tien Port.

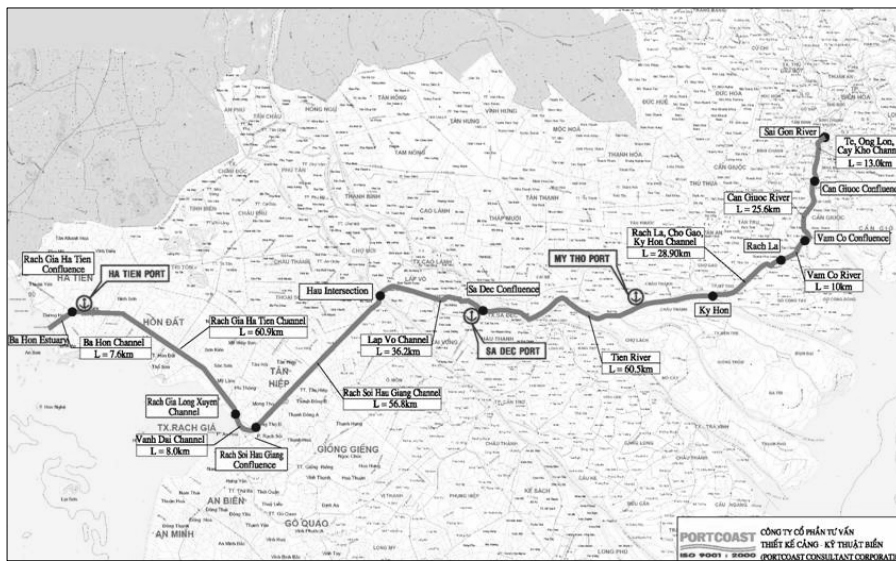
Role

- Main route connecting Ho Chi Minh City with the northern region of Mekong Delta
- Transportation of clinker from Kien Luong to Ho Chi Minh City

Target

- Grade III
- Width 30–40m
- Depth more than 2.5m

Figure 5C.11 Sai Gon–Kien Luong/Lap Vo Canal Route



No	Route	Length	Grade		width		Depth		Obstacle	Project
			Present	Target	Present	Plan	Present	Plan		
S1-1	Sai Gon–Kien Luong (Lap Vo canal)	315	I and III	III	16- 300	30–40	1.5–10.0	2.5	bridge	improvement: widening and deepening, removal of obstacles

(ii) Sai Gon–Kien Luong Route (Dong Thap Muoi area)

Location

- Hub point from Ho Chi Minh city via Dong Thap Muoi, Tu giac Long xuyen, to the western coast in Kien Giang, crossing provinces of Long An, Tien Giang, Dong Thap, An Giang and Kien Giang. Main route is 334km long from Sai Gon River via Te canal, Doi canal, Cho Dem–Ben Luc River to Vam Co Dong River; via Thu Thua canal to Vam Co Tay River; via Lagrang–Dong Tien canal (Thap Muoi N1) to Tien River; via Vam Nao River to Hau River; via Tri Ton–Hau Giang canal, Tam Ngan Canal to Rach Gia Ha Tien canal in Kien Luong.

Main Role

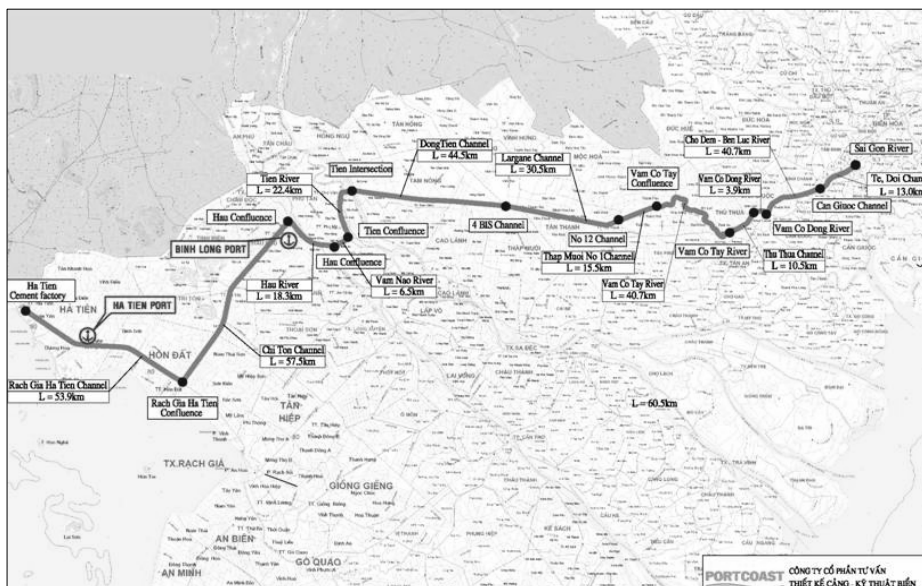
- Main route connecting Ho Chi Minh City with the northern region of Mekong Delta
- Support for agriculture-industries at newly developing areas of Dong Thap Muoi

and Tu Giac Long Xuyen

Target

- Grade III
- Width 30m
- Depth more than 2.5m

Figure 5C.12 Sai Gon–Kien Luong Route (Dong Thap Muoi area)



No	Route	Length	Grade		width		Depth		Obstacle	Project
			Present	Target	Present	Plan	Present	Plan		
S1-2	Sai Gon–Kien Luong (Thap Muoi canal)	334	I and III	III	20–100	30	1.9–9.0	2.5	bridge	improvement: widening and deepening, removal of obstacles

(b) Waterways between Ho Chi Minh and South Western Region of Mekong Delta

(i) Sai Gon–Ca Mau (Xa No Canal) Route

Location

- Route connecting Ho Chi Minh City with the western coastal area via provinces of Tien Giang, Vinh Long, Hau Giang, Can Tho, Ca Mau and South of Kien Gian.
- This route is 335.8km long and consists of such sections as a section via Cho Gạo canal to Tien River, a section connecting Tien River with Hau River via Cho Lach, Mang Thit–Tra On canal and a section from Hau River to western coastal area via Can Tho, Xa No, Trem–Canh Den canal, Genh Hao River to Ca Mau, Luong The Tran canal, Bay Hap canal, Nam Can town to Bay Hap mouth.
- Main ports located along the route are Ports in Ho Chi Minh City, My Tho Port and Ca Mau Port.

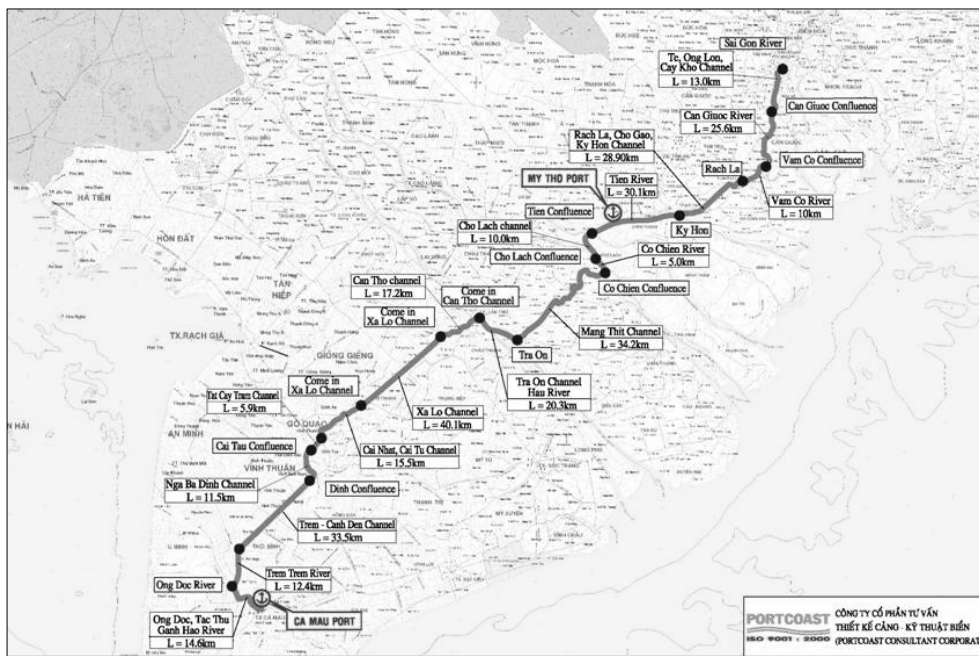
Main Role

- Main route connecting Ho Chi Minh City with south-west provinces of Mekong Delta.

Target

- Grade III
- Width 30–40m
- Depth more than 2.5m

Figure 5C.13 Sai Gon–Ca Mau (Xa No Canal) Route



No	Route	Length	Grade		width		Depth		Obstacle	Project
			Present	Target	Present	Plan	Present	Plan		
S2-1	Sai Gon–Ca Mau (through Xa No canal)	336	I and III	III	22–300	30–40	2.7–6.5	2.5	bridge	improvement: widening, removal of obstacles

(ii) Sai Gon–Ca Mau Route (coastal)

Location

- Route connecting Ho Chi Minh City with the southern east area of Ca Mau through provinces within Tien River, Hau River
- The longest route from Ho Chi Minh City to Ca Mau running through populous towns such as Soc Trang, Bac Lieu.
- Main route is 368km long with a beginning section from Ho Chi Minh city to Tien River, a middle section of Tien and Hau River belonging to Ben Tre, Tra Vinh area via canal of Chet Say, Mo Cay, Tra Vinh, Lop, Cau Chong and some sections of natural rivers and an ending section from Hau River to Ca Mau via canal of Dai Ngai, Phu Huu–Bai Sau and Bac Lieu–Ca Mau.
- Main ports located along the route are Ports in Ho Chi Minh city, Giao Long Port, An Phuc Port, Long Duc Port, Soc Trang Port, Bac Lieu Port and Ca Mau Port.

Role

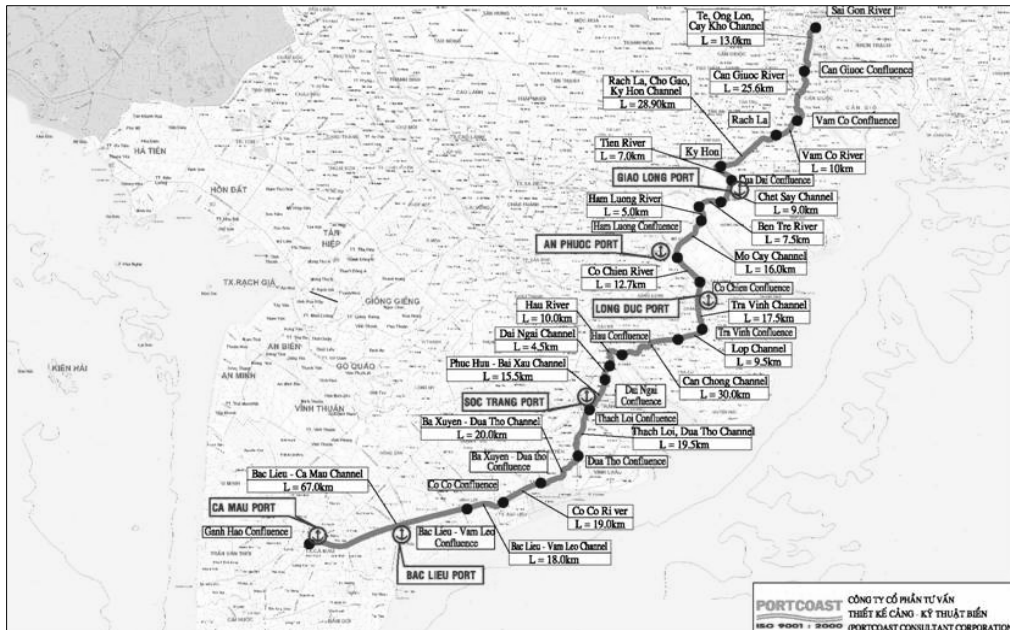
- Main route connecting Ho Chi Minh City with the south-west provinces of Mekong Delta

- Support for economic development of the area separated by large rivers.

Target

- Grade III
- Width 30–40 m
- Depth more than 2.5m

Figure 5C.14 Sai Gon–Ca Mau Route (coastal)



No	Route	Length	Grade		Width		Depth		Obstacle	Project
			Present	Target	Present	Plan	Present	Plan		
S2-2	Sai Gon–Ca Mau (coastal)	367	I, III & IV	III	16–450	30–40	1.0–9.0	2.5	bridge	improvement: widening and deepening, removal of obstacles

(c) Waterways between Ho Chi Minh and industrial areas in its Periphery

(i) Sai Gon–Moc Hoa Route

Location

- Route connecting Dong Thap Muoi with ports in Ho Chi Minh City
- This route is 95.6km long starting from Sai Gon Port on Sai Gon River to Moc Hoa on Vam Co Tay River via river of Nha Be, Soai Rạp, Can Giuoc, Vam Co and Nuoc Man Canal.

Role

- Transverse route connecting Dong Thap Muoi areas to ports at Ho Chi Minh, Dong Nai, Ba Ria Province and China sea

Target

- Grade III
- Width 50–70m