



BỘ GIAO THÔNG VẬN TẢI
MINISTRY OF TRANSPORT



Waterway Transport Infrastructure and Ecological Protection Practices - Vietnam

MSc. Nguyen Huu Tien

Deputy Director General, Ministry of Transport of Vietnam



October 2018

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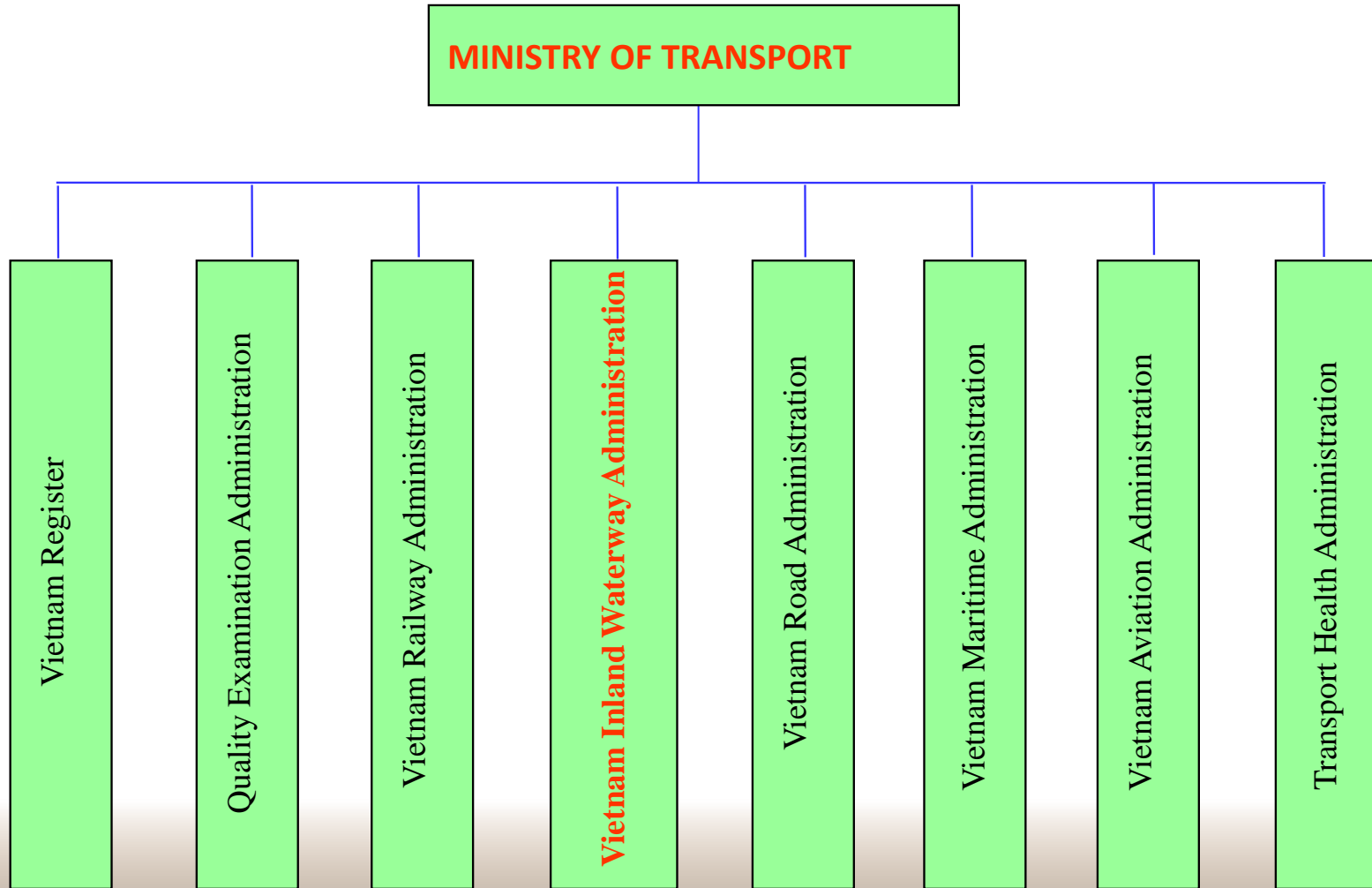
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MOT's ORGANIZATION STRUCTURE



ROAD

Total 258.200 km, 104 highway routes, 07 express way route (647,8 km)

Transport market share:

- 75,6% cargo transported.*
- 94,09% passenger transported*

AVIATION

-23 air port

Share:

- 0,08% cargo*
- 0,6% passenger*

INLAND WATERWAY

Total 80.000 km, (41.900 km navigable)

- 251 river port & 8.000 landing stages

Market share:

- 17.8% cargo transported*
- 4.7% passenger transported*

RAILWAY

-Lengh 3.143 km

-2 types of rail:

*1.000 mm wide track (85/%),
1.435mm (15%);*

Share:

- 0,64% cargo.*
- 0,42% pass*

MARITIME

- 44 sea port (219 terminals)

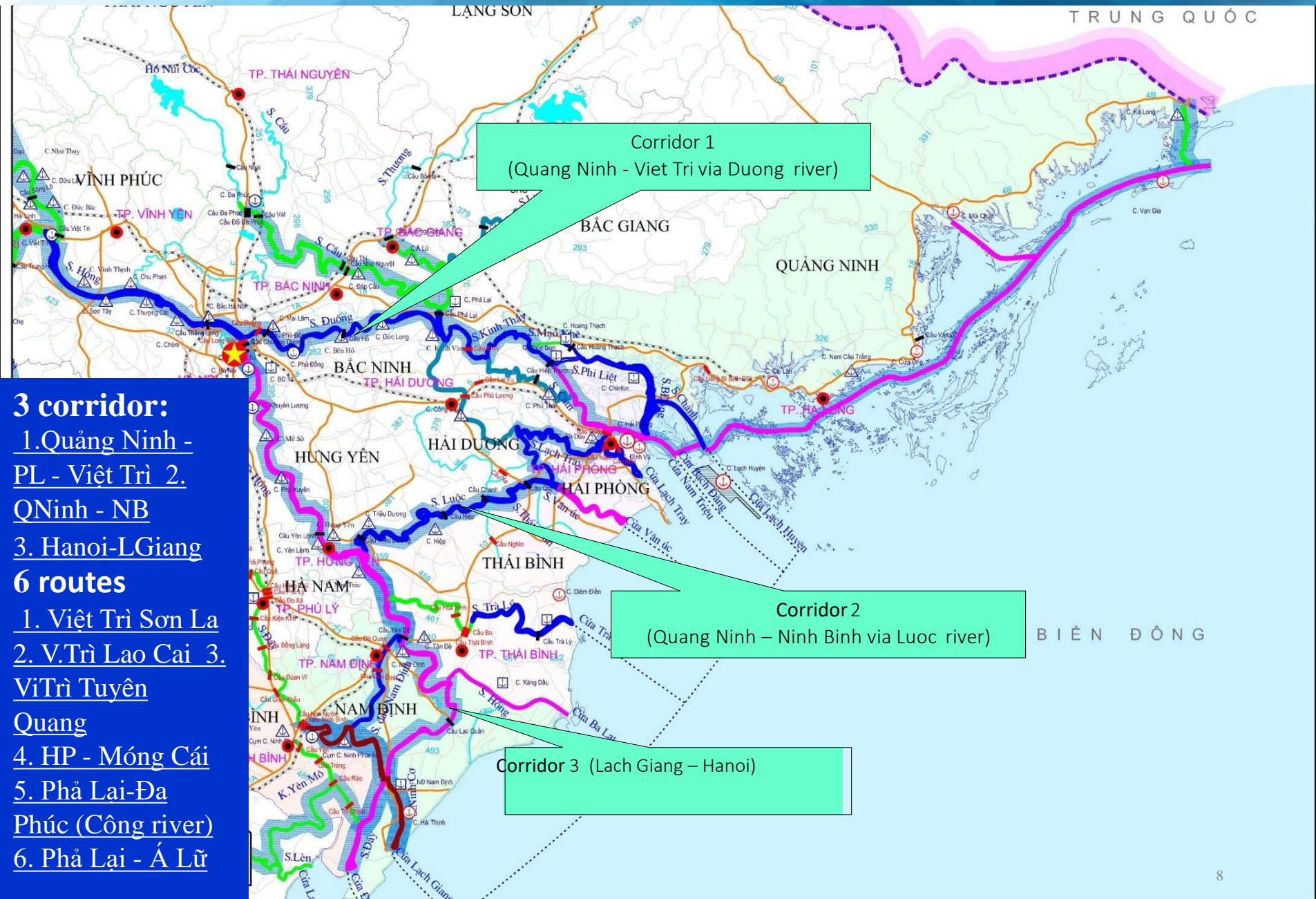
Share:

- 5.8% in cargo transport*
- Passenger transport is negligible*

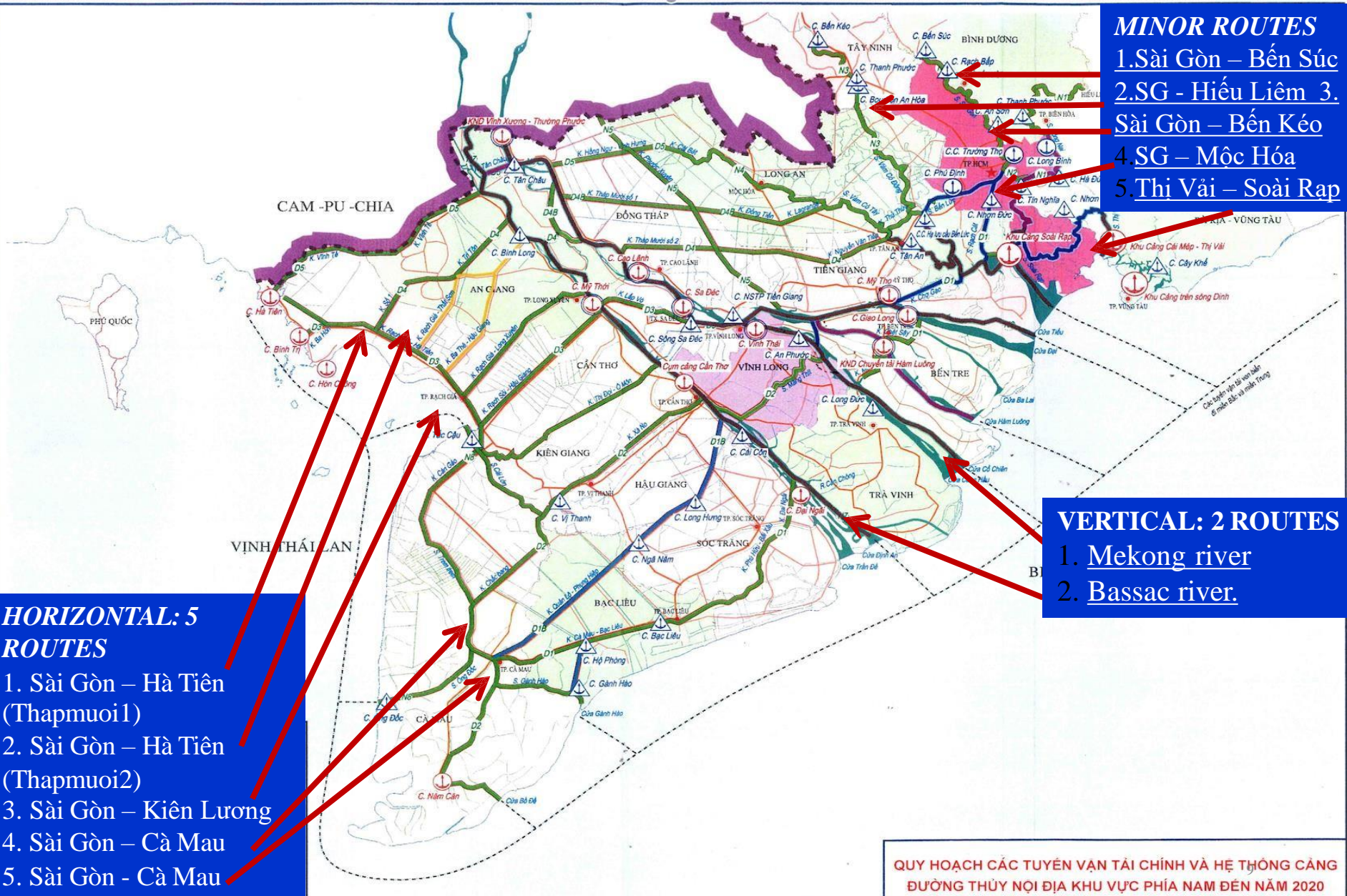
□ River and cannal system:

- 3,551 rivers and cannals;
- Top 5 countries with highest density of river.
- Total navigable length for water transport is 41.900/80.577 km (accounted for 52%).
- Total length used for transportation is 17.253km (accounted for 41,2%).
- 9 main river systems, in that, Red river in the North and Mekong river in the South of Vietnam are biggest and most important in the country.
- Brigdes: There are **653** bridges across the river systems of Vietnam, whereas **251** brigdes with low air clearance or limited span, especially 4 brigdes in emerency case, need to be re-constructed immediately to ensure safety navigation: Long Bien, Duong, Chui, and Binh Loi.

INLAND WATERWAY IN THE NORTH OF VIETNAM



INLAND WATERWAY IN THE SOUTH OF VIETNAM



MINOR ROUTES

1. Sài Gòn – Bến Súc
2. SG - Hiếu Liêm
3. Sài Gòn – Bến Kéo
4. SG – Mộc Hóa
5. Thị Vải – Soài Ráp

VERTICAL: 2 ROUTES

1. Mekong river
2. Bassac river.

HORIZONTAL: 5 ROUTES

1. Sài Gòn – Hà Tiên (Thapmuoi1)
2. Sài Gòn – Hà Tiên (Thapmuoi2)
3. Sài Gòn – Kiên Lương
4. Sài Gòn – Cà Mau
5. Sài Gòn - Cà Mau

QUY HOẠCH CÁC TUYẾN VẬN TẢI CHÍNH VÀ HỆ THỐNG CẢNG ĐƯỜNG THỦY NỘI ĐỊA KHU VỰC PHÍA NAM ĐẾN NĂM 2020

PORT AND LANDING STAGES

- On the river systems: **251** ports and **8.668** landing stages
- Cargo landing stage: **6,396**, in those, **4.576 (85%)** have operation permit; **1.820 (15%)** without permission or lack of safety condition.
- Passenger landingstage: **2.272**, in those, **1.898** legal landing stage (**83%**).

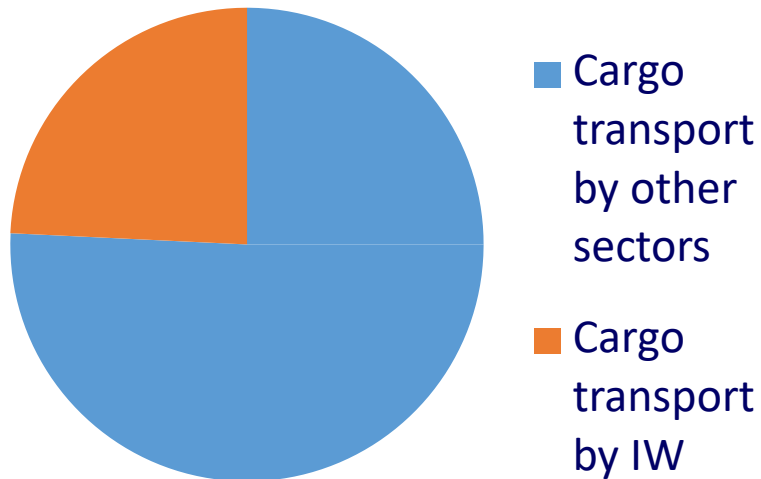


❖ DEVELOPMENT TARGET

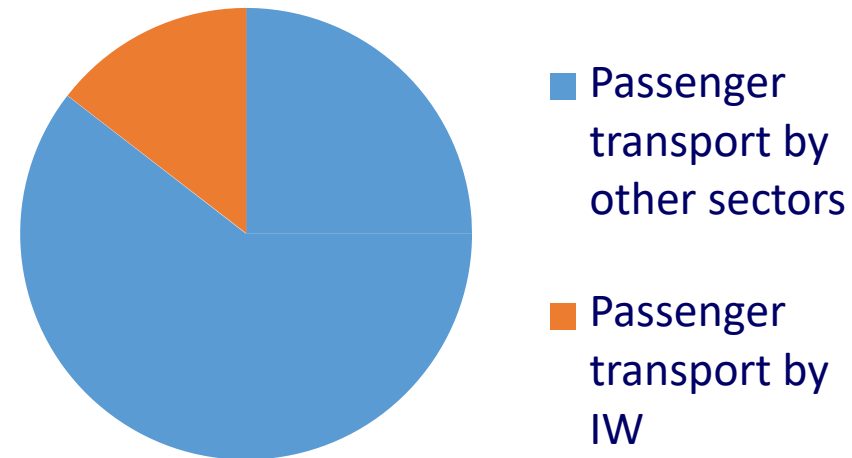
□ Shares target to 2020- vision 2030

Maintain the growth rate in cargo & passenger transport capacity. By 2020 should be 356 million ton in Cargo transported (**22% in total transport volume**) 540 million passenger transported (**4.7% in total transported passenger**).

Growth rate of cargo transport by IWT



Growth rate of passenger transport by IWT



Investment in new infrastructures:

- Northern Delta Transport Develop Project (WB6) financed by WB (200 mil USD) implemented in 14 provinces and cities
- Mekong Delta Transport Infrastructures Development Project(WB5) financed by WB (555 mil USD) implemented in 13 provinces of Mekong delta.
- 02 PPP investment projects: Upgrading Cho Gao Cannal, Lift up the Binh Loi railway bridge for WT route between Ho Chi Minh city and Mekong Delta.
- 45 maintenance dredging projects funded by private investor to deepening navigation channel and re-cumulate the sand as construction material.

Investment in new infrastructures (cont):

a / To invest in upgrading and renovating main transport routes:

- From 2000 to 2018: To renovate and upgrade about 2,000 km/ 6,658 km of management (30% total length)
- Capital:
 - + State budget: 1% of the whole transport sector investment
 - + ODA capital: 03 projects with 5,586 million USD.
- Dredging projects in the period of 2010 - 2015: 10 projects (each project about 100,000 m³ of dredged sludge).
- Projects with private budget: dredging or maintenance channels (combined with dredging material recovery): about 40 projects.

b, Investing in construction of waterway infrastructure

- Investment in the construction of dykes and river embankments
- Construction of ports: ship's piers, wharves, warehouses and entrances,...

ENVIRONMENTAL IMPACT IN CONSTRUCTION AND MAINTENANCE INVESTMENT IN WATERWAY INFRASTRUCTURE



1. Environmental impact due to improvement and upgrading of inland waterways.

- Air pollution: air emission from dredging equipment: CO₂, SO₂, VOC,..
- Water quality: increased turbidity, oil leaks, toxic substances, and heavy metals in the mud.
- Aquatic ecosystem: habitat destruction
- Change the river morphology: change the flow, riverbed compensation
- Environmental impact in dredged areas

2. Environmental impacts caused by the construction of inland waterway works (ports, wharves, entrances and embankments).

- Air pollution: gas emissions
- Waste from construction: wastewater, garbage, hazardous waste.
- Impacts on water environment: water quality, sediment
- Cultural - social environment: migration, resettlement, environmental landscape, damage to cultural and historical relics.
- Terrestrial, aquatic ecosystems
- Noise, vibration, hydrography
- Risks, environmental incidents


3. Main environmental impacts due to dredging activities

a) Impact related to waste

- Wastewater: Domestic wastewater, oil - gasoline contaminated water
- Solid waste: daily-life waste, hazardous waste
- Dredged material, dredged water from dredged sludge
- Emissions from dredged vehicles

b) Impact due to dredging activities

- Reduce water quality (due to increased turbidity, increased concentration of heavy metals,..)
- Impacts on environmental quality at dumping areas, leaked water from dredged areas
- River bank erosion, flow compensation, change of hydrological regime



**ENVIRONMENTAL PROTECTION IN
BUILDING, MAINTENANCE AND
UPGRADING OF THE WATERWAY
TRANSPORTATION INFRASTRUCTURE**

Environmental protection in inland waterway transport infrastructure planning

1. When developing or adjusting the master plan for development of inland waterway infrastructure up to 2020 – vision to 2030, the Ministry of Transport of Vietnam has prepared a strategic environmental assessment report in accordance with the law on environmental protection.
2. Strategic environmental assessment reports has been revised/integrated with results of climate change monitoring and content of responding to climate change.

Environment protection in the building, maintenance, improvement and upgrading of waterway infrastructures

1. In the construction, maintenance, and upgrading activities of waterway transport infrastructure from 2010-2018, the Ministry of Transport had implemented the following activities:

a) Prepared of Environmental Impact Assessment reports (for projects with a dredging volume of 50,000 m³ / year or more) or environmental protection plans; submit them to competent agencies for approval. Up to now, 100% projects have environmental reports;

b) To allocate expenses for environmental protection in the total investment of the project;

c) Avoid construction at times of environmental sensitivity (shallow water, breeding season, ..)

d) To organize the management, supervision, and report to the competent State agency in charge of environmental protection in the construction of projects;

e) Repeat the EIA or EPP report to submit to the competent body for approval in the case of a change in scale, capacity or technology that increase bad affects to environment.

2. Require construction contractors to comply with the provisions of the Environmental protection law, environmental standards and regulations, and fully meet the environmental protection requirements in contracts signed with the project owners.

3. Requests for environmental monitoring and supervision consultancy contractors to comply with technical procedures for environmental monitoring and rules of technical environment.

Environment protection in minimizing impacts on dredging activities

- Use of dredging information system, automatic dredging control system, dredging monitoring system, ...
- Installing filters to minimize the spread of sediment during dredging
- Measures to reduce pollution at dredging site:
 - + To build dump boundary for waste dumping
 - + Rust collection system, sedimentation tank system
 - + Minimize the spread of sediment in transit stations

Environmental protection solutions implemented in Vietnam

More than 70
solution
In Vietnam



Environmental protection solutions implemented in Vietnam

Oil spill prevention



Waste oil recycling



Environmental protection solutions implemented in Vietnam

garbage collection
in port area and
along channels



Environmental protection solutions implemented in Vietnam

The system of collecting and treating waste water from construction works



Environmental protection solutions implemented in Vietnam

Cleaning the port areas



Collecting dredging material



dust filter system for warehouse





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Thank you for your attention!