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Appendix A1: Road & Bridge Sector

1. Project Code	RB001	2. Project Title	Study and modernization of means for updating the inventory of roads and bridges with Cimab support, succeeding the Project “Andariego Vial” (Completion date 2021)

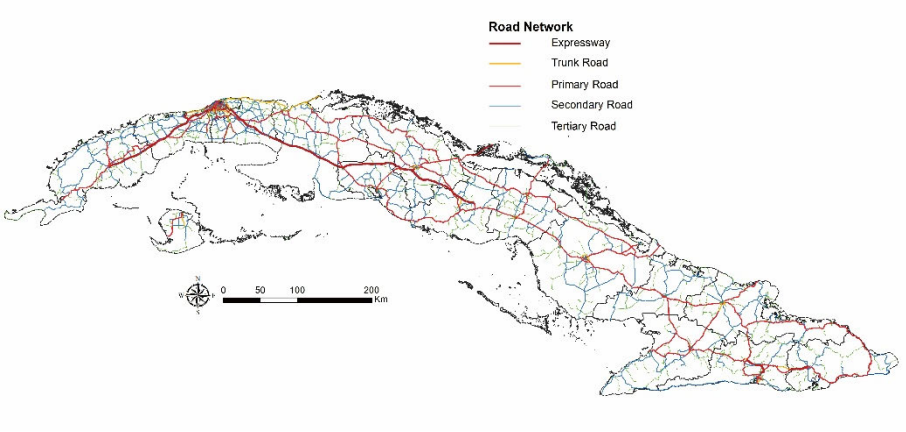
3. Implementation Agency	National Roads Center (CNV)/Provincial Roadway Centers (CPV), MITRANS, and GeoSí (state enterprise) under the Ministry of the Revolutionary Armed Forces (MINFAR)	4. Implementation period			
5. Project cost (budget)	75 million CUP (3.0 million USD)	Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.5	1.1.1, 1.5.1	1.1.1.1, 1.5.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To define current and future conditions of roads/bridges and investment priorities by analyzing the network condition. ● To identify a budget plan for the entire road network or bridge with a forecast of pavement performance and road user effects. ● To calculate economic benefit and expenditure requirements from the program plan ● To estimate the economic or engineering viability of road/bridge investment projects by performing lifecycle analysis of pavement performance, maintenance, and improvement effect together with estimating road user cost. ● To identify appropriate road sector policies (funding policies, impact of road transport policies)	● Mapping current and future conditions and maintenance cost ● Presenting future trends in terms of road quality index and other indicators ● Treatment coverage, as % of the network per year, can be estimated. ● Savings in capital and operational expenses in terms of maintenance expenditure and the implications of maintenance expenditure in terms of traffic delays through proper program planning. ● Reduction of traffic accidents ● Reduction of pollution (environment)
14. Project Description	**15. Social-environmental consideration**
● Updating road/bridge inventory and identifying main road/bridge work program areas and investment priorities by analyzing current and future network conditions. ● Developing an asset management program such as HDM-4.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● Project “Andariego Vial” (Completion date 2021)	

17. Project location	Province:	All Provinces	City:	



18. Notes (if any)

Andariego Application

Andariego mobile application references the cartography of all of Cuba. It allows users to access a locator program that provides, among others, the distance between Havana and all the municipalities within the country. In addition, it is to find the requested health centers, accommodation, shops, bus stops, travel agencies, and other information.

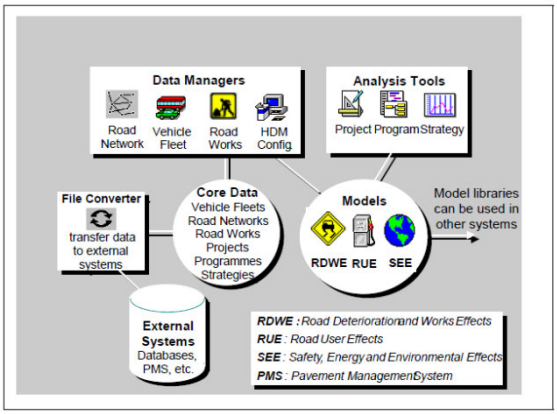
Andariego Vial is being tested and deployed by the CNV, the Provincial Road Centers (CPV), the National Road Safety Commission (CNSV), and the DGTH, and its primary function is to facilitate in real time all actions carried out on the road either for conservation or investments, to immediately update accidents, vulnerable areas, interrupting roads and alternate roads in case of accidents or any eventual event. It is a system intended to be updated automatically through coordinates and an intelligent cell phone that uploads the changes or actions carried out on the road. We emphasize that we are just in the testing phase, deployment, and updating inventory data.

Source: http://www.cubadebate.cu/noticias/2015/01/30/descargue-en-su-movil-el-andariego-un-servicio-de-localizacion-para-cuba/

HDM-4

HDM-4 is an application for analyzing the economic viability of investments in road projects. The application was completed with models for traffic congestion effects, cold climate effects, a wider range of pavement types and structures, road safety, and environmental effects, including energy consumption, traffic noise, and vehicle emission. This software is helpful in looking the highway management as a whole system. In addition, the application is designed to make comparative cost estimates and economic analyses of different investment options by inputting several data such as detailed specifications of investment programs, design standards, maintenance alternatives, unit costs, projected traffic volumes, and environmental conditions

HDM-4 structure



Source: Overview of HDM-4 Volume 1.0

1. Project Code	RB002	2. Project Title	Integral Development of Roads of National Interest 2020 – 2030

3. Implementation Agency	MITRANS	4. Implementation period			
5. Project cost (budget)	30 billion CUP (1.2 billion USD)	Start	2025	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☒ Foreign Investors	

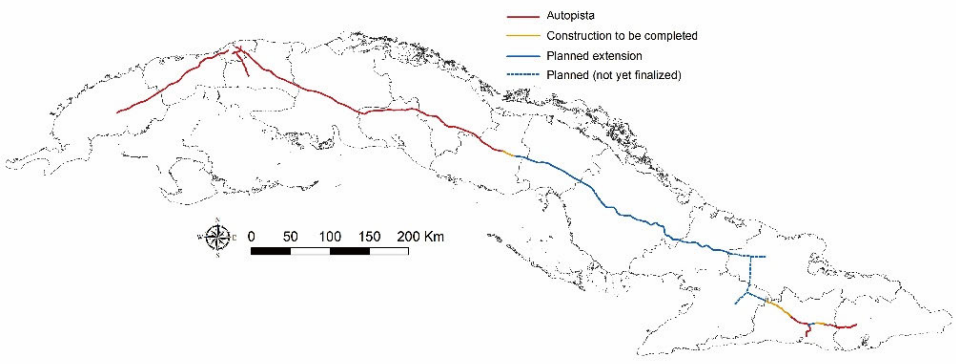
7. Sector			8. Project Priority	
	☐ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☒ Institution/Regulation ☒ Relevant business and others		☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2, 1.3	1.2.1, 1.2.2, 1.2.3	1.2.1.1, 1.2.2.1, 1.2.3.1
2. Transport infrastructure development	2.1 ~ 2.6	2.1.1 ~ 2.6.1	
3. Environment, safety, and security	3.1, 3.2	3.1.1., 3.2.1	
4. Transport service and industry development	4.1	4.1.1, 4.1.2	
5. Transport pricing and resource allocation	5.1, 5.2	5.2.1	
6. Institutional and regulatory development	6.1	6.1.1, 6.1.2	

12. Purpose of the project	13. Expected Benefits/Outcomes
● Streamlining traffic in developed areas ● Improving the distribution of goods and services to support economic activities	● Increased regional development and economic improvement ● Improving mobility and accessibility of people and goods ● Saving vehicle operating costs and time
14. Project Description	**15. Social-environmental consideration**
● To develop new roads (Autopista) to support mobility for people and goods within Cuba within 2020 – 2030 within Integral Development Plan Roads of National Interest.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA)
16. Relevant project(s)	
●	

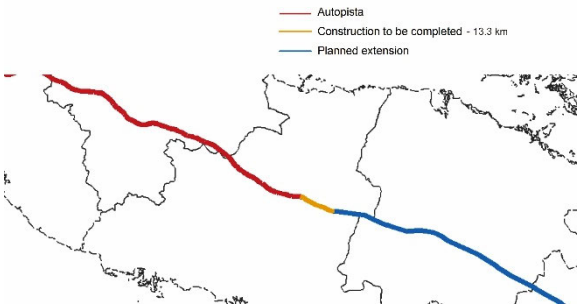
17. Project location	Province:	• Constructed to be completed: Sancti Spiritus, and Santiago de Cuba – **60.5 km** • Planned extension: Sancti Spiritus, Ciego de Avila, Camaguey, Las Tunas, Granma, and Santiago de Cuba – **319 km** • Planned (not yet finalized): Holguin, and Granma – **124.1 km**

Cuba Autopista Network

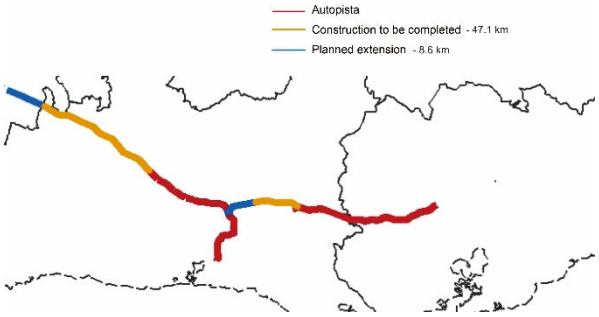


Source: *Mapa de Carreteras de Cuba* (Road map of Cuba)

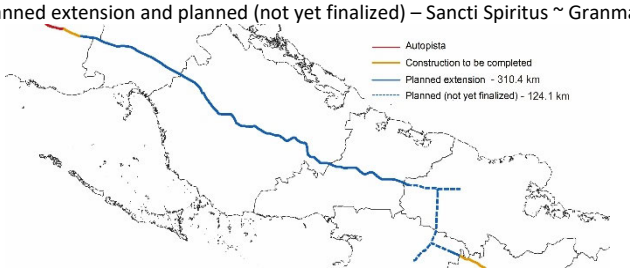
Construction to be completed - Sancti Spiritus



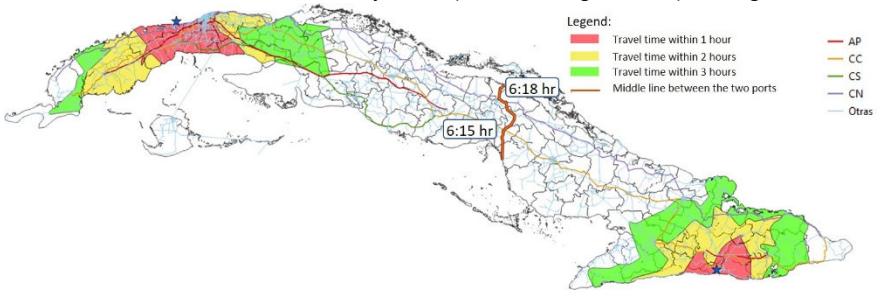
Construction to be completed and planned extension - Santiago de Cuba



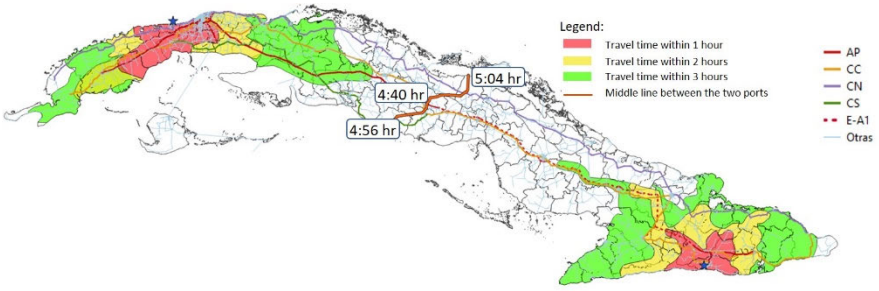
Planned extension and planned (not yet finalized) – Sancti Spiritus ~ Granma



Travel Times to/from the Two Major Ports (Mariel, Santiago de Cuba): Existing Case



Travel Times to/from the Two Major Ports (Mariel, Santiago de Cuba): Future Case with Full Autopista Network



18. Notes (if any)
NA

1. Project Code	RB003	2. Project Title	Immediate Action Plan for Critical Road and Bridge Sections

3. Implementation Agency	National Roads Center (CNV)/Provincial Roadway Centers (CPV), MITRANS	4. Implementation period			
5. Project cost (budget)	2,559 million CUP (102.4 million USD)	Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

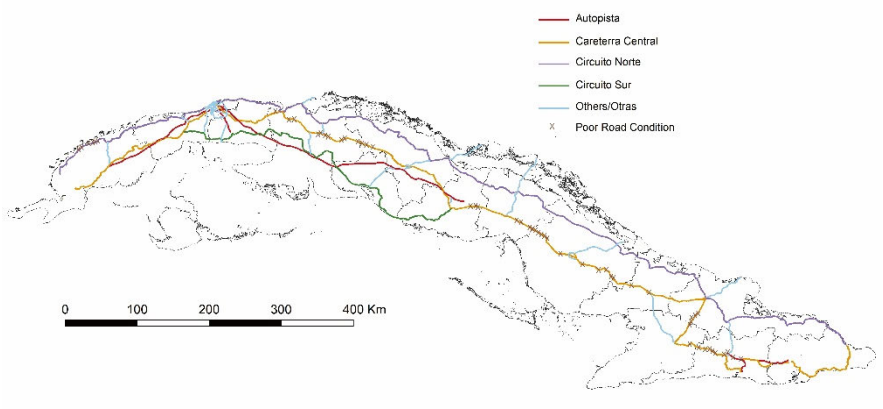
7. Sector			8. Project Priority	
	☐ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others		☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1, 2.2	2.1.1, 2.1.2, 2.2.1	2.1.1.1, 2.1.2.1, 2.2.1.1
3. Environment, safety, and security	3.1, 3.2	3.1.1., 3.2.1	3.1.1.1, 3.1.2.1, 3.2.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

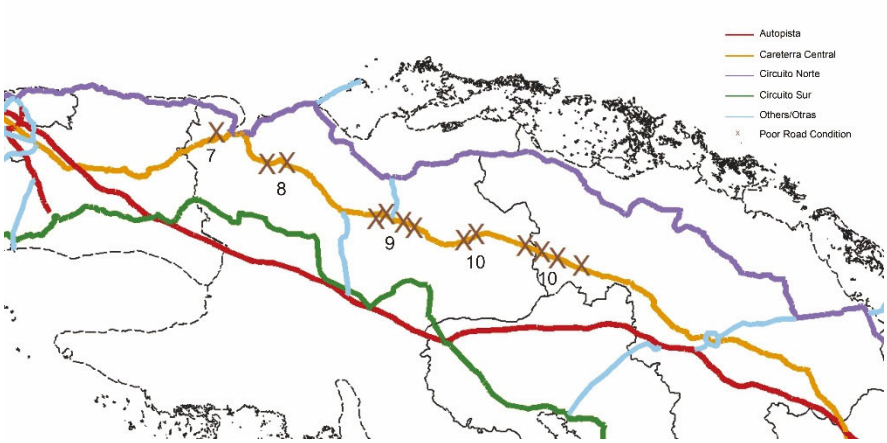
12. Purpose of the project	13. Expected Benefits/Outcomes
● To maintain a safe, convenient, and stable road transport network.	● Savings in Travel Time Cost (TTC) and Vehicle Operating Cost (VOC) (time-saving by using smooth roads and removing bottlenecks. ● Savings in (capital and) operational expenses ● Reduction of traffic accidents ● Reduction of pollution (environment)
14. Project Description	**15. Social-environmental consideration**
● To rehabilitate roads and bridges that are in critical condition.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – depending on the size and location
16. Relevant project(s)	
●	

17. Project location	Province:	Road: Matanzas, Pinar del Rio, Santiago de Cuba, Holguin, Las Tunas, and Camaguey Bridge: Habana, Mayabeque, Artemisa, Pinar del Rio, Matanzas, Villa Clara, Cienfuegos, Sancti Spiritus, Ciego de Avila, Holguin, Guantanamo, Santiago de Cuba, and Granma

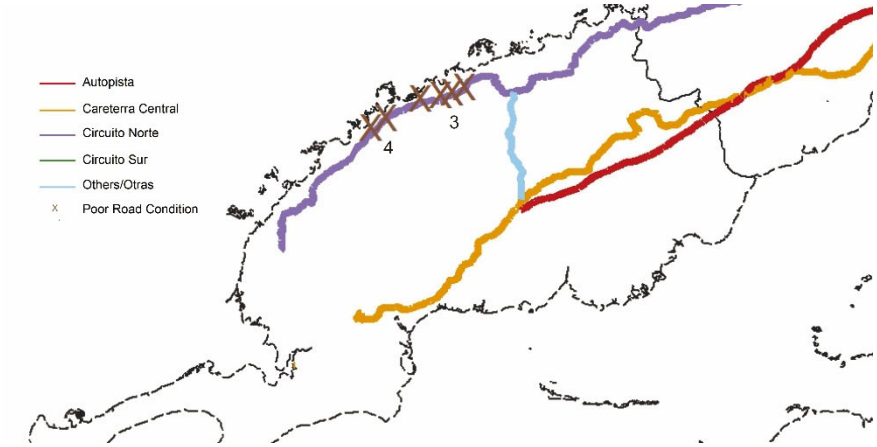
Critical Road Section – Full Map



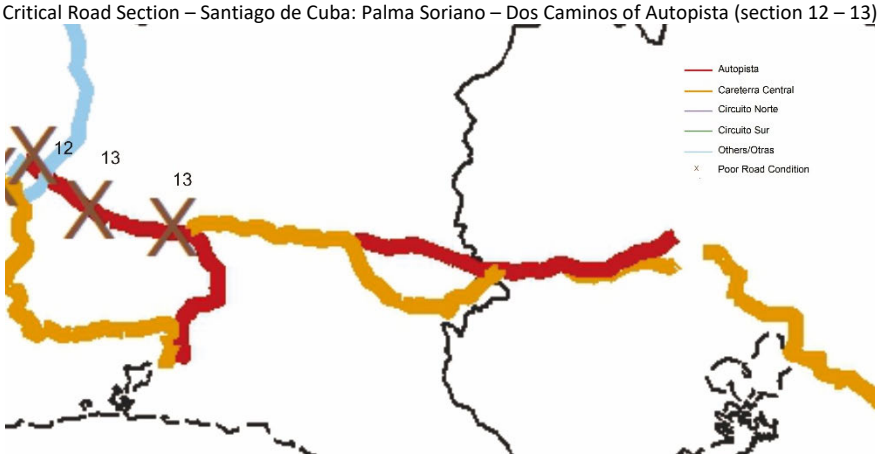
Critical Road Section – Matanzas – Santa Clara (section 9 – 10)



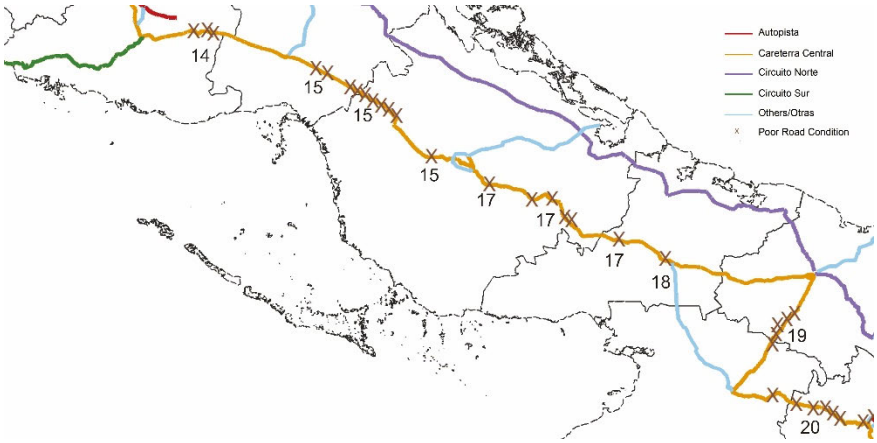
Critical Road Section – Pinar del Rio: San Cayetano – Rio del Medio (Section 3-4)



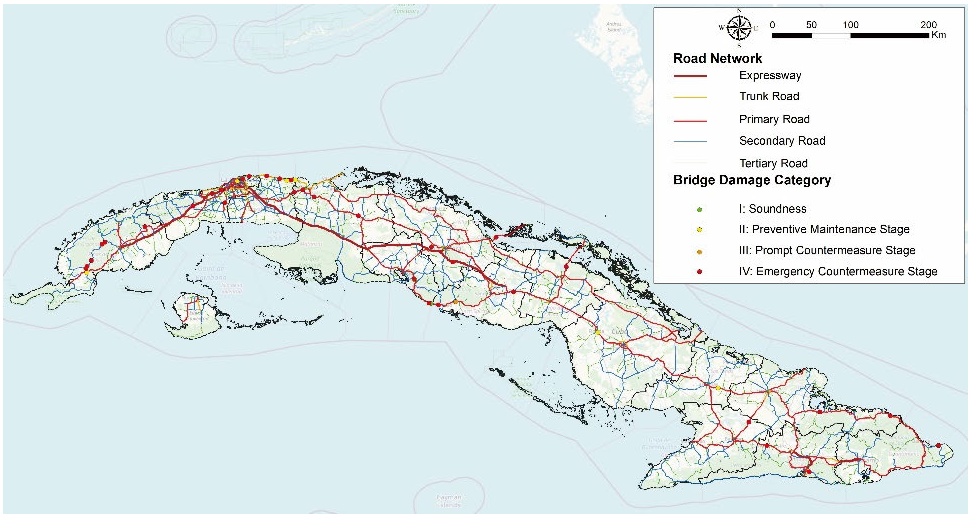
Critical Road Section – Santiago de Cuba: Palma Soriano – Dos Caminos of Autopista (section 12 – 13)



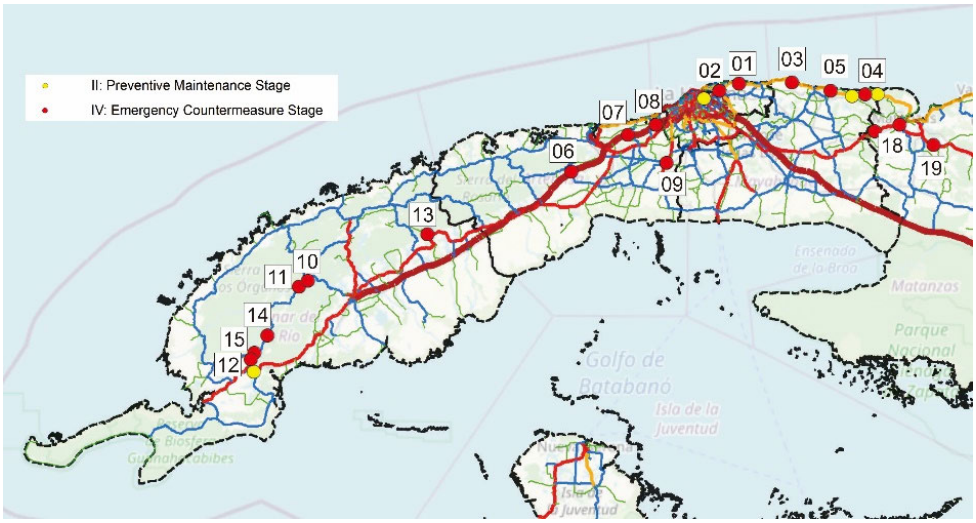
Critical Road Section – Holguin, Las Tunas, and Camaguey: Sancti Spiritus - Palma Soriano (section 14 – 20)



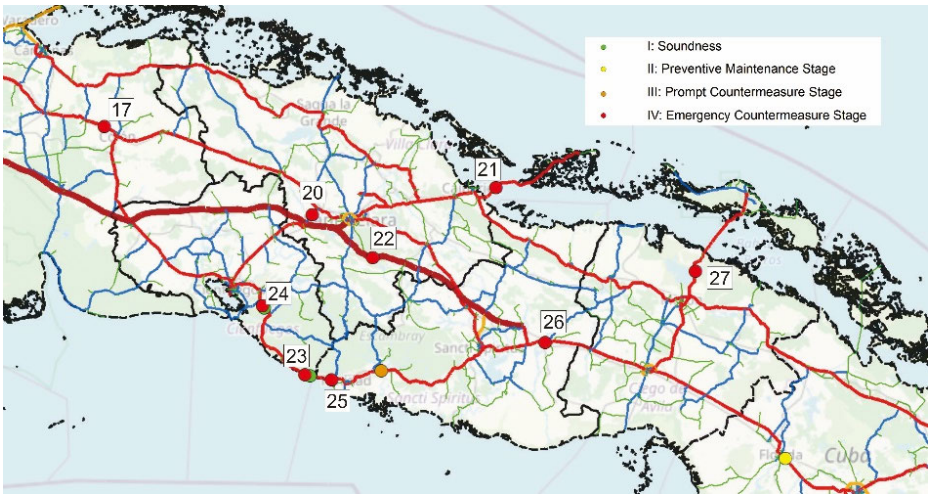
Critical Bridge Location



Critical Bridge Location – Pinar del rio, Artemisa, Habana, and Matanzas



Critical Bridge Location – Matanzas, Villa Clara, Cienfuegos, Sancti Spiritus, and Ciego de Avila



Critical Bridge Location – Holguin, Guantanamo, Santiago de Cuba, and Granma

18. Notes (if any)

List of Critical Road Section

No.	Section (Road)	Province	Length (km)
1	Matanzas – Santa Clara of Carretera Central (Section 9 - 10)	Matanzas	58.2
2	San Cayetano – Rio del Medio of Circuito Norte Western Side (Section 3 - 4)	Pinar Del Rio	16.7
3	Palma Soriano – Dos Caminos of Autopista (Section 12 - 13)	Santiago de Cuba	9.2
4	Sancti Spiritus - Palma Soriano of CC (Section 14 - 20)	Holguin, Las Tunas, Camaguey	112.3

List of 33 Critical Bridges

No.	Section (Bridge)	Province	Length (m)	Type of Road	Road Function	Tourism Route	AADT	HV Ratio	Cost		Type of bridge	Priority Group
									mil. USD	mil. CUP		
1	Puente sobre el Rio Tarara	Habana	210.0	Circuito Norte	Trunk Road	Yes	13,462	23%	6.48	162.1	beam bridge	1
2	Monumental sobre Via Blanca	Habana	78.3	Circuito Norte	Trunk Road	Yes	7,313	23%	2.42	60.4	beam bridge	1
3	Puente sobre el Rio Boca de Jaruco	Mayabeque	254.0	Circuito Norte	Trunk Road	Yes	4,763	23%	7.84	196.1	beam bridge	1
4	Puente sobre el Rio Puerto Escondido	Mayabeque	185.0	Circuito Norte	Trunk Road	Yes	3,604	34%	5.71	142.8	beam bridge	1
5	Puente sobre el Rio Jibacoa	Mayabeque	554.0	Circuito Norte	Trunk Road	Yes	4,315	34%	17.11	427.7	beam bridge	1
6	Puente Intereambio de Cayajabo	Artemisa	34.0	Autopista	Expressway	Yes	2,393	23%	1.05	26.2	beam bridge	3
7	Puente Aliviadero Presa La Coronela	Artemisa	45.0	Autopista	Expressway	Yes	4,310	23%	1.39	34.7	beam bridge	3
8	Puente Aliviadero Presa Maurin	Artemisa	107.0	Autopista	Expressway	Yes	N/A	23%	3.30	82.6	beam bridge	2
9	Puente sobre Ferrocarnl San Antonio de los Banos	Artemisa	40.0	Others	Primary	No	6,953	18%	1.24	30.9	beam bridge	4
10	Puente de Cabeza	Pinar del Rio	31.3	Others	Secondary	No	348	N/A	0.33	8.3	truss bridge	5
11	Puente de La Cruz	Pinar del Rio	31.3	Others	Secondary	No	348	N/A	0.33	8.3	truss bridge	5
12	Puente Arenales	Pinar del Rio	31.3	Others	Secondary	No	1,464	N/A	0.33	8.3	truss bridge	5
13	Puente La Guira	Pinar del Rio	31.3	Others	Tertiary	No	N/A	N/A	0.33	8.3	truss bridge	5
14	Puente Teneria	Pinar del Rio	178.5	Others	Secondary	No	169	N/A	1.90	47.5	truss bridge	5
15	Puente Metalico sobre el Cuyaguateje	Pinar del Rio	63.4	Others	Secondary	No	749	N/A	0.67	16.9	truss bridge	5
16	Puente de Cajones sobre el Rio San Juan	Matanzas	85.0	Carretera Central	Primary	No	2,590	39%	2.62	65.6	beam bridge	4
17	Puente Elevado La Jaiba	Matanzas	75.0	Carretera Central	Primary	No	4,413	16%	2.32	57.9	beam bridge	4
18	Puente Metalico San Agustin de la Carretera Centra	Matanzas	36.0	Carretera Central	Primary	No	1,892	39%	0.38	9.6	truss bridge	4
19	Puente Metalico Caninar Carretera Central	Matanzas	103.0	Carretera Central	Primary	No	5,349	39%	1.10	27.4	truss bridge	2
20	Puente Metalico sobre el Rio Sagua La Grante Km265	Villa Clara	61.5	Carretera Central	Primary	No	1,227	16%	0.65	16.4	truss bridge	4
21	Puente 5 del Pedraplen a Cayo Santa Maria	Villa Clara	65.6	Others	Primary	Yes	N/A	N/A	2.03	50.6	beam bridge	3
22	Puente de la Autopista sobre el Rio Agabama	Villa Clara	61.0	Autopista	Expressway	Yes	3,586	28%	1.88	47.1	beam bridge	3
23	Puente sobre Rio Hondo	Cienfuegos	336.0	Circuito Sur	Primary	Yes	N/A	14%	10.38	259.4	beam bridge	2
24	Puente de Amarilla	Cienfuegos	12.0	Circuito Sur	Primary	Yes	1,834	14%	0.37	9.3	beam bridge	3
25	Puente sobre Rio Canas	Sancti Spiritus	64.0	Circuito Sur	Primary	Yes	731	14%	1.98	49.4	beam bridge	3
26	Puente sobre el Rio Jatibanico	Sancti Spiritus	76.6	Carretera Central	Primary	Yes	2,660	48%	0.81	20.4	truss bridge	3
27	Puento Largo de Guillermo	Ciego de Avila	300.0	Others	Primary	Yes	749	N/A	9.26	231.6	beam bridge	3

28	Puente sobre el Rio Mayari	Holguin	170.0	Circuito Norte	Primary	Yes	N/A	31%	5.25	131.2	beam bridge	3
29	Puente de Punta Gorda	Holguin	120.0	Circuito Norte	Primary	Yes	N/A	30%	3.71	92.6	beam bridge	3
30	Puente sobre el Rio Yumuri	Guantanamo	125.0	Others	Secondary	No	N/A	N/A	3.86	96.5	beam bridge	5
31	Puente de San Juan	Santiago de Cuba	100.0	Autopista (Vial)	Primary	No	8,623	N/A	3.09	77.2	beam bridge	2
32	Puente Mecrio	Santiago de Cuba	52.0	Carretera Central	Primary	Yes	2,716	24%	0.55	13.8	truss bridge	3
33	Puente Metalico sobre el Rio Cauto	Granma	157.8	Carretera Central	Primary	Yes	1,756	24%	1.68	42.0	truss bridge	2
Priority 1									39.56	989.1		1
Priority 2									19.54	488.5		2
Priority 3									28.28	707.0		3
Priority 4									7.21	180.3		4
Priority 5									7.76	194.1		5
Total									102.36	2,559		

AADT: Average Annual Daily Traffic

HV ratio: heavy vehicle ratio

Construction priorities:

Considering Cuba's budget limitations, time, and resources, bridge reconstruction is divided into 5 phases. The phases are based on the level of urgency, as described below:

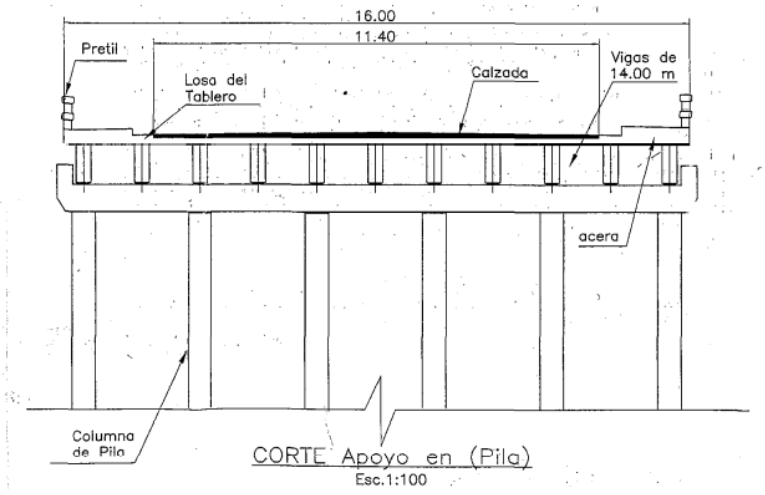
- Priority 1: Located along Circuite Norte (Via Blanca) that connects to Varadero, the most famous tourism spot in Cuba. Moreover, these bridges are located near Havana
- Priority 2: Bridges of over 100m in length on the corridor connecting Havana and Santiago de Cuba, which is considered to be the most important corridor for Cuba
- Priority 3: Bridges on the tourism route
- Priority 4: Bridges on the expressway or primary road
- Priority 5: The remaining bridges

Detail of First Phase Bridges for Reconstruction.

No.	Bridge Name	Bridge Length (m)	Bridge Width (m)	Superstructure Type
1	Puente sobre el Rio Tarara	210	16	RC Girder
2	Monumental sobre Via Blanca	78.3	10	RC Girder
5	Puente sobre el Rio Boca de Jaruco	254	16.8	RC Girder
7	Puente sobre el Rio Puerto Escondido	185	16	RC Girder
8	Puente sobre el Rio Jibacoa	554	16.8	RC Girder

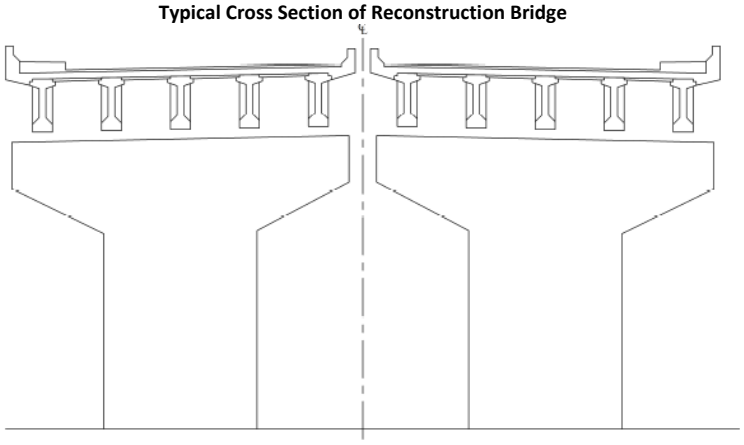
Bridges no. 1, 2, 5, 7, and 8 are located along Circuite Norte on the seaside (Via Blanca) near Havana, which connects to Varadero, one of the most famous tourist spots in Cuba. Since these five bridges have an essential role in connection, reconstruction of these bridges is highly recommended and selected as phase one. The second phase is five bridges with classification over 100 m in length on the route connecting Havana and Santiago de Cuba, which is considered the most important for Cuba. The third phase is eleven bridges located on the tourism route. The fourth phase is five bridges located on the expressway or primary road. Finally, the fifth phase is the seven remaining bridges. Currently, these bridges have a typical cross-section, as seen below figure.

Typical Cross Section of Existing Bridge



The first phase bridges are located near the seaside; PC Bridge is recommended to be applied in consideration of the difficulty of maintenance work for the steel girder type. The superstructure type of existing bridges is an RC girder; the span length is 14m. Thus, a 30~35m span length of PC-I Girder type is applicable. A typical cross-section construction can be seen below figure.

Typical Cross Section of Reconstruction Bridge



1. Project Code	RB004	2. Project Title	Procurement of Road Maintenance Machines and Equipment

3. Implementation Agency	Ministry of Transport	4. Implementation period			
5. Project cost (budget)	380 million CUP (15 million USD)	Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

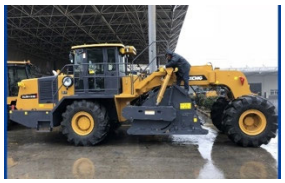
7. Sector	☐ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1	2.2.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To achieve comprehensive road improvement in the eastern provinces (Las Tunas, Holguín, Granma, Santiago de Cuba, and Guantánamo) ● To provide the necessary equipment to recover the main roads of the eastern provinces while minimizing negative environmental impacts within the existing state program.	● To increase mobility conditions for 3.97 million inhabitants, including travelers. ● To increase passenger and cargo transportation services by reducing cost and time of operation. ● To increase road safety with the consequent decrease in accidents. ● To develop the main road network of the eastern region with essential structuring and interconnection that allows greater efficiency and effectiveness in the use of means of transport.
14. Project Description	**15. Social-environmental consideration**
● To increase the condition of 93 main roads in the five provinces within Las Tunas, Holguín, Granma, Santiago de Cuba, and Guantánamo. ● To provide equipment for road improvement for stabilizer, recycler, earthwork, and paving equipment.	1) Social impacts – positive impacts, such as improving safe access roads between the cities, are expected. 2) Natural Environment – no impacts are expected 3) Pollution – pollution reduction by gas emission and gas during earthworks are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB003	

17. Project location	Province:	Las Tunas, Holguín, Granma, Santiago de Cuba and Guantánamo

18. Notes (if any)

			
Soil Stabilizers	Mobile Asphalt Plant	Asphalt Paver	Bulldozer
			
Front Loader	Grader	Emulsion Plant	Emulsion Tank

List of requested equipment:

1. Pavement recycling work
   - Soil stabilizer, cement spreader, emulsion tank, tractor truck, thermal tank semi - trailer for asphalt, compactor, grader, water tank, liquid asphalt sprinkler, and emulsion plant.
2. Support equipment for pavement recycling works
   - Soil test laboratory, a workshop for truck mechanics, truck lubrication plant, fuel truck, water tank with pump, platform truck, tractor, and low semitrailer.
3. Earthwork machines
   - Bulldozers, front loader, grader, compactor, a workshop for truck mechanics, water tank, and platform truck.
4. Equipment for asphalt pavement
   - Mobile asphalt plant, compactor, front loader, liquid asphalt sprinkler, water tank, dump truck, thermal tank semi-trailer for asphalt, semitrailer, multipurpose sweeping roller, concrete and asphalt plate cutting machine, a workshop for truck mechanics, and truck.

MITRANS initially requested the list in Table 1 in 2016. The equipment types in the list were mainly gathered for the asphalt pavement works. However, because of their high versatility, many types overlap, such as bulldozers, motor graders, dump trucks, etc. Thus, this equipment should be the core of the optimized component.

Table 1 List of Heavy Equipment (requested by MITRANS)

Category	Item			Amount	
	No.	Name of item	Quantity	Unit Price USD (thousand)	Total USD (thousand)
Principal equipment for pavement recycling work	1	Road stabilizer	1	708.4	708.4
	2	Cement Spreader	1	91.8	91.8
	3	Emulsion tanker (self-propelled)	1	121.2	121.2
	4	Tractor truck	4	66.7	266.8
	5.	Asphalt thermal tank on a semi- trailer	2	55	110
	6	Cement silo on a semi-trailer	2	45	90
	7	Tamping roller (vibratory type)	1	150	150
	8	Vibratory compactor (combined type)	1	99.8	99.8
	9	Motor grader	1	166.7	166.7
	10	Vibratory compactor (tandem type)	1	141.7	141.7
	11	Water tanker truck (with pump)	1	63.7	63.7
	12	Asphalt distributor	1	104.2	104.2
	13	Emulsion plant	1	215	215
		SUBTOTAL	18		2,329.30
Support equipment for pavement recycling work	14	Laboratory of soil testing	1	50	50
	15	Mechanical workshop (truck mounted type)	1	114	114
	16	Plant for lubricant (truck mounted type)	1	65.4	65.4
	17	Fuel tank (truck mounted type)	1	79.6	79.6

	18	Water tanker truck (with pump)	1	63.7	63.7
	19	Flat body truck with hydraulic crane	1	75	75
	20	Flat body truck	1	49.5	49.5
	21	Tractor truck	1	66.7	66.7
	22	Semi-trailer (low bed)	1	42.3	42.3
		SUBTOTAL	9		606.2
Principal equipment for earthworks	23	Bulldozer	2	286.6	573.2
	24	Bulldozer	1	179.2	179.2
	25	Wheel loader	2	249.7	499.4
	26	Motor grader	2	166.7	333.4
	27	Tamping roller (vibratory type)	2	150	300
	28	Water tanker truck (with pump)	2	65	130
	29	Dump truck	21	72.8	1528.8
	30	Mechanical workshop (truck mounted type)	1	111	111
	31	Flat body truck	1	49.5	49.5
		SUBTOTAL	34		3,704.50
Equipment for asphalt pavement	32	Mobile asphalt plant (Discontinue type)	1	850	850
	33	Asphalt paver	1	333.5	333.5
	34	Vibratory compactor (combined type)	1	99.8	99.8
	35	Vibratory compactor (tandem type)	1	77.5	77.5
	36	Wheel loader	1	249.7	249.7
	37	Asphalt distributor	1	104.2	104.2
	38	Water tank with pump	1	65	65
	39	Dump truck	12	72.8	873.6
	40	Tractor truck	4	66.7	266.8
	41	Asphalt thermal tank on a semi- trailer	3	55	165
	42	Semi-trailer (low bed)	1	42.3	42.3
	43	Multipurpose sweeping roller	1	40	40
	44	Asphalt & concrete cutter	1	15	15
	45	Mechanical workshop (truck mounted type)	1	111	111
	46	Flat body truck	1	49.5	49.5
		SUBTOTAL	31		3,342.90
		TOTAL	92		**9,982.90**

MITRANS originally listed List No. 1 – 29 in Table 2 as it was intended to reflect the necessity in Cuba accurately. Furthermore, some equipment with high versatility, but not stated previously in the original list, are added as mentioned in list A1 – A3. Those will boost efficient operation and management in the overall civil work industry.

The price is updated based on these conditions:

- The equipment price (No. 1 – 29) is updated by applying the inflation rate in Japan.
- (2016 – 2019: 2.04% designated by the IMF).
- The equipment price (No. A1 – A3) is quoted from researched prices (2019), based on cost estimates of civil work projects in Japan; 20% of the price is added as transportation cost.

Table 2 Equipment Component for the Grant Aid Program (Draft)

No.	Type of Equipment	Specification	Quantity	Price	Amount
				thousand USD	
1	Road stabilizer	Work capacity: 1000/1200m2/hr. Containing an automatic system of spraying and cleaning. Air-conditioned cabin for operator.	1	722.9	722.9
2	Cement Spreader	Cargo capacity: 5.0tons	1	93.7	93.7
3	Emulsion tanker (self-propelled)	Tank capacity: 10m^3	1	123.7	123.7
4	Tractor truck	6x4 drives. Power: 380-400HP. Cargo capacity: 20tons	9	68.1	612.5
5.	Asphalt thermal tank on a semi-trailer	Tank capacity: 25-30m3. Heating system: Max. 180°C	5	56.1	280.6

6	Cement silo on a semi-trailer	Capacity: 20-25 tons	2	45.9	91.8
7	Tamping roller (vibratory type)	Weight: 15 tons	3	153.1	459.2
8	Vibratory compactor (combined type)	Weight: 8/10tons. 1 roller & 4 wheels	2	101.8	203.7
9	Motor grader	Power: 130-135Kw	3	170.1	510.3
10	Vibratory compactor (tandem type)	Weight: 10/12tons. 2 vibration rollers	2	144.6	289.2
11	Water tanker truck (with pump)	Tank capacity: 10m3	5	65.0	325.0
12	Asphalt distributor	Cargo capacity: 10m3, 3axes	1	106.3	106.3
13	Emulsion plant	Production capacity: 5tons/hr	1	219.4	219.4
14	Laboratory of soil testing	Contains necessary equipment	1	51.0	51.0
15	Mechanical workshop (truck mounted type)	4x4 drive, containing standard equipment. Hydraulic crane/arm capacity: 10 tons	3	116.3	116.3
16	Plant for lubricant (truck mounted type)	4x4 drives, 6 axles	1	66.7	66.7
17	Fuel tank (truck mounted type)	Tank capacity: 20 tons with pump	1	81.2	81.2
18	Flat body truck with a hydraulic arm	Loading capacity: 15 – 20 tons, hydraulic crane: 10 tons	1	76.5	76.5
19	Flat body truck	Load capacity: 4.1 – 5.0 tons	5	50.5	151.5
20	Semi-trailer (low bed)	Cargo capacity: 55/60 tons. 5 axles	2	43.2	86.3
21	Bulldozer	Power: 22- - 240 HP	2	292.4	584.9
22	Bulldozer	Power: 150 – 170 HP	1	182.9	182.9
23	Wheel loader	Bucket capacity: 2.5 – 3.0 m3	3	254.8	764.4
24	Dump truck	Load capacity: 17/18 tons (12m3)	33	74.3	2,452.4
25	Mechanical workshop (truck mounted type)	4x4 drive, containing standard hydraulic crane/arm capacity: 10 tons	1	111.0	111.0
26	Asphalt paver	Work capacity: 450 – 500 tons/hr. Pavement width: 3 – 8 m	1	340.3	340.3
27	Asphalt distributor	Cargo capacity: 10 m3, 3 axes	1	106.3	106.3
28	Multipurpose sweeping roller	Power: 80 – 100 HP	1	40.8	40.8
29	Asphalt & concrete cutter		1	15.3	15.3
A1	Excavator	Bucket: 0.6 – 0.8m^3	3	145.1	435.3
A2	Rough terrain crane	Load: 25t	3	260.7	782.1
A3	Erectile generator	50/60kVA	5	26.7	133.5
	TOTAL		103		**11,605**

The provision of heavy equipment should consider the spare parts and technical support costs. Therefore, the original list secured approximately 15% of the total equipment for spare parts (2016). However, considering the “lack of spare parts” that has been determined to be one of the most critical issues in Cuba, strengthening this portion is essential. Thus, 20% of the total amount of the equipment is secured in the estimate. In addition, for technical support to install the equipment in Cuba, 10% of the equipment is required.

Table 3 Total Estimated Cost for Requested Equipment with Additional Cost of Grant Aid Program

1. Cost of equipment (incld. Transport fee)	Total 103 items	USD 11,605,000
2. Spare parts	20% of “1”	USD 2,321,000
3. Technical Support	10% of “1”	USD 1,160,500
Total Amount		**USD 15,086,500**

1. Project Code	RB005	2. Project Title	Plan of the Road Network for Heavy Vehicles (Routes for Heavy Vehicles and Dangerous Goods)

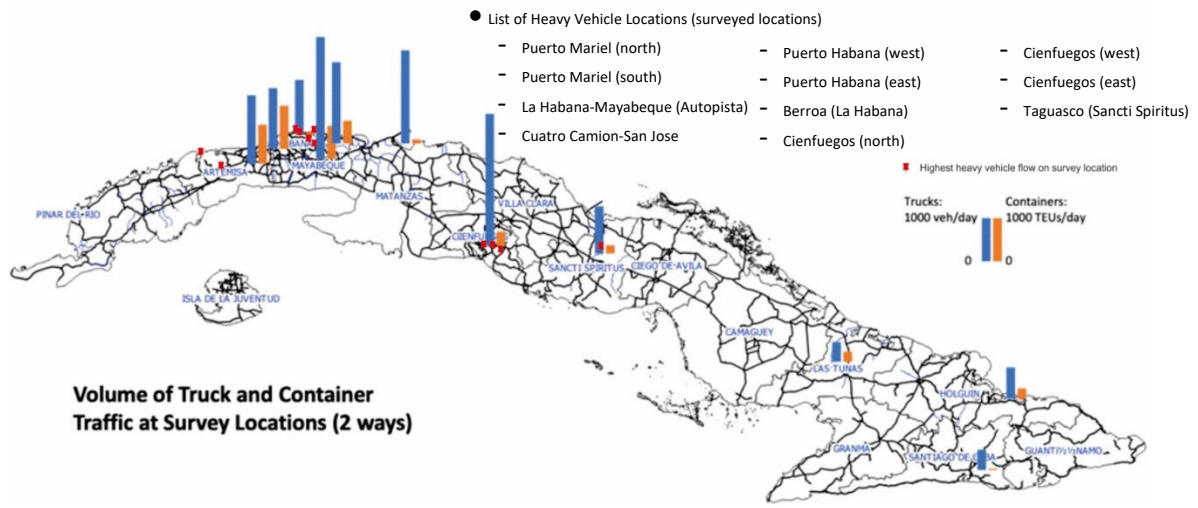
3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

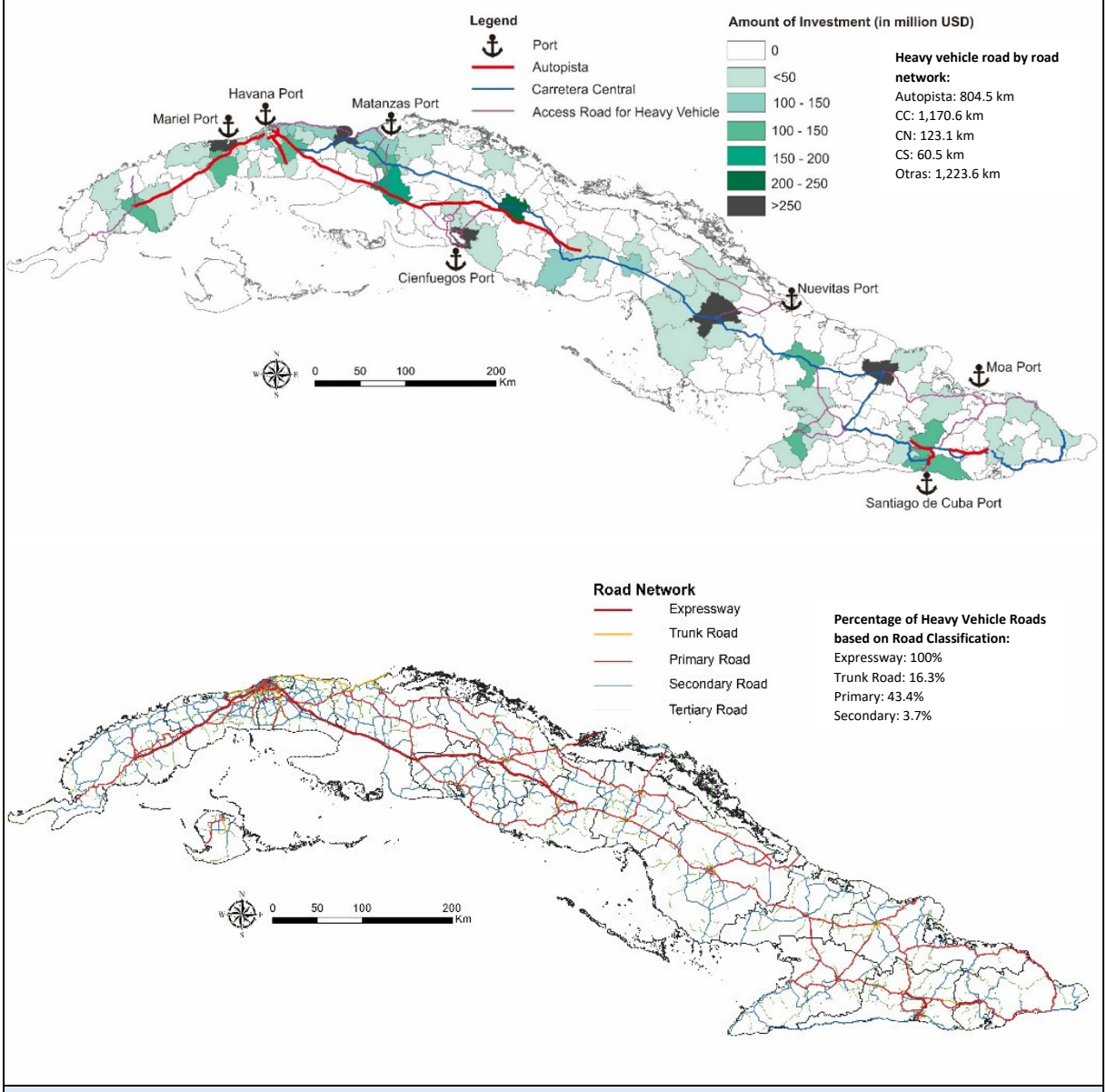
7. Sector				8. Project Priority	
	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others			☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3, 2.4, 2.5, 2.6	2.2.1 ~ 2.5.1, 2.6.1	2.3.1.1~2.5.1.1, 2.6.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1	5.1.2	5.1.2.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To implement an efficient cargo transportation network in the area or province with a high volume of heavy vehicles by considering cargo transportation demand.	● To increase the mobility of cargo transportation services by reducing cost and time of operation. ● To increase road safety with the consequent decrease in accidents. ● To develop the main road network for cargo transportation in three major regions with a high concentration of inter-provincial cargo transport, such as Artemisa, La Habana, Mayabeque, Cienfuegos, Sancti Spiritus, and Matanzas.
14. Project Description	**15. Social-environmental consideration**
● To improve the condition of roads with high container traffic volumes that are outstanding within Autopista around the Havana region (Artemisa (Mariel Port) – Havana – Mayabeque).	1) Social impacts – positive impacts, such as improving safe access roads between the cities, are expected. 2) Natural Environment – no impacts are expected 3) Pollution – pollution reduction by gas emission and gas during earthworks are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB002	

17. Project location	Province:	Artemisa, La Habana, Mayabeque, Cienfuegos, Sancti Spiritus and Matanzas





18. Notes (if any)

1. Project Code	RB006	2. Project Title	Cuba ITS Development Plan

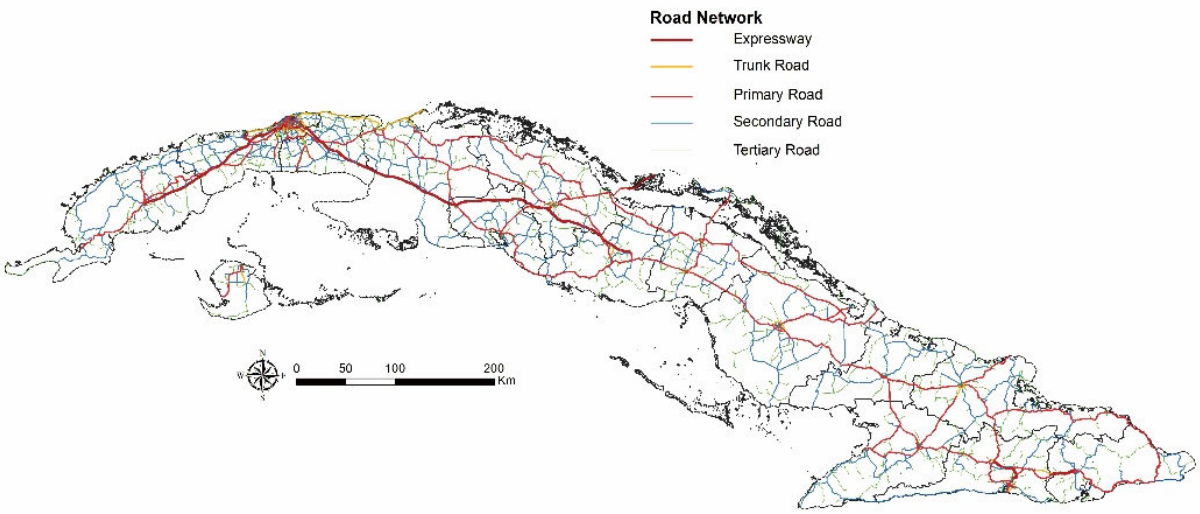
3. Implementation Agency	MITRANS The Ministry of Science, Technology, and Environment (CITMA)	4. Implementation period			
5. Project cost (budget)	75 million CUP (3.0 million USD)	Start	2025	End	2027
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.5	1.1.1, 1.5.1	1.1.1.1, 1.5.1.1
2. Transport infrastructure development			
3. Environment, safety, and security	3.1, 3.4	3.1.2, 3.4.1	3.1.2.1, 3.4.1.1
4. Transport service and industry development	4.1	4.1.2	4.1.2.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the mobility of people and goods. ● To increase safety, reduce traffic congestion, and manage incidents effectively. ● To provide various information and communication technologies to all mode's passenger and freight transport ● To identify appropriate transport sector policies (demand management or public transport priority measures)	● Improve traffic flow by reducing congestion ● Quickly detect incidents and appropriately respond to them. ● Improve air quality by reducing pollution by minimizing travel delay ● Improve safety by providing a warning before a potential accident situation ● Minimize the impact of environmental and human factors that contribute to an accident ● Ensuring the road network operates in the most efficient, safe, and sustainable ● Availability of travel information through system applications that allow road users to make an informed decision on their travel choices (road guidance or driver information)
14. Project Description	15. Social-environmental consideration
● To promote research and development (R&D) in the ITS field, which aims to provide innovative services relating to different modes of transport and traffic management.	1) Social impacts – positive impacts are expected 2) Natural Environment – positive impacts are expected 3) Pollution – positive impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB012	

17. Project location	Province:	All Provinces



18. Notes (if any)

The Early Years of ITS

The early years of ITS were championed by a handful of countries – including the United States, Canada, many European countries, Japan and Australia. In the USA, for example, several transport reauthorization bills – from the 1991 Intermodal Surface Transportation Efficiency Act (or ISTEA) onwards, encouraged the deployment of ITS and the search for advanced technology applications in transport. Many Field Operational Tests (FOT) were also undertaken – designed to test the feasibility of implementing the technology-based solutions, as well as provide information on their likely costs and benefits

ITS Nowadays

Recent years have witnessed a renewed and increased interest in connected and autonomous (self-driving) vehicles – which can be regarded as the latest phase in the evolution of ITS. Third and fourth-generation digital mobile telecommunications have enabled higher levels of connectivity between vehicles and the infrastructure, coupled with greater vehicle automation. This may radically change the way that motor vehicles are driven and the way that road traffic is managed.

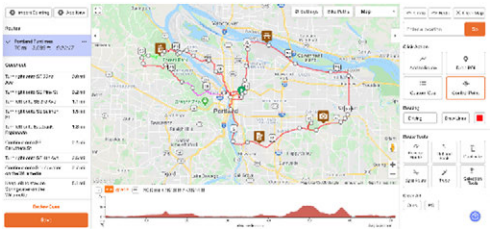
The principal applications of ITS – that contribute to road network operations are:

- Traffic and road network management
- Traveler information systems
- Public transport systems
- Commercial vehicle applications
- Vehicle safety applications
- Maintenance and construction management applications
- Emergency management
- Archived data management

Traffic Control Center - Traffic and road network management

Source:
http://www.colosseoeas.com/en/news/Colosseo-proven-Single-Media-Platform-technology-controls-new-Traffic-Control-Center-in-Istanbul.html

Mobile Route Planner – Travel information systems

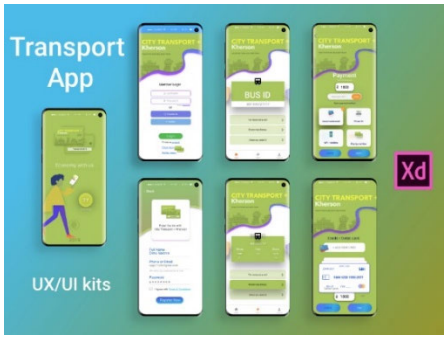


Source: https://ridewithgps.com/help/route-planner

Contactless Payment Technology (Smart Card in Use for Transit in Finland) – Public Transport System

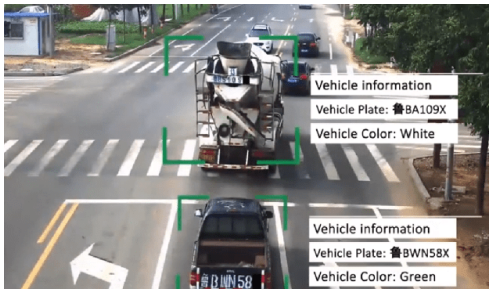
Source: https://en.wikipedia.org/wiki/File:Matkakortti_ja_kortinlukija.jpg

Public Transport Application - Commercial vehicle applications



Source: https://www.uplabs.com/posts/public-transport-app-design-ui-ux-kits

Camera-based ITS solution for automated detection - Vehicle safety applications

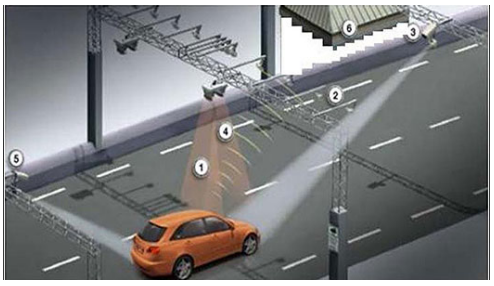


Source: https://rno-its.piarc.org/en/network-operations-its-road-safety/policing-enforcement

Road weather information system - Maintenance and construction management applications

Source: https://commons.wikimedia.org/wiki/File:2012-06-26

Emergency response through CCTV – Emergency Management



Source: https://www.pcb.its.dot.gov/eprimer/module8.aspx

Data management through Geographic Information Systems technology - Archived data management

Source: https://apps.apple.com/us/app/gis-kit/id429688355

1. Project Code	RB007	2. Project Title	Pedestrian Facility Development Plan & Construction for Better Environment

3. Implementation Agency	MITRANS, CNV		4. Implementation period			
5. Project cost (budget)	125 million CUP (5.0 million USD)		Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

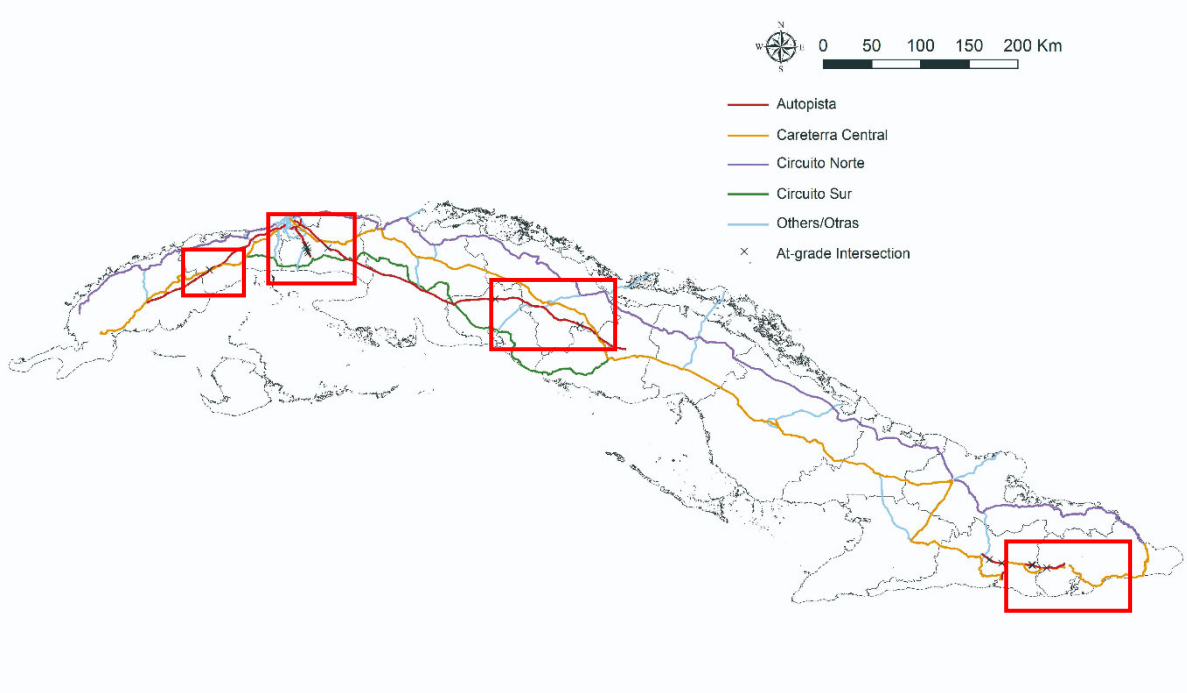
7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1, 3.2, 3.4	3.1.1, 3.1.2, 3.2.1, 3.4.1	3.1.1.1., 3.1.2.1, 3.2.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

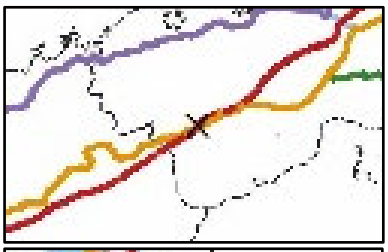
12. Purpose of the project	13. Expected Benefits/Outcomes
● To contribute to safety and comfort on the road ● To support smooth traffic flow by improving the safety of driving	● Establishment of pedestrian facilities in the form of safe crossing facilities or overpasses. ● Increase road safety with the consequent decrease in accidents.
14. Project Description	**15. Social-environmental consideration**
● Provide pedestrian facilities in the form of safe crossing facilities or overpasses in expressways to separate pedestrian, cyclist, and motorized vehicles to give a sense of safety for both motorized and non-motorized.	1) Social impacts – positive impacts are expected, such as more pedestrians can walk safely. 2) Natural Environment – more well-arranged pedestrian paths are expected 3) Pollution – no significant impact is expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Artemisa, Mayabeque, Cienfuegos, Villa Clara, Santiago de Cuba, and Guantanamo

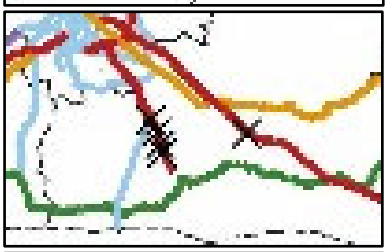
Pedestrian Facilities Development for Better Environment comprises safe pedestrian facilities located at at-grade intersections in expressways (Autopista) in several provinces.



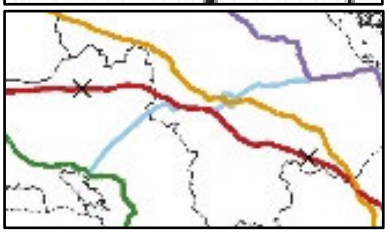
1 location in Artemisa Province



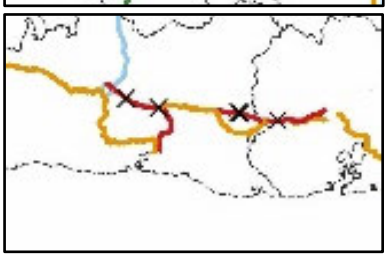
5 locations in Mayabeque Province



1 location in Villa Clara Province and 1 in Cienfuegos



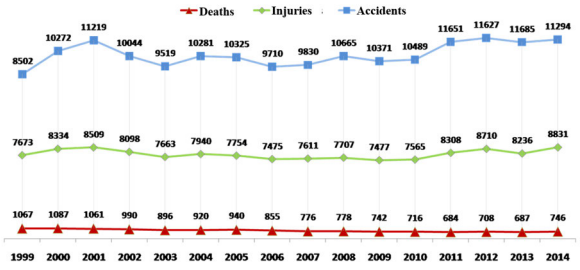
1 location in Guantanamo Province and 4 in Santiago de Cuba



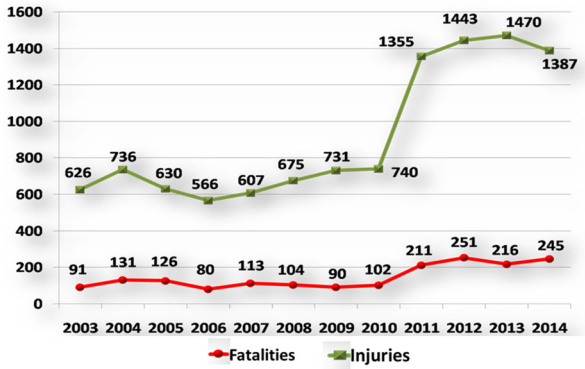
18. Notes (if any)

Background

While the number of fatalities and injuries over the past few years is stable, the number of pedestrian traffic fatalities and injuries is upward. According to the latest data from 2014, pedestrian fatalities account for about one-third of the total fatalities in traffic accidents. Therefore, improvement of road safety facilities such as lighting, guard rails, delineators, safety signboards, etc., may increase the safety and comfort of the roads with minimum investment.



The trend in the Number of Traffic Accidents, Fatalities, and Injuries



The trend in the Number of Fatalities and Injuries in Accidents Involving Pedestrians

The current existence of interchanges and grade separations in Expressway (Autopista) enables cyclists and pedestrians to enter the motorway, which is dangerous for all road users.

At-grade Intersections on the Expressway (Autopista)

Example of Safe Pedestrian Facilities

Pedestrian Crossing

Pedestrian Bridge

1. Project Code	RB008	2. Project Title	Construction of stop & rest road stations (MICHI NO EKI) along main roads

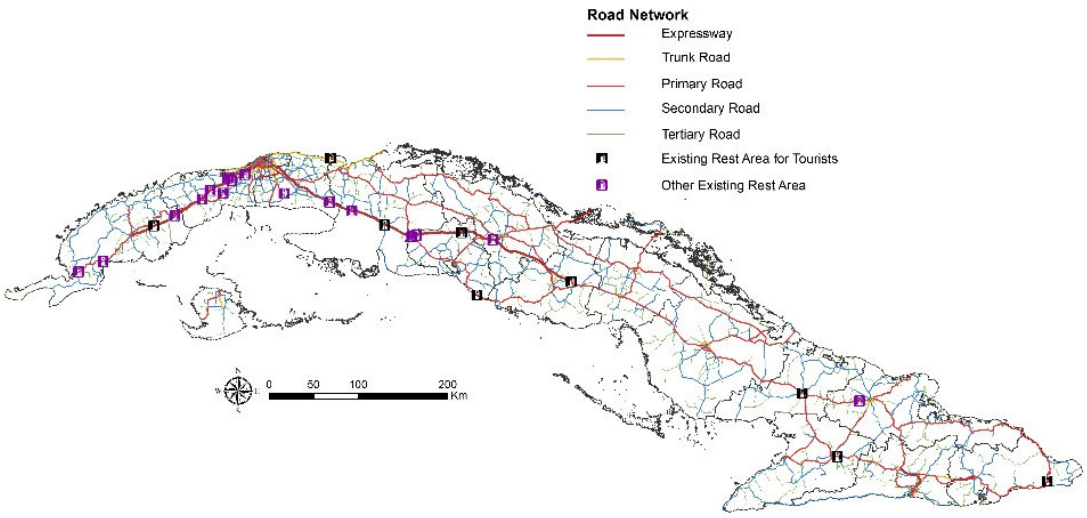
3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	1.25 billion CUP (50 million USD)			Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☒ Foreign Investors				

7. Sector				8. Project Priority	
	☐ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☒Institution/Regulation ☒Relevant business and others			☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.5	2.5.2	2.5.2.1
3. Environment, safety, and security			
4. Transport service and industry development	4.1, 4.2	4.1.1, 4.1.2, 4.2.1, 4.2.2, 4.2.3	4.1.1.1, 4.1.2.1, 4.2.2.1, 4.2.3.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.3	6.3.1	6.3.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● To promote local tourism and trade through local community participation ● To contribute to safety and comfort on the road ● To collect and disseminate traffic information to the road user and residents ● To support smooth traffic flow by improving the safety of driving ● To provide convenient places and other quality services for travelers to rest	● Provide business opportunities to local communities ● Improve economic activity in the sector of tourism and trade service ● To increase road safety with the consequent decrease in accidents ● Reduction of pollution (environment) through the provision of green area
14. Project Description	**15. Social-environmental consideration**
● Providing roadside facilities adopting Michi-no-Eki in the form of convenient rest areas with other quality services, including media to promote local specialty product	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – requires
16. Relevant project(s)	
●	

17. Project location	Province:	Pinar del Rio, Artemis, Mayabeque, Matanzas, Cienfuegos, Villa Clara, Sancti Spiritus, Las Tunas, Granma, and Guantanamo

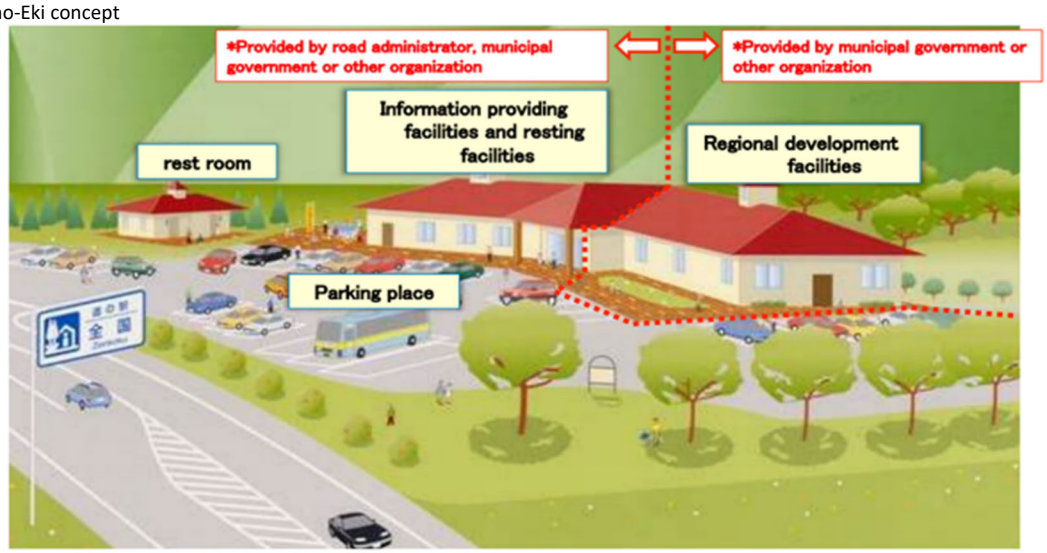


18. Notes (if any)

Michi-no-Eki

Michi no Eki is a public-private partnership concept where the local community/community can play an independent role in its management, especially in suburban and rural areas traversed by highways. The design of Michi no Eki is a rest area that provides a comfortable resting place and other quality services for road users and residents. Michi-no-Eki plays 3 different roles; "a place for resting" for road users, "a place to provide information" for both road users and locals, and "a place to facilitate local communications".

Michi-no-Eki concept



Source MLIT, translated by JST

In Japan, the government provides conditions for the construction of Michi no Eki, including:

- The location is on the edge of the highway and easily accessible by road use
- The services include parking lots, toilets, public telephones, information rooms
- Free parking areas, clean toilets, and information rooms provide information on traffic, local communities, and supporting facilities such as restaurants, mini markets, and others.
- The local government or community institution is in charge of the facility's operation
- Easy access for children, adults, parents, and people with disabilities and attention to the local spatial plan.

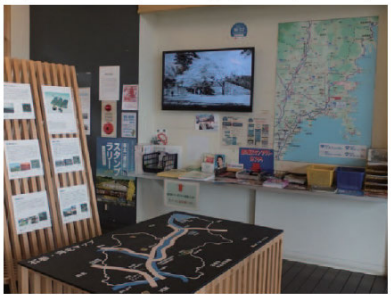
Michi no Eki resting facilities

Toilets are in operation 24 hours a day. Clean, convenient toilets translate into increases in visitors to Michi-no-Ekis.

Restaurants serving local specialties

Various road users, such as those in passenger cars and heavy trucks, can stop by easily.

Michi no Eki facilities for information



Roadmaps featuring nearby facilities are provided, as are real-time images of road conditions.

Information provision by means of local information magazines

An example of a tourist information center operated by a tourist association at a Michi-no-Eki
(https://www.hakobura.jp/db/db-shopping/2016/02/post-86.html)

Michi no Eki Facilities for Regional Development

A space for meetings to pursue local activities

Agricultural products harvested in the early morning are sold the same day.

Road users purchase local products, thereby invigorating the local economy.

Source: Handbook on Michi-no-Eki for International cooperation

Example of Michi No Eki in Japan

Michi-no-Eki Fujiyoshida

Michi-no-Eki Narusawa

Michi-no-Eki Katsuyama

Source: https://www.mt-fuji.gr.jp/en/michi-no-eki/

The World Bank adopted the concept and name of “Michinoeki” to provide similar facilities in developing countries. The World Bank published detailed guidelines, and pilot studies were done in China and Kenya, followed by many projects in Asia and Africa. In Japan, JICA Hokkaido Center has performed training for eight countries in Central Asia and the Caucasus area from 2013 to 2015. In addition, in 2017, Michi-no-Eki training was done for seven countries in Central America and the Caribbean Sea. As of 2018, Japan had 1,145 Michi-no-Eki, which is still growing.

1. Project Code	RB009	2. Project Title	Neo-mobility Project

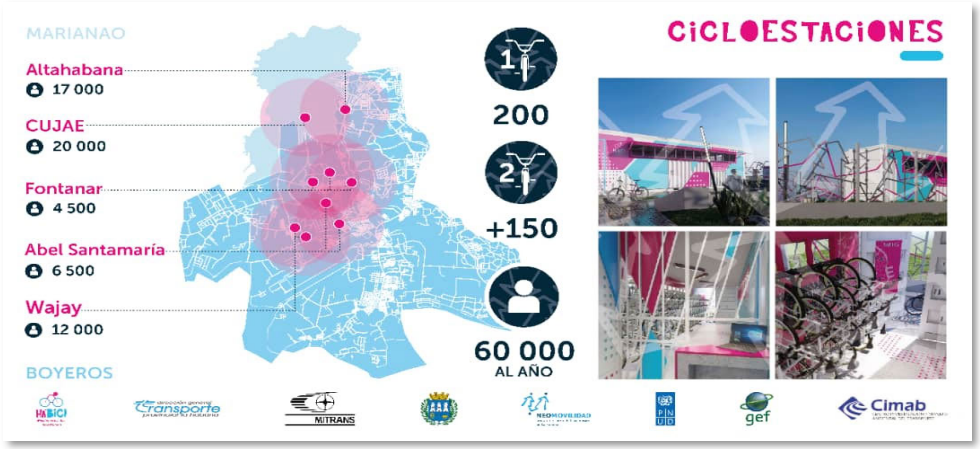
3. Implementation Agency	United Nations Development Program (UNDP) General Directorate of Transportation of Havana Province (DGTPH)	4. Implementation period			
5. Project cost (budget)	435 million CUP (17.4 million USD)	Start	2019	End	2023
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3, 3.4	3.3.1, 3.4.1	3.3.1.1, 3.4.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To promote the implementation of a low-carbon urban transportation system in the city of Havana ● To provide multiple benefits - locally and globally - through integrating urban transportation, physical planning, and urban mobility.	● Establishment of an updated policy and operational framework for sustainable public transport that promotes sustainable mobility and a more resilient urban environment. ● Improve the public transport system through a Public Bicycle System (PBS) and Transit-Oriented Development (TOD) measures. ● Development of innovative pilot interventions related to investments for low-carbon urban transport validated. ● Creating systematic monitoring of project indicators and reviewing ongoing activities to ensure successful project implementation.
14. Project Description	**15. Social-environmental consideration**
● The development of a low carbon transportation system pilot in Fontanar, through: ○ The pilot of a public bicycle system, with 9 bicycle stations and 300 bicycles ○ Network of routes with 25 electric tricycles that will provide service to the Fontanar, Abel Santamaria, and Wajay areas. ○ Transport-oriented development measures: urban inter-modal station, intelligent traffic light system, improvement of the environment through tactical urban planning, bicycle lanes, etc. ○ Testing of an electric car, which is purchased by the project. ○ Technical capacity building for the Center for Environmental Management of Transportation (Cimab) to carry out traffic and mobility studies and monitor emissions from mobile sources with equipment acquired by the project.	1) Social impacts – positive impacts such as access improvement and a better lifestyle due to cycling are expected. 2) Natural Environment – no impacts are expected 3) Pollution – pollution reduction by gas emission 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB006 and RB012	

17. Project location	Province:	La Habana	City:	Havana



18. Notes (if any)

- The implemented action:

Public bicycle

Electric car

Mobile application to monitor emission

- Developed revision and updated regulatory documents on low-emission transport by elaborating four new standards to guide Sustainable Urban Mobility. Their respective Standards Committees review the proposed requirements for controlling environmental pollution from exhaust gas emissions produced by road transport vehicles and the standard for Public Bicycle Systems.
- In addition, the project also aims to produce technical reports on gender and generational gaps, electric vehicles, and bicycles, to support and promote updating some regulations.

1. Project Code	RB010	2. Project Title	Study on toll roads, pricing for international cargo transport (containers), and affordable prices for Cubans in new tolls

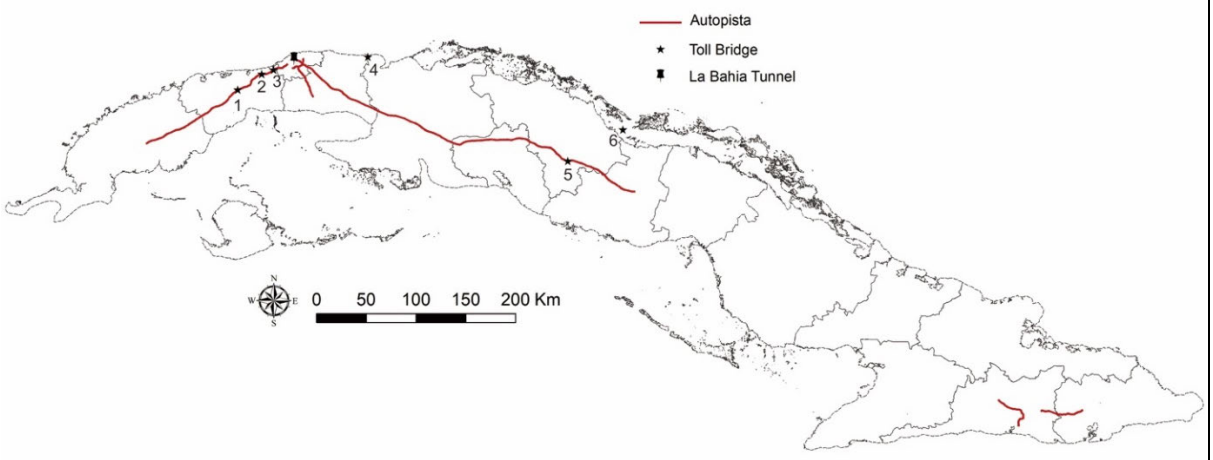
3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	-			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector				8. Project Priority	
	☒ Transport Planning	☐ Logistics/Cargo			☒ Immediate (2022 – 2023)
	☒ Road/Bridge	☐ Bus passenger transport			☒ Short-term (2024 – 2026)
	☐ Railway	☐ Environment			☐ Medium-term (2027 – 2030)
	☐ Aviation	☒ Institution/Regulation			
	☐ Port/Maritime	☒ Relevant business and others			

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.4	2.4.1	2.4.1.1
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.1	4.1.1.1
5. Transport pricing and resource allocation	5.4	5.4.1	5.4.1.1
6. Institutional and regulatory development	6.2	6.2.1	6.2.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● To develop the PPP scheme that applies and is fit for international cargo transport and new development toll roads in Cuba, including optimizing the private sector capabilities. ● To prepare and suggest the legal framework for accelerating the implementation of the PPP scheme in road sectors.	● To establish reasonable toll rates for international cargo transport and national and international visitors with better services to road users. ● To provide business opportunities for developing road infrastructure, operation, and maintenance involving private sectors. ● Establish a PPP scheme that separates the government's responsibility and each stakeholder as risk mitigation.
14. Project Description	**15. Social-environmental consideration**
● To analyze several options of PPP schemes, including the advantages and disadvantages of each scheme, by considering several aspects of private sector involvement, type of loans, subsidy, and service payment. ● To gain support from policymakers, budgeting agencies, and international donors during the study to create a successful implementation.	1) Social impacts – positive impacts are expected, such as improvement in users' experiences and safe access to the road between the cities. 2) Natural Environment – no impacts are expected 3) Pollution – no impacts are expected 4) Environmental Impact Assessment (EIA) – stakeholders meeting required to enhance the certainty level of stakeholders.
16. Relevant project(s)	
● -	

17. Project location	Province:	Artemisa, La Habana, Mayabeque, Cienfuegos, Sancti Spiritus, Villa Clara and Matanzas



18. Notes (if any)

List of Toll Bridge and Tunnel

No.	Bridge/Tunnel	Province	Status
1	Puente Intereambio de Cayajabo	*Artemisa*	Existing
2	Puente Aliviadero Presa La Coronela	Artemisa	Existing
3	Puente Aliviadero Presa Maurin	Artemisa	Existing
4	Les Elevadas de Via Blanco / varadero	Mayabeque/Matanzas	Existing
5	Puente de la Autopista sobre el Rio Agabama	Villa Clara	Existing
6	Puente 5 del Pedraplen a Cayo Santa Maria / santa maria	Villa Clara	Existing
7	La Bahia Tunnel or Havana Tunnel	Havana	Existing

1. Project Code	RB011	2. Project Title	Tourism Promotion Project Utilizing Grant Aid with Business and Operating Rights in Cuba

3. Implementation Agency	National Roads Center (CNV)/Provincial Roadway Centers (CPV), MITRANS ECOING, MICONS	4. Implementation period			
5. Project cost (budget)	USD 30 million	Start	2026	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies		☒ Foreign Investors	

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☒ Institution/Regulation ☒ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

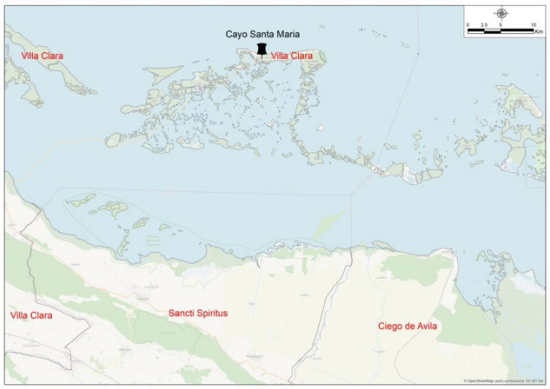
Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development	2.1	2.1.1, 2.1.2	2.1.1.1, 2.1.2.1
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.2	4.1.2.1
5. Transport pricing and resource allocation	5.1, 5.2, 5.3	5.1.1, 5.1.2, 5.1.3, 5.2.1	5.1.1.1, 5.1.2.1, 5.1.3.1, 5.2.1.1. 5.3.1.1
6. Institutional and regulatory development	6.2, 6.3	6.2.1, 6.3.1	6.2.1.1, 6.3.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● To contribute to tourism promotion activities within Cayo Santa Maria and Cayo Coco ● To repair the damaged structure of the road bridge, including the foundation and girder bridge. ● To consider suitable construction method that applies to Cuban implementation ability. ● To improve operation and maintenance details that apply to Cuba's existing condition. ● To develop a project implementation structure for managing construction, procurement, and operation and maintenance of the road bridges.	● Improvement of tourist activities within Cayo Santa Maria and Cayo Coco. ● Establishment of a joint venture or consortium to ensure the road bridges are well-managed, especially for maintenance and operation issues. ● Gain technology transfer exposure from private sectors through a cooperation scheme.
14. Project Description	**15. Social-environmental consideration**
● A business that contributes to promoting tourism in Cuba by repairing and managing the existing bridges on the access road to Cayo Santa Maria and Cayo Coco, which are Cuba's representative marine resorts, by utilizing grant aid with business and operating rights. Sustainability of improved bridges condition is also essential to ensure good maintenance service and operation. ● Cayo Santa Maria and Cayo Coco are famous for their beautiful resorts in Cuba. It takes 4 – 6 hours to reach these areas by car from Havana. There are 44 bridges to Cayo Santa Maria, and 27 of them require structure repair. Similar conditions are found within road bridges to Cayo Coco.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – requires
16. Relevant project(s)	
●	

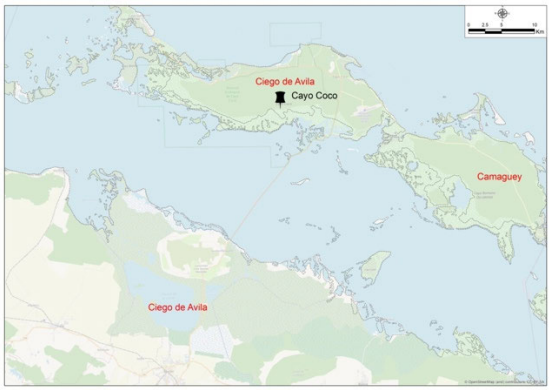
17. Project location	Province:	Villa Clara, Ciego de Avilla

Detailed location

Cayo Santa Maria



Cayo Coco

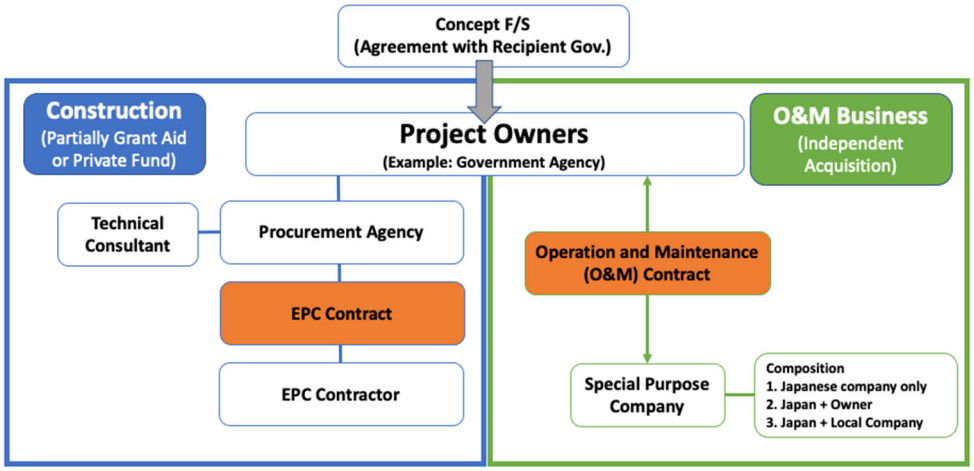


18. Notes (if any)

Damaged Road Bridge Condition.

The Project Implementation Structure

The idea is to create cooperation between agencies in Cuba (e.g., MICONS or MITRANS) and foreign companies (Japanese companies, for example) to implement construction, procurement, maintenance, and operation. After an agreement between Recipient Government, a contract will be established for managing several aspects of engineering, procurement, and construction (EPC) as well as operation and maintenance (O&M). As one of the existing schemes by JICA, its structure of Grant Aid with O&M Scheme is illustrated below:



Example of Japanese Grant Aid with O&M

Detail of EPC and O&M

Detail of EPC – Construction Methodology for Bridge Repairment

Repair or replace damaged foundations and bridge girders using a prefabricated construction method that allows the components to be made off-site in a factory, then transported to be put together on-site to create a structure (bridge).

These methods are considered due to Cuba's construction implementation capacity.

Example of Prefabricated Construction

Hybrid Box Culvert

Water Pipe for Sea Water Exchanger

Detail of Operation & Maintenance (O&M)

Maintaining the repaired bridge and inspecting the other bridges will be operated by a joint venture with a Cuban implementing agency. The period is expected for ten years.

1. Project Code	RB012	2. Project Title	Establishment of Transport Planning Centre of Excellence

3. Implementation Agency	The General Directorate of Planning, Organization, and Information (DGPOI) under MITRANS			4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)			Start	2022	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

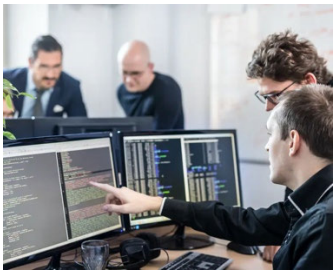
7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☒ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1, 1.2.2, 1.2.3	1.2.1.1, 1.2.2.1, 1.2.3.1
2. Transport infrastructure development	2.3, 2.5, 2.6	2.5.1, 2.5.2, 2.6.1	2.5.1.1, 2.5.2.1, 2.6.1.1
3. Environment, safety, and security	3.1, 3.2, 3.3, 3.4	3.1.1, 3.1.2, 3.2.1, 3.3.1, 3.4.1	3.1.1.1, 3.1.2.1, 3.2.1.1, 3.3.1.1, 3.4.1.1
4. Transport service and industry development	4.1, 4.2	4.1.1, 4.1.2, 4.2.1~4.2.3	4.1.1.1~4.2.3.1
5. Transport pricing and resource allocation	5.1, 5.2, 5.3	5.1.1, 5.1.2, 5.1.3, 5.2.1	5.1.1.1, 5.1.2.1, 5.1.3.1, 5.2.1.1. 5.3.1.1
6. Institutional and regulatory development	6.2, 6.3	6.2.1, 6.3.1	6.2.1.1, 6.3.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish a central repository for all databases developed during the master plan development. ● To provide analysis of transport infrastructure based on transport database and model. ● To provide capacity building for government and private sector in transport planning and management ● To identify appropriate transport sector policies (demand management or public transport priority measures)	● Improve traffic flow, air quality, and safety through the appropriate and comprehensive transport planning ● Ensuring the road network operates efficiently, safely, and sustainably ● Availably of professional human resources in transport planning and management, through human resource training development
14. Project Description	**15. Social-environmental consideration**
● To develop a resource center for transport planning dataset and management that enables government and private sector to analyze transport infrastructure and get technical assistance, including capacity building and advisory activities.	1) Social impacts – positive impacts are expected 2) Natural Environment – positive impacts are expected by developing appropriate and comprehensive urban transport planning 3) Pollution – positive impacts are expected by developing appropriate and comprehensive urban transport planning 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● All projects	

17. Project location	Province:	All Provinces	City:	

The centers will be established within city centers in all provinces to provide training and research in transport infrastructure.

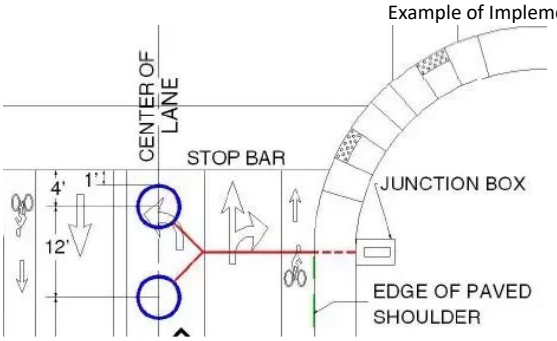


18. Notes (if any)

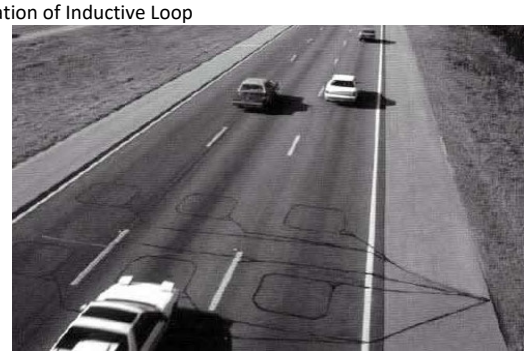
Automatic traffic measure through an inductive loop system

Inductive loops are the lowest-cost system for automatic traffic measures. It has several strengths, such as accuracy for counting data compared to other commonly used techniques, well-understood technology, providing basic traffic parameters (volume, speed, headway, and gap), an incentive for inclement weather, and so on. Alternatively, existing CCTV or IP cameras mounted at major road sections could also be utilized for manual or automatic traffic counting.

Example of Implementation of Inductive Loop



Source: https://www.quora.com/What-is-the-average-lifetime-of-an-induction-loop-detector



Source: https://www.itwissen.info/en/inductive-loop.html#gsc.tab=0

Source: https://constructionreviewonline.com/installations-materials/inductive-loop-technology-new-not-new/

Source: https://www.quora.com/What-is-the-average-lifetime-of-an-induction-loop-detector

1. Project Code	RB013	2. Project Title	Technical Training Program on Road and Bridge Sector in Japan

3. Implementation Agency	MITRANS		4. Implementation period			
5. Project cost (budget)	50 million CUP (0.2 million USD per year)		Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1, 1.2.2, 1.2.3	1.2.1.1, 1.2.2.1, 1.2.3.1
2. Transport infrastructure development	2.3, 2.5, 2.6	2.5.1, 2.5.2, 2.6.1	2.5.1.1, 2.5.2.1, 2.6.1.1
3. Environment, safety, and security	3.1, 3.2, 3.3, 3.4	3.1.1, 3.1.2, 3.2.1, 3.3.1, 3.4.1	3.1.1.1, 3.1.2.1, 3.2.1.1, 3.3.1.1, 3.4.1.1
4. Transport service and industry development	4.1, 4.2	4.1.1, 4.1.2, 4.2.1~4.2.3	4.1.1.1~4.2.3.1
5. Transport pricing and resource allocation	5.1, 5.2, 5.3	5.1.1, 5.1.2, 5.1.3, 5.2.1	5.1.1.1, 5.1.2.1, 5.1.3.1, 5.2.1.1. 5.3.1.1
6. Institutional and regulatory development	6.2, 6.3	6.2.1, 6.3.1	6.2.1.1, 6.3.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● To increase capacity building in managing and operating roads and bridges for the government sector.	● Acquisition of road and bridge planning and design guidelines ● Knowledge about disaster-resilient infrastructure operation and maintenance ● Understanding of road and bridge quality and safety standards in the transportation framework ● The efficiency of road and bridge operation ● Acquisition of the importance of BCP (Business Continuity Plan) in disaster countermeasures.
14. Project Description	**15. Social-environmental consideration**
● To manage a technical training program that enables the key stakeholder to study the concept of systematic and strategic management of roads and bridges and get experience in road and bridge sector implementation in Japan	1) Social impacts – no impacts are expected 2) Natural Environment – no impacts are expected 3) Pollution – no impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB012	

17. Project location	Province:	Japan	City:	
JICA training center and others				

18. Notes (if any)

Objectives of the Training Program from the Participants

1. To acquire experiences and knowledge about technologies, methodologies, etc., from a developed country.
2. Increasing knowledge on adapting to the special conditions of Cuba and learning the good practices of the direction and management of the transportation system.
3. To appreciate the operation of the transport system in Japan and acquire real experience in executing the transport master plan in Cuba.
4. To inspire the solution of transport problems and experience the development in Japan, the possibility of learning through the interchange with Japanese researchers and engineers.
5. To improve the organization and exploitation of different transport branches and their environmental-related activities.

Potential Locations for Site Visit

Electric Toll Collection (ETC) in toll gates

National Expressway

Bridge inspection example

6. Giving contribution, knowledge, and experiences to incorporate the transport policy in Cuba.
7. To acquire knowledge in the elaboration of the National Transport Master Plan to be a guide for development and Japanese experience could be a good reference for transport development.
8. To obtain the knowledge and skill for the development plan and project realization in Cuba.
9. To get insight into the formulation and implementation of transport policy, regulation, and control.
10. Formulation of the National Master Plan for Transportation Development to deal with the main challenges in social and economic aspects efficiently and comprehensively.

Lecture Class

Site Visit to Tokyo International Cruise Terminal

Group Training Focusing on Specific Themes

1. Transportation Administration of ITS (Intelligent Transport Systems) Practice - JICA Tokyo
2. Transportation Administration of Traffic Safety - JICA Kansai
3. Transportation Administration of Road Asset Management (A) - JICA Tokyo
4. Transportation Administration of Road Asset Management (B) - JICA Tokyo
5. Transportation Administration of Road Administration - JICA Tokyo
6. Transportation Administration of Infrastructure management system for road administration - JICA Hokkaido (Sapporo)
7. Transportation Administration Bridge Comprehensive - JICA Kansai
8. Bridge Maintenance - JICA Kyushu
9. National Transportation Highway Comprehensive - JICA Tokyo
10. National Transportation Road Maintenance (B) - JICA Hokkaido (Sapporo)
11. National Transportation Road Maintenance (C) - JICA Okinawa
12. National Transportation Road Maintenance (D) - JICA China

Organizations to Visit

1. Ministry of Land, Infrastructure, Transportation, and Tourism (MLIT)
2. Tokyo Metropolitan Government
3. Japan Highway Public Corporation (JHPC)
4. Cabinet Office of Japan
5. Japan Society Civil Engineers (SCSE).
6. NIPPO Corporation (Construction company for pavement)

Sites to Visit

1. Tokyo Bay Aqua-line Expressway
2. Akashi Kaikyo Bridge
3. Seto Bridge
4. Kan-etsu Tunnel (Kan-etsu Expressway)


Kan-etsu TunnelTokyo Bay Aqua-line Expressway

1. Project Code	RB014	2. Project Title	Capacity Development for Road Maintenance by Technical Cooperation Project

3. Implementation Agency	CNV, CPV, CIMAB, and MICONS	4. Implementation period			
5. Project cost (budget)	50 million CUP (0.2 million USD per year)	Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☒ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.4	1.1.1, 1.4.1	1.1.1.1, 1.4.1.1
2. Transport infrastructure development	2.2	2.2.1	2.2.1.1
3. Environment, safety, and security	3.1, 3.2	3.1.1, 3.1.2, 3.2.1, 3.3.1	3.1.1.1, 3.1.2.1, 3.2.1.1
4. Transport service and industry development	4.1, 4.2	4.1.1, 4.1.2, 4.2.1~4.2.3	4.1.1.1~4.2.3.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To enhance management capacity for maintenance of relevant organizations.	● The implementation structure of relevant organizations for road maintenance is improved. ● The latest road conditions in Cuba are available promptly. ● The process for formulating road maintenance plans is established.
14. Project Description	**15. Social-environmental consideration**
● To manage regular meetings with relevant organizations and prepare a training plan for relevant staff ● To review the implementation structure for road maintenance ● To review existing inspection methods, develop an adequate inspection method, and conduct training for inspection method ● To collect the relevant data for maintenance planning ● To analyze road condition data based on road condition inspection result ● To conduct detailed investigation on necessary road sections and repair the design ● To prepare a medium/long-term maintenance plan ● To schedule an annual maintenance plan	1) Social impacts – no impacts are expected 2) Natural Environment – no impacts are expected 3) Pollution – no impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB013	

17. Project location	Province:	All province	City:	

18. Notes (if any)
To raise a sense of ownership of developing countries, technical Cooperation projects adopt "participatory" methods, whereby local people in each project's target area participate in planning, operation management, and evaluation activities. Furthermore, collaborate with private enterprises, universities, NGOs, and other organizations to utilize their cumulative experience, knowledge, and know-how in projects to address more complex and high-level issues.

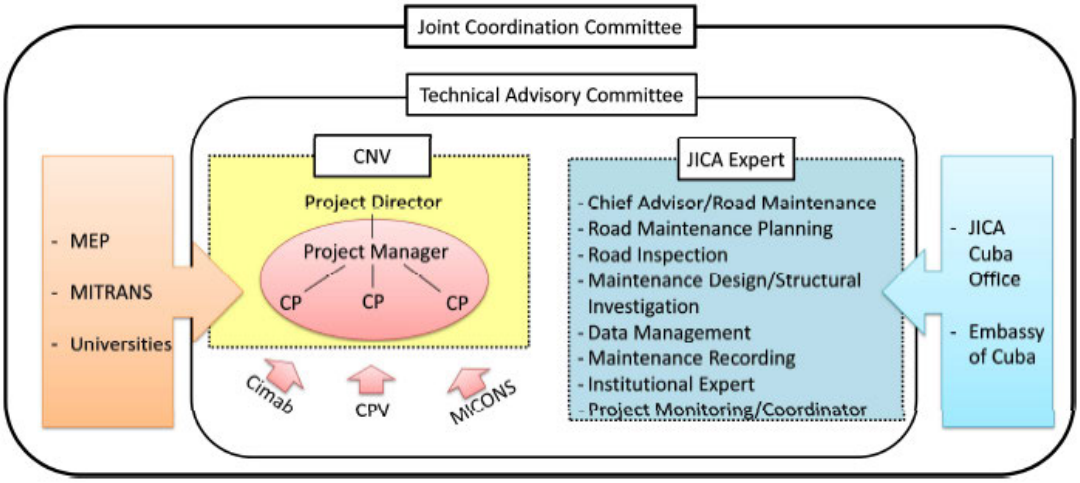
JICA-Integrated Implementation Process of Technical Cooperation

- Project identification and formulation
  JICA identifies and formulates projects through discussion with the government of the partner country, information gathering by JICA's overseas offices, and initial surveys.
- Request and approval
  Based on a request from the partner country, the Ministry of Foreign Affairs of Japan, other related ministries, and JICA discuss whether or not to approve the project. The approved project is reported to the partner country by the Japanese government, and note verbals are exchanged by diplomatic missions abroad
- Examination/Ex-Ante Evaluation
  To clarify details and expected outcomes of the project and comprehensively examine the appropriateness of implementation, ex-ante evaluation is conducted based on five criteria: relevance, effectiveness, efficiency, impact, and sustainability.
- Project Implementation/Mid-term review/Terminal Evaluation
  JICA and the government organization of the partner country sign a Record of Discussions (R/D) regarding project implementation, details of activities, and necessary measures. Evaluation indicators set in ex-ante evaluation are used as the basis of the mid-term review conducted at a certain point from the project inception, and terminal evaluation conducted a half year before the project completion. Each evaluation result is used as a recommendation for improving the project.
- Follow-up/Ex-post evaluation
  In case unexpected problems emerge, Follow-up Cooperation is provided when necessary. Ex-post evaluation is carried out several years after the project's completion. Evaluation results are used as lessons learned for formulating and implementing similar projects.

Implementation structure

In this technical cooperation, CNV is considered the best organization to serve as the main counterpart, assisted by CPV for suburb area support, Cimab for inspection and study, and MICONS for maintenance/repairing work and recording. In addition, MEP and MITRANS could be members of a Joint Coordination Committee (JCC) along with relevant universities for research and training purposes. Moreover, a draft implementation structure of the road maintenance capacity development project is shown below.

Implementation Structure for Capacity Development Project



Source: JST

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Appendix A2: Road Transport Sector (Bus)

1. Project Code	RT001	2. Project Title	Tourist bus service plan & operation coordination

3. Implementation Agency	MITRANS, MINTUR, MINFA		4. Implementation period			
5. Project cost (budget)	5.0 million CUP (200,000 USD)		Start	2022	End	2024
6. Source of finance	☒ State budget	☐ External financing agencies		☐ Private investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☒ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1	1.1.1, 1.1.2	1.1.1.1~2, 1.1.2.1~2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To efficiently use the limited number of bus vehicles owned by three central administrative bodies, a coordination mechanism to share the bus vehicles for the tourists and Cuban people can be considered. ● In this regard, a high-level coordination committee and an attached implementation unit for the coordination are proposed.	● The existing bus vehicles are effectively used. ● Additional investment to procure new buses can be saved. ● Revenue from the tourism sector transportation is increased.
14. Project Description	**15. Socio-economic consideration**
● Establishment of a coordination committee of tourist bus service providers under the MITRANS, MINTUR, and MINFAR ● Development of a bus operation/vehicle arrangement plan for international tourists ● Establishment of operation consignment system (sharing vehicles and human resources) for tourist services using ICT	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT006, RT007, RT008	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT002	2. Project Title	Intercity bus service plan & operation coordination

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	7.5 million CUP (300,000 USD)			Start	2022	End	2025
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1	1.2.1.1~3
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To support Cubans' socio-economic activities (inter-provincial travels), the intercity bus service plays a vital role. ● In this regard, demand-responsive intercity bus services can be developed with a limited number of buses. ● Besides, a collaboration with the private bus and taxi operators needs to be made.	● The existing bus vehicles are effectively used. ● Additional investment to procure new buses can be saved. ● Revenue from the intercity bus services is increased.
14. Project Description	**15. Socio-economic consideration**
● Based on the bus coach database, the use of the existing buses is optimized. ● Development of a flexible bus operation/vehicle arrangement plan for intercity bus transport services ● Establishment of an operation consignment system (sharing vehicles and human resources) using ICT	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT007, RT008, RT009	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT003	2. Project Title	A comprehensive bus network development plan

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	11.3 million CUP (450,000 USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3, 1.4	1.3.1~2, 1.4.1~2	1.3.1.1, 1.3.2.1~4, 1.4.1.1, 1.4.2.1~2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● As the basis for the bus vehicle sharing and operation coordination system, a comprehensive bus network must be developed for tourist, intercity, and provincial buses. ● A hierarchical bus network should be developed with good connectivity with railway stations and ferry terminals.	● A convenient bus service network is developed for Cubans as well as international tourists ● Intermodal connectivity with the rail and ferry services is developed. ● Revenue from the bus services is increased.
14. Project Description	**15. Socio-economic consideration**
● Comprehensive (hierarchical) bus passenger transport network plan (main island) ● Sustainable operation plan for intercity bus passenger transport with support from the truck bus and taxi operators (individual business owners) ● Sustainable operation plan for urban bus transport with support from the truck bus and taxi operators (respective business owners) ● Provision of highly profitable services such as airport services	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT001, RT002, RT006, RT007, RT008, RT009	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT004	2. Project Title	Revision of the bus fare system

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	3.8 million CUP (150,000 USD)			Start	2022	End	2024
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.2	5.2.1	5.2.1.1~4
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The bus fare system should be reviewed and updated based on the level of services (LOS). ● Considering the provision of higher LOS bus transport services, a higher bus fare can be applied for international tourists. ● An affordable fare system needs to be applied to Cubans, but at the same time, a different fare structure can be used in accordance with LOS.	● Revenue from the bus services is increased ● Using the increased revenue, further LOS improvement is expected
14. Project Description	**15. Socio-economic consideration**
● Flexible operation and fare systems for intercity buses to respond to seasonal peak/off-peak demand ● Flexible fare for luxury bus services for foreign passengers ● The flexible fare to respond to different LOS (for Cubans)	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT001, RT002, RT003	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT005	2. Project Title	Information for bus passengers

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	2.5 million CUP (100,000 USD)			Start	2024	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1~2.2.3	2.2.1.1~2, 2.2.2.1~3, 2.2.3.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Bus arrival/departure information should be provided at bus terminals and stops. ● Other useful information such as weather conditions, accidents, advertisements, etc. will also be provided.	● The number of bus users will be increased. ● Accordingly, the revenue will be increased. ● Using the increased revenue, further LOS improvement is expected
14. Project Description	**15. Socio-economic consideration**
● Preparation of easy-to-understand route maps and bus maps ● Improve the convenience of the public transportation network by introducing a clock-face schedule and transfer fare discount system.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT001, RT002, RT003, RT009, RT010	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT006	2. Project Title	Advanced bus operation and management system development

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	30.0 million CUP (1.2 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1~2.2.3	2.2.1.1~2, 2.2.2.1~3, 2.2.3.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● An advanced O&M system should be developed using ICT to optimize bus operation and fleet management. ● The bus O&M center control and manage the bus fleet movement.	● Buses are efficiently used; accordingly, losses such as fuel consumption, dead runs, the number of workers, etc., are minimized. ● The financial sustainability of bus service providers is improved.
14. Project Description	**15. Socio-economic consideration**
● Online operation information by digitizing all bus operation information. (GTFS, General Transit Feed Specification) ● Real-time route/operation information using mobile applications ● Introduction of dynamic bus operation information system (GTFS real-time) by installing GPS devices on bus vehicles ● Establishment of operation planning/monitoring system for operation management	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT007	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT007	2. Project Title	Digital transformation for the management of bus fleets and spare parts

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	10.0 million CUP (400,000 USD)			Start	2024	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1	2.3.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To support bus O&M, a comprehensive database of bus fleets and spare parts, bus drivers, technicians, etc., should be developed. ● The database (at the data center) is shared by various bus operators for updating coordinated bus operations ● The spare parts information is shared by workshops for efficient bus maintenance.	● Bus operation coordination can be easily made using the database. ● Bus operation is efficiently made; accordingly, losses such as fuel consumption, dead runs, the number of drivers/workers, etc., are minimized. ● The financial sustainability of bus service providers is improved.
14. Project Description	**15. Socio-economic consideration**
● Digitization of inventory information of bus vehicles/spare parts and establishment of a renewal plan ● Establishment of a database system to share the information on vehicle/spare parts and engineers of each UEB using ICT	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT006	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT008	2. Project Title	Urgent bus fleet rehabilitation and procurement

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	1.5 billion CUP (58 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector				8. Project Priority	
	☒ Transport Planning	☐ Logistics/Cargo			☒ Immediate (2022 – 2023)
	☐ Road/Bridge	☒ Bus passenger transport			☒ Short-term (2024 – 2026)
	☐ Railway	☐ Environment			☐ Medium-term (2027 – 2030)
	☐ Aviation	☐ Institution/Regulation			
	☐ Maritime	☐ Relevant business and others			

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1	2.3.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● It is necessary to increase the number of available bus fleets. It was 61% of all EON buses in 2019. This should be increased to 70% by the end of 2023. ● The number of EON buses should be increased to 1,000 by the end of 2024. It was 846 fleets in 2019. ● Procurement of bus fleets and spare parts should be made based on the bus fleet/spare parts renewal plan	● The level of service (LOS) of EON buses will be improved. ● The financial sustainability of EON is improved.
14. Project Description	**15. Socio-economic consideration**
● The conditions of the existing buses will be investigated in 2022/2023. The data (inventory of the existing bus fleets) should be digitized. ● Based on this investigation, an action plan to increase the availability of bus fleets will be prepared in 2023. ● In addition to repairing the existing bus fleets (EON buses), a plan for procurement of new bus fleets will be prepared based on the demand forecast in 2023. ● The repair and procurement plan shall be implemented and completed by the end of 2026.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT006, RT007	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT009	2. Project Title	Intercity bus terminal renovation

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	1.2 billion CUP (48 million USD)			Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.3	2.2.1.1~2, 2.2.3.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The existing intercity bus terminals need to be renovated to increase the level of comfort and services for the bus passengers. ● Business opportunities for state and non-state enterprises need to be provided in the intercity bus terminals (retail/commercial spaces should be increased). ● Each province's local products (fruits, sweets, and other various products) can be sold in the bus terminals to support the local economy.	● The level of service (LOS) for bus passengers will be improved. ● Various business opportunities will be created. ● The financial sustainability of the bus terminal operation is improved.
14. Project Description	**15. Socio-economic consideration**
● A bus terminal renovation plan to include more retail/commercial spaces and increase bus passengers' comfort will be prepared for each provincial bus terminal. ● As a part of the terminal building, the space for the provision of the traffic/event/weather/etc. should be included. ● Corresponding design, construction plan, and cost estimates will be made based on the plan. ● Renovation work starts in 2024 and will be completed by the end of 2030.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – required in case of additional space and building development
16. Relevant project(s)	
● RT005, RT006, RT007, RT011, RT012	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT010	2. Project Title	Advanced covered bus stops (smart bus shelters) development

3. Implementation Agency	Provinces			4. Implementation period			
5. Project cost (budget)	425 million CUP (17 million USD)			Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.2	2.2.2.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The existing bus stops in each province need to be upgraded to smart bus stops (covered bus stops with information provision devices). ● Bus location/arrival information needs to be provided to passengers waiting for buses at bus stops. ● Business opportunities such as advertisements can be provided at bus stops.	● The level of service (LOS) for bus passengers will be improved. ● Various business opportunities will be created. ● The financial sustainability of the provincial bus services is improved.
14. Project Description	**15. Socio-economic consideration**
● A bus stop renovation plan (smart bus stop development plan) for each province is prepared by each province under the supervision of MITRANS. ● Corresponding design, construction plan, and cost estimates will be made based on the plans. ● Renovation work starts in 2024 and will be completed by the end of 2028.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT009	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT011	2. Project Title	Safety improvement projects

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	18.6 million CUP (742 thousand USD)			Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1	3.1.1~3	3.1.1.1, 3.1.2.1, 3.1.3.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Decrease the number of traffic accidents per 1 million-km bus service (It was 1.76 for EON in 2018)	● The level of safety for bus passengers will be improved. ● The costs of repair will be reduced. ● The financial sustainability of the bus operators will be improved.
14. Project Description	**15. Socio-economic consideration**
● Establishment of vehicle standards and license system from the viewpoint of safety management ● Installation of in-vehicle cameras on bus vehicles and monitoring ● Install CCTV at the bus terminals and bus stops, then establish a monitoring system	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT009, RT010	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT012	2. Project Title	Resiliency improvement projects

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	56.8 million CUP (2.27 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1~2	3.2.1.1~2, 3.2.2.1~3
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Bus transport services are essential for Cubans. Therefore, it is important to continue operating buses for Cubans to maintain their daily lives. ● In this regard, it is necessary to prevent bus drivers and passengers from infectious diseases such as COVID-19. ● It is also essential to continuously welcome international tourists safely to Cuba.	● The level of safety for bus passengers will be improved. ● Bus transport services will be continuously provided.
14. Project Description	**15. Socio-economic consideration**
● Prepare a manual for bus operators to prevent them from being infected by diseases such as COVID-19. ● To increase people's awareness about infectious diseases through public relations (PR) using mass media, teaching at schools, SNS, etc. ● To install COVID-19 countermeasure equipment (installation of partitions, thermometer, disinfectant, etc.) ● Installation of the contactless payment system (smart card, mobile phone) ● Establishment of BCP (Business Continuity Plan) in preparation for infectious diseases	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT005, RT009, RT010	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT013	2. Project Title	Ticketing system improvement (for regional bus services)

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	12.5 million CUP (500,000 USD)			Start	2022	End	2023
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4..1.1	4.1.1.1~2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Due to the existing regional bus transport services shortage, many people are waiting for vacant seats at bus terminals. ● Ticket availability should be informed through the internet for the bus passengers not to wait in the bus terminals for vacant seats.	● The level of service (LOS) for bus passengers will be improved. ● The number of ticket sales clerks will be reduced.
14. Project Description	**15. Socio-economic consideration**
● The existing Ultima Hora system is reviewed. ● An upgraded E-ticketing system will be installed by the end of 2023.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT012	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RT014	2. Project Title	Sustainable bus fleet (Diana bus) production

3. Implementation Agency	MITRANS		4. Implementation period			
5. Project cost (budget)	2.1 billion CUP (82.25 million USD)		Start	2023	End	2026
6. Source of finance	☒ State budget	☐ External financing agencies		☐ Private investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Maritime	☐ Logistics/Cargo ☒ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2	2.1.2.3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Due to the shortage of the existing urban bus transport services (in provinces other than Havana), buses are crowded with bus passengers. ● The number of medium-sized buses (Diana buses) needs to be increased. ● In addition to the production of Diana buses, electric bus vehicle production in Cuba needs to be studied.	● The level of service (LOS) for bus passengers will be improved. ● Contribution to CO2 reduction is expected.
14. Project Description	**15. Socio-economic consideration**
● The existing Diana bus production system is studied, and issues are identified. ● Using local materials to build Diana buses will increase (import substitution). ● The electrification of Diana buses will be studied.	1) Social impacts – positive impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● RT008	

17. Project location	Province:	All	City:	
●				
18. Notes (if any)				
●				

6 章

Appendix A3: Rail Transport Sector

1. Project Code	RW001	2. Project Title	Development of railway operation and management performance indicators and a monitoring system

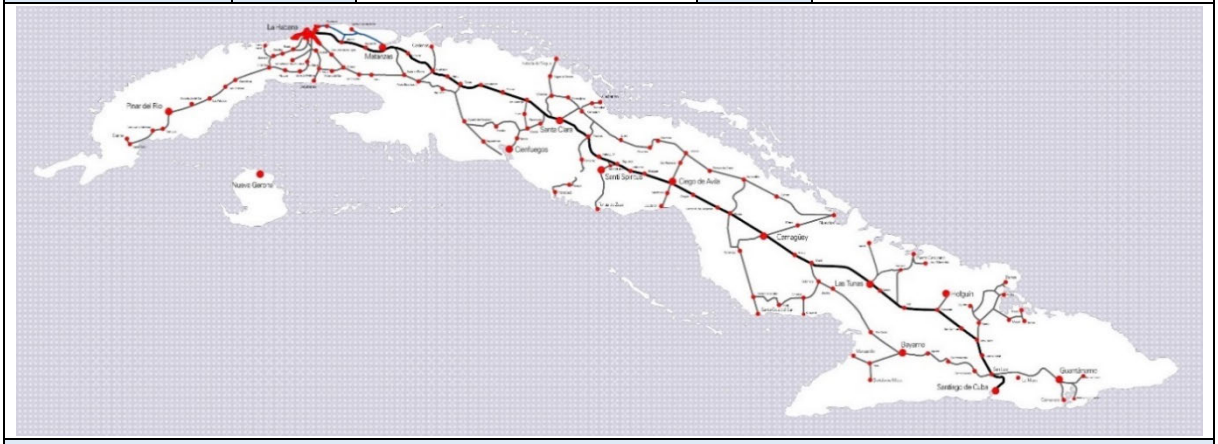
3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	30 million CUP (1.2 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.2	1.1.1, 1.2.1, 1.2.2	1.1.1.1, 1.2.1.1, 1.2.1.3, 1.2.2.1, 1.2.2.2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Develop a single platform (database) for information/data collection and provision using ICT. ● Develop railway operation & management performance indicators and a monitoring system to watch and improve the railway operation and management.	● A database is developed, which can be used to analyze the performance of the railway operation and management. ● Accordingly, efficiency in railway operation is improved, which will lead to saving energy and other resources.
14. Project Description	**15. Social-environmental consideration**
● Update and digitize the existing/available information/data ● Establish and install an advanced data collection and monitoring system, enabling frequent and periodic data collection and monitoring. ● Establish a data-sharing system with stakeholders in the rail sector.	1) Social impacts – no significant impacts are expected s 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● Project RW002	

17. Project location	Province:	Nationwide	City:	



18. Notes (if any)
● Refer to “Investment in computerization of UFC” (p.63) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW002	2. Project Title	Establishment of a new UFC accounting system using ICT

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	30 million CUP (1.2 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1, 1.2.2, 1.2.3	1.2.1.2, 1.2.1.4, 1.2.3.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1	5.1.6	5.1.6.1, 5.1.6.2
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Develop a new accounting system to monitor the financial performance of railway operations and services. ● Introduce a modern accounting system compatible with an international accounting system/standard.	● The business performance of the railway sector (UFC) is captured in a modern accounting system. ● Based on the financial performance analysis, it is expected to find measures to improve operation efficiency, saving energy and other resources. ● It is also expected to contribute to the decision-making process regarding new investment in the rail sector.
14. Project Description	**15. Social-environmental consideration**
● Study modern accounting systems in countries such as Canada, the USA, Spain, Mexico, and Japan. ● Design a modern accounting system that is suitable/workable in Cuba (for UFC). ● An associated data/information collection system (RW001) is developed. ● Capacity building in the railway business sector, focusing the accounting systems.	1) Social impacts – no significant impacts are expected. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● Project RW001	

17. Project location	Province:	Nationwide	City:	
● UFC				
18. Notes (if any)				
● NA				

1. Project Code	RW003	2. Project Title	Development of a database of railcars and other equipment using ICT

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	30 million CUP (1.2 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☐ External financing agencies	☒ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.2	1.1.1, 1.2.1, 1.2.2, 1.2.3	1.1.1.1, 1.2.1~4, 1.2.2.1~2, 1.2.3.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Improve the performance of the existing UFC workshops by developing a database of railcars, rail-related equipment, spare part, etc.	● Achieve less time spent by the teams in the workshops. ● Increase the quality of repairs. ● Significant savings in import resources by knowing stocks in real time ● Improved planning of necessary resources
14. Project Description	**15. Social-environmental consideration**
● Computerize the inventories of parts and aggregates of the railway workshops. ● Develop software to inform repairing timing & conditions and technical attention to maintain the level of safety. ● Install necessary equipment such as PC and data communication systems between the workshops to share the information of stock, etc. ● Training of UFC workshop staff to increase knowledge and skills of ICT	1) Social impacts – no significant impacts are expected s 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW001, RW002	

17. Project location	Province:	Nationwide	City:	Cities where all workshops
● UFC				
18. Notes (if any)				
● Refer to “Investment in computerization of UFC” (p.63) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW004	2. Project Title	Computerization of railway operation planning, control, and monitoring

3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)		Start	2027	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.2, 1.2.3	1.2.2.1~2, 1.2.3.1
2. Transport infrastructure development	2.4	2.4.1	2.4.1.1
3. Environment, safety, and security			
4. Transport service and industry development	4.2, 4.3	4.2.6, 4.2.8, 4.3.1, 4.3.4	4.2.6.1, 4.2.8.1, 4.3.1.1, 4.3.4.1~3
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Modernize the railway operation planning, train operation monitoring, and control to achieve efficiency and maintain safety. ● Upgrade FERRRONET (communication system of UFC) to increase the speed and volume of data transactions (2022~2026)	● Efficiency in the train operation is improved ● The level of safety is increased
14. Project Description	**15. Social-environmental consideration**
● Study modern train operation monitoring & control systems in other countries ● Plan and design a computerized train operation monitoring system ● Plan and design a computerized train operation control system ● Plan and design a train operation monitoring & control center ● Detailed design and cost estimate of the train operation monitoring & control center ● Construction of the train operation control center ● Installation of the systems ● Training of the staff for the train operation control center	1) Social impacts – no significant impacts are expected s 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW001, RW002, RW003	

17. Project location	Province:	Nationwide	City:	
● UFC				
18. Notes (if any)				
● Refer to “Expansion of GSM-R to other mainline and branch line” (p.58), “Investment in the communication system for Mariel line” (p. 60), and “Investment in computerization of UFC” (p. 63) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW005	2. Project Title	Updating the Railway Sector's 5-Year Development Plan

3. Implementation Agency	UFC, ATF, MITRANS			4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Update the railway sector's 5-year development plan ● Integrate spatial development initiatives (ENOT, ZED Mariel, North Coast Area / Cayos, etc.) and planned economic developments and investments into the railway development plan.	● Practical and implementable plan for railway rehabilitation and investment ● Improved and increased human resources in the rail sector ● Attract foreign investors to the rail sector business
14. Project Description	**15. Social-environmental consideration**
● Study spatial and economic development plans and potential investments ● Update the demand forecast 'cargo and passenger) ● Update rail infrastructure (rail lines, rail trucks & bridges, signal & communication, stations, etc.) rehabilitation and development plan ● Update rail facilities rehabilitation & development plan (workshop, depot, CCD, sleeper plant, rail welding, etc.) ● Update rail equipment (railcars, specialized machines, etc.) ● Update the rail service development plan (modal shift from other modes of transport) ● Human resource development plan ● Strategic environmental assessment (SEA) ● Financing plan	1) Social impacts – positive impacts are expected, such as increased business opportunities/job opportunities in the rail sector 2) Natural Environment – positive impacts are expected by promoting the use of railway 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – SEA (Strategical Environmental Assessment) is needed
16. Relevant project(s)	
● NA	

17. Project location	Province:	Nationwide	City:	All major cities
● UFC				
18. Notes (if any)				
● NA				

1. Project Code	RW006	2. Project Title	Feasibility Study on the Airport Line (José Martí airport and Havana)

3. Implementation Agency	UFC, ATF, MITRANS		4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)		Start	2027	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.6	4.1.6.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To study the technical, economic, and financial feasibility of the Airport Line between Jose Marti International Airport and Havana	● Improved commuter rail services ● High-level rail transport services for international tourists and visitors ● Mitigation of vehicular traffic congestion
14. Project Description	**15. Social-environmental consideration**
● Natural condition and topographic study ● Socio-economic study ● Social consideration and environmental study ● Demand forecast ● Passenger rail operation plan ● Preliminary design of rail infrastructure, stations, and inter-modal facilities (station square, etc.) ● Preliminary design of rail coaches (electrified train) ● Preliminary design of train operation and communication systems ● Construction plan ● Cost estimates ● Economic and financial analysis	1) Social impacts – positive impacts are expected, such as a modal shift from road transport to rail transport and reduction of traffic congestion and accidents, while there is a possibility of land acquisition and resettlement 2) Natural Environment – Noise, vibration, pollution due to waste, etc., are expected during and after construction work. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● RW005	

17. Project location	Province:	Havana	City:	Havana
● UFC				
18. Notes (if any)				
● NA				

1. Project Code	RW007	2. Project Title	Feasibility Study on the Airport Line extension from Havana to Varadero

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)			Start	2027	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.6	4.1.6.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

11. Purpose of the project	12. Expected Benefits/Outcomes
● To study the technical, economic, and financial feasibility of the Airport Line between Jose Marti International Airport and Varadero	● Improved commuter rail services ● High-level rail transport services for international tourists and visitors ● Mitigation of vehicular traffic congestion
13. Project Description	**14. Social-environmental consideration**
● Natural condition and topographic study ● Socio-economic study ● Social consideration and environmental study ● Demand forecast ● Passenger rail operation plan ● Preliminary design of rail infrastructure, stations, and inter-modal facilities (station square, etc.) ● Preliminary design of rail coaches (electrified train) ● Preliminary design of train operation and communication systems ● Construction plan ● Cost estimates ● Economic and financial analysis	1) Social impacts – positive impacts are expected, such as a modal shift from road transport to rail transport and reduction of traffic congestion and accidents, while there is a possibility of land acquisition and resettlement 2) Natural Environment – Noise, vibration, pollution due to waste, etc., are expected during and after construction work. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
15. Relevant project(s)	
● RW006	

16. Project location	Province:	Havana, Majabekes, Matanzas	City:	Havana, Matanzas, Varadero
● UFC				
17. Notes (if any)				
●				

1. Project Code	RW008	2. Project Title	Feasibility Study on the rehabilitation and extension of the railways to the northern key development areas, including Villa Clara, Ciego de Avila, Camaguey, and Holguin

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	125 million CUP (5 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.6	4.1.6.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To Carry out technical and economic feasibility studies regarding the connection of existing railways with tourist destinations, including new lines	● Contribution of the railway infrastructure and services to the socio-economic development of the central-eastern region ● Increased revenue from the rail users (international tourists and visitors)
14. Project Description	**15. Social-environmental consideration**
● Natural condition and topographic study ● Socio-economic study ● Social consideration and environmental study ● Demand forecast ● Passenger rail operation plan ● Preliminary design of rail infrastructure, stations, and inter-modal facilities (station square, etc.) ● Preliminary design of rail coaches (electrified train) ● Preliminary design of train operation and communication systems ● Construction plan ● Cost estimates ● Economic and financial analysis	1) Social impacts – positive impacts are expected, such as a modal shift from road transport to rail transport and reduction of traffic congestion and accidents, while there is a possibility of land acquisition and resettlement 2) Natural Environment – Noise, vibration, pollution due to waste, etc., are expected during and after construction work. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● N/A	

17. Project location	Province:	Villa Clara, Ciego de Ávila, Camaguey, Holguín	City:	Santa Clara, Ciego de Ávila, Camaguey, Holguín
● UFC				
18. Notes (if any)				
●				

1. Project Code	RW009	2. Project Title	Feasibility Study on Commuter Rail Services Development in Havana

3. Implementation Agency	UFC, ATF, MITRANS		4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1	1.3.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.5	4.1.5.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To carry out a feasibility study on the commuter rail transport services in Havana by using the existing rail infrastructure and trains ● To carry out a study on the extension of the commuter rail services to Matanzas and Artemisa	● Improved commuter rail services ● High-level rail transport services for international tourists and visitors ● Mitigation of vehicular traffic congestion
14. Project Description	**15. Social-environmental consideration**
● Natural condition and topographic study ● Socio-economic study ● Social consideration and environmental study ● Demand forecast ● Passenger rail operation plan ● Preliminary design of rail infrastructure, stations, and inter-modal facilities (station square, etc.) ● Preliminary design of rail coaches (electrified train) ● Preliminary design of train operation and communication systems ● Construction plan ● Cost estimates ● Economic and financial analysis	1) Social impacts – positive impacts are expected, such as a modal shift from road transport to rail transport and reduction of traffic congestion and accidents, while there is a possibility of land acquisition and resettlement 2) Natural Environment – Noise, vibration, pollution due to waste, etc., are expected during and after construction work. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16 Relevant project(s)	
● RW005	

17. Project location	Province:	Havana	City:	Havana
● UFC				
18. Notes (if any)				
●				

1. Project Code	RW010	2. Project Title	Modernization of track inspection and maintenance planning system

3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2022	End	2025
6. Source of finance	☐ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.4	2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To develop a modern rail track inspection method and system ● To develop an advanced diagnostic system of track condition and other rail facilities ● To develop a planning system for rail track maintenance work and resource allocation using ICT.	● Optimized use of material and human resources for rail track maintenance. ● Efficient use of appropriate devices and technologies to make an adequate diagnosis ● Efficient improvement of the technical condition of the tracks and lengthening of their life. ● Improved staff capability, having advanced knowledge of technologies.
14. Project Description	**15. Social-environmental consideration**
● Review and evaluate the current track maintenance system - Study on track inspection method (international best practices) - Investigation and evaluation of the existing track maintenance planning and execution system ● Upgrading of track maintenance planning method and system - Data collection - Track maintenance planning - Human Resource Planning - Equipment maintenance planning ● Equipment procurement plan	1) Social impacts – no significant impacts are expected 2) Natural Environment - no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16 Relevant project(s)	
● RW008, RW009	

17. Project location	Province:	Area of EFC and EFCE	City:	Santa Clara and Camaguey
18. Notes (if any)				
●				

1. Project Code	RW011	2. Project Title	Modernization of rail bridge inspection, maintenance, and rehabilitation method

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)			Start	2022	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.4	2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To develop a modern rail bridge inspection method and system ● To develop an advanced diagnostic system for rail bridge condition ● To develop a planning system for rail bridge maintenance work and resource allocation using ICT.	● Optimized use of material and human resources for rail track maintenance. ● Efficient use of appropriate devices and technologies to make an adequate diagnosis ● Efficient improvement of the technical condition of the tracks and lengthening of their life. ● Improved staff capability, having advanced knowledge of technologies.
14. Project Description	**15. Social-environmental consideration**
● Review the existing bridge inspection method and system and study international best practices ● Design a modernized bridge inspection system ● Procure the bridge inspection equipment ● Capacity building of UFC staff	1) Social impacts – no significant impacts are expected 2) Natural Environment - no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● Refer to “Investment in railway bridges” (p.48), “Conversion of steel bridge to concrete bridge” (p. 50) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW012	2. Project Title	Procurement of trackwork machines and equipment

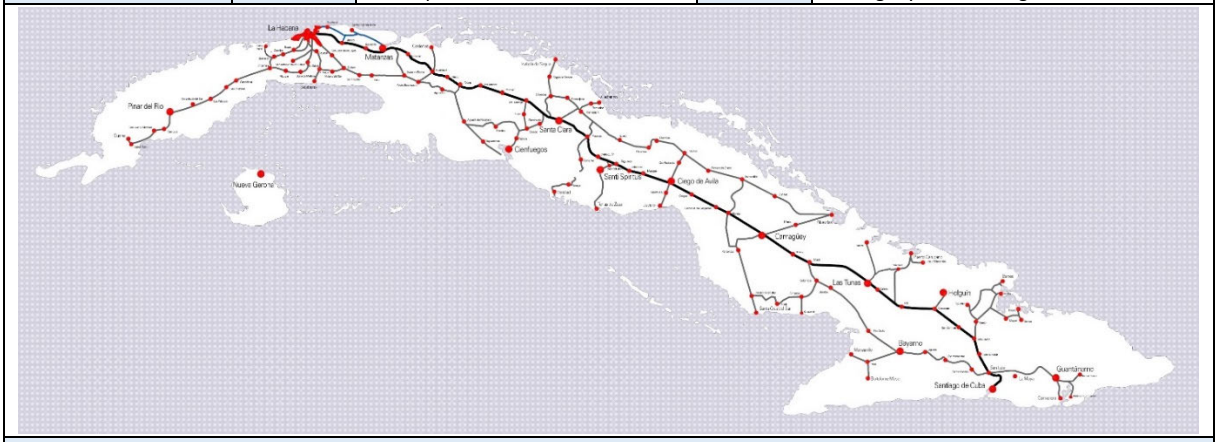
3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)			Start	2024	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1, 2.1.4	2.1.1.1, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To mechanize the trackwork of the Central Line and Cienfuegos Line by 2026 ● To mechanize the trackwork of other lines by 2030	● Modernized trackwork ● Improved efficiency and quality of trackwork ● Improved level of safety ● Improved speed and the level of riding comfort
14. Project Description	**15. Social-environmental consideration**
● To procure heavy trackwork machines ● To procure trackwork equipment such as railway ballast tamping machine, digital track gauge, railway sleeper machine, etc. ● Training of the trackwork staff (track brigades)	1) Social impacts – positive impacts are expected, such as improvement of the level of service and safety of railway operation 2) Natural Environment – no significant impacts are expected 3) Pollution – Oil etc., are expected to be incurred by using machines. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
RW007, RW008	

17. Project location	Province:	Central Line and Cienfuegos Line Other provinces	City:	Havana, Santa Clara, Cienfuegos, Camaguey, and Santiago de Cuba



18. Notes (if any)
● UFC will prepare a list of equipment

1. Project Code	RW013	2. Project Title	Workshop for trackwork machine & equipment maintenance

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1, 2.1.4	2.1.1.1, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Build a workshop for maintenance of the trackwork machine and equipment ● Consolidate the existing (scattered) maintenance works at a single workshop ● Maintain the conditions of the heavy trackwork machines and equipment to do trackwork as scheduled.	● Improve the quality of maintenance work ● Improve the productivity of workshop staff ● Longer life of trackwork machines and equipment
14. Project Description	**15. Social-environmental consideration**
● Feasibility study on the workshop for maintenance of trackwork machines and equipment ● Detailed design and cost estimates ● Building the workshop ● Procurement of maintenance machines ● Training of the workshop staff	1) Social impacts – positive impacts are expected, such as improvement of the level of service of the railway and increased job opportunities 2) Natural Environment – no significant impacts are expected 3) Pollution – Oil etc., are expected to be incurred by using machines. 4) Environmental Impact Assessment (EIA) – needed at the selected location for the workshop building
16. Relevant project(s)	
● RW007, RW008	

17 Project location	Province:	To be determined	City:	
● An appropriate location for the workshop will be decided based on the feasibility study.				
18. Notes (if any)				
● Refer to “Investment in repairment of workshop” (p.34) “in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW014	2. Project Title	Feasibility Study and Detailed Design of the Central Line Rehabilitation and Improvement

3. Implementation Agency	UFC, ATF, MITRANS			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2, 2.1.4	2.1.2.1, 2.1.2.2, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the LOS (level of service) of the Central Line train operation ● To enhance the level of safety ● To attract more cargo and passengers to the Central Line	● Increased train speed ● Improved ride comfort ● Increased level of safety ● Increased cargo transport capacity
14. Project Description	**15. Social-environmental consideration**
● Investigation of the existing condition of the rail track, bridges, signal & communication systems, and other railway infrastructure. ● Feasibility study on rehabilitating the Central Line and the branch line between Santa Clara and Cienfuegos. ● Rehabilitation plan of the Central Line and the branch line between Santa Clara and Cienfuegos. ● Detailed design of the Central Line and the branch line between Santa Clara and Cienfuegos.	1) Social impacts – positive impacts are expected, such as increased non-rail business opportunities and decreased train accidents. 2) Natural Environment – Noise, vibration 3) Pollution – a risk of air pollution if the existing old DMUs or Diesel locomotives are used continuously. 4) Environmental Impact Assessment (EIA) – Necessary The land acquisition might be necessary in case of alignment changes.
16. Relevant project(s)	
● RW011	

17. Project location	Province:	Central Line, Branch line between Santa Clara and Cienfuegos	City:	Havana, Santa Clara, Cienfuegos, Camaguey, Santiago de Cuba
● Refer to RW011				
18. Notes (if any)				
● Refer to “Railway network” (p.36), “Investment program of rehabilitation and modernization of railway infrastructure” (p. 37) in “Railway Recovery and Development Programme 2018-2028”. ● Refer to “Investment in modernization of UFC communication system” (p.57) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW015	2. Project Title	Rehabilitation of the Central Line, including the Havana junction

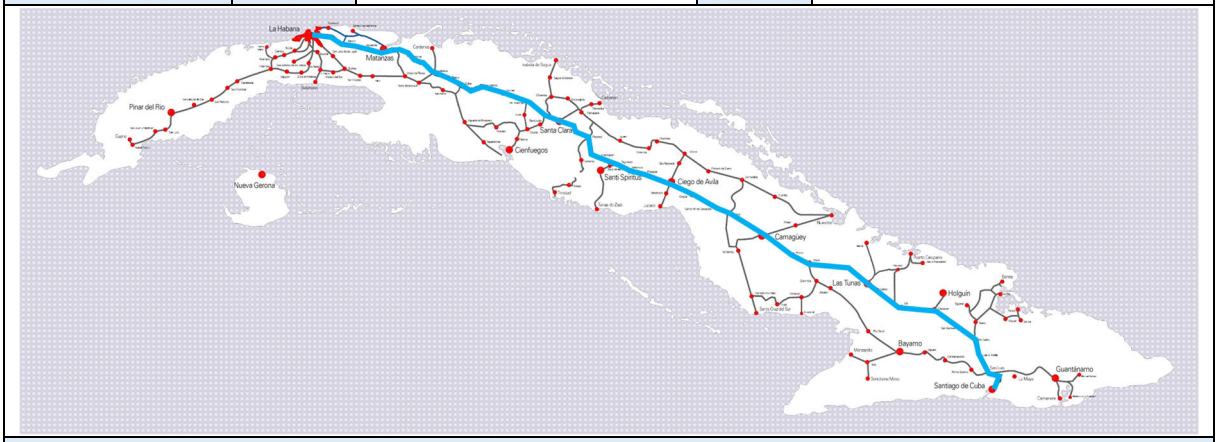
3. Implementation Agency	UFC, ATF, MITRANS			4. Implementation period			
5. Project cost (budget)	52.2 billion CUP (2.1 billion USD)			Start	2026	End	2030 or later
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2, 2.1.4	2.1.2.1, 2.1.2.2, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12 Purpose of the project	13. Expected Benefits/Outcomes
● To improve speed and capacity of train and comfort of train riding ● To attract more passengers and cargo to the Central Line train services	● The maximum train operation speed is increased to 120 km/h ● Track capacity is increased ● Safety of railway is improved
14. Project Description	**15. Social-environmental consideration**
● To rehabilitate track, embankment, level crossings, bridges, drainage, and other rail infrastructure ● To replace the existing rail with a long rail ● To install signal and communication systems that are compatible with the GSM-R system (Camaguay – Santiago de Cuba section)	1) Social impacts – positive impacts are expected, such as increased non-rail business opportunities and decreased train accidents. 2) Natural Environment – Noise, vibration 3) Pollution – a risk of air pollution if the old DMU or Diesel locomotives are used continuously. 4) Environmental Impact Assessment (EIA) – environmental monitoring is required. Besides, RAP (resettlement action plan) may be needed.
16. Relevant project(s)	
● RW010	

17. Project location	Province:	Central Line	City:	Havana, Santa Clara, Camaguey, Santiago de Cuba



18. Notes (if any)
● The construction costs are estimated based on RW010.

1. Project Code	RW016	2. Project Title	Feasibility Study and Detailed Design of the Southern Line, Cienfuegos Line, and Cárdenas Branch Line

3. Implementation Agency	UFC, ATF, MITRANS			4. Implementation period			
5. Project cost (budget)	296.3 million CUP (11.85 million USD)			Start	2025	End	After 2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2, 2.1.4	2.1.2.1, 2.1.2.2, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the LOS of the Southern Line, Cienfuegos Line, and Cárdenas Branch Line ● To improve the level of safety ● To attract more cargo and passengers to the lines	● Increased train speed ● Improved ride comfort ● Increased level of safety ● Increased cargo transport capacity
14. Project Description	**15 Social-environmental consideration**
● Investigation of the existing condition of the rail track, bridges, and other railway infrastructure. ● Feasibility study of the rehabilitation of the Southern Line, Cienfuegos Line, and Cárdenas Branch Line ● Rehabilitation plan of the Southern Line, Cienfuegos Line, and Cárdenas Branch Line ● Detailed design of the Southern Line, Cienfuegos Line, and Cárdenas Branch Line	1) Social impacts – positive impacts are expected, such as increased non-rail business opportunities and decreased train accidents. 2) Natural Environment – Noise, vibration 3) Pollution – a risk of air pollution if the old DMU or Diesel locomotives are used continuously. 4) Environmental Impact Assessment (EIA) – environmental monitoring is required. Besides, RAP (resettlement action plan) may be needed.
16. Relevant project(s)	
● RW012	

17. Project location	Province:	Southern Line, Cienfuegos Line, and Cárdenas Branch Line	City:	Havana, Jovellanos, Cienfuegos, and Cardenas
● Refer o RW012				
18. Notes (if any)				
● Refer to “Railway network” (p.36), “Investment program of rehabilitation and modernization of railway infrastructure” (p. 37) in “Railway Recovery and Development Programme 2018-2028”. ● Refer to “Investment in modernization of UFC communication system” (p.57) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW017	2. Project Title	Rehabilitation of the South Line, Cienfuegos Line, and Cárdenas Branch

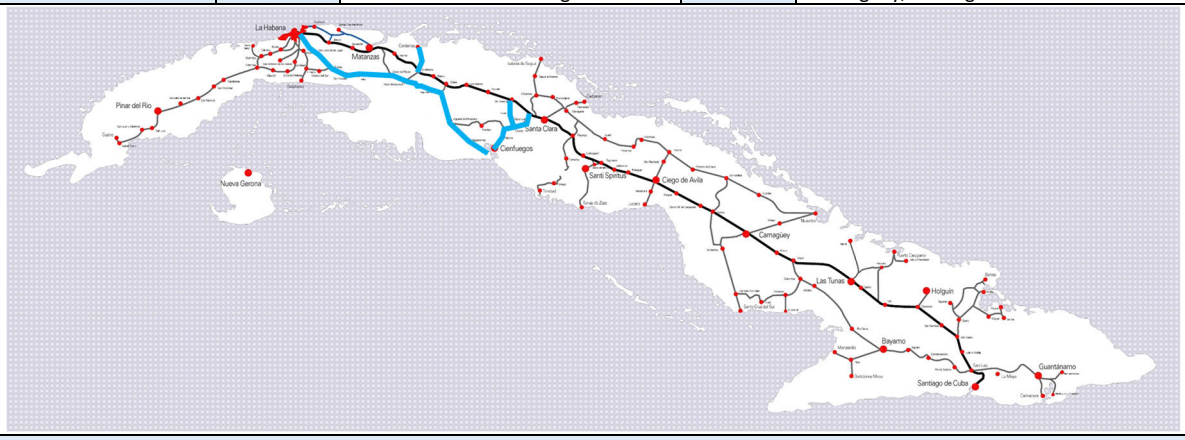
3. Implementation Agency	UFC, ATF, MITRANS		4. Implementation period			
5. Project cost (budget)	14.8 billion CUP (8.9 billion USD)		Start	2027	End	2030 and later
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2, 2.1.4	2.1.2.1, 2.1.2.2, 2.1.4.1, 2.1.4.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the speed and capacity of trains and the comfort of train riding ● To attract more passengers and cargo to the South Line, Cienfuegos Line, and Cárdenas Branch	● The maximum speed is increased to 120 km/h ● Track capacity is increased ● Safety of railway is improved
14. Project Description	**15. Social-environmental consideration**
● To rehabilitate track, embankment, level crossings, bridges, drainage, and workshop of the South Line, Cienfuegos Line, and Cárdenas Branch ● To replace the existing rail with a long rail	1) Social impacts – positive impacts are expected, such as increased non-rail business opportunities and decreased train accidents. 2) Natural Environment – Noise, vibration 3) Pollution – a risk of air pollution if the old DMUU or Diesel locomotives are used continuously. 4) Environmental Impact Assessment (EIA) – environmental monitoring is required. Besides, RAPresettlementnt action plan) may be needed.
16. Relevant project(s)	
● RW012	

17. Project location	Province:	Central Line, Branch line between Santa Clara and Cienfuegos	City:	Havana, Santa Clara, Cienfuegos, Camaguey, Santiago de Cuba



18. Notes (if any)
● The construction costs are estimated based on RW012.

1. Project Code	RW018	2. Project Title	Study on CCD (Centro de Carga y Descarga) rehabilitation

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2, 2.2.3, 2.2.4	2.2.1.1, 2.2.2.1, 2.2.3.1, 2.2.4.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Improve efficiency and quality in loading and unloading center operations	● Increase in CCD handling capacity ● Efficiency improvement in loading and unloading cargos ● Increase in productivity of CCD services
14. Project Description	**15. Social-environmental consideration**
● Cargo handling capacity assessment of the existing CCD ● Demand analysis of CCD ● Feasibility study and preliminary design for CCD rehabilitation, including the application of ICTs	1) Social impacts – no significant impacts are expected 2) Natural Environment –Positive impact is expected, such as reduction of emission of greenhouse gas due to modal shift from road transport 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – Needed as a part of the feasibility study
16. Relevant project(s)	
● RW016	

17. Project location	Province:	Nationwide	City:	Nationwide
18. Notes (if any)				
● Refer to “Repairment of CCD” (p.27) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW019	2. Project Title	Construction of CCD Habana 222

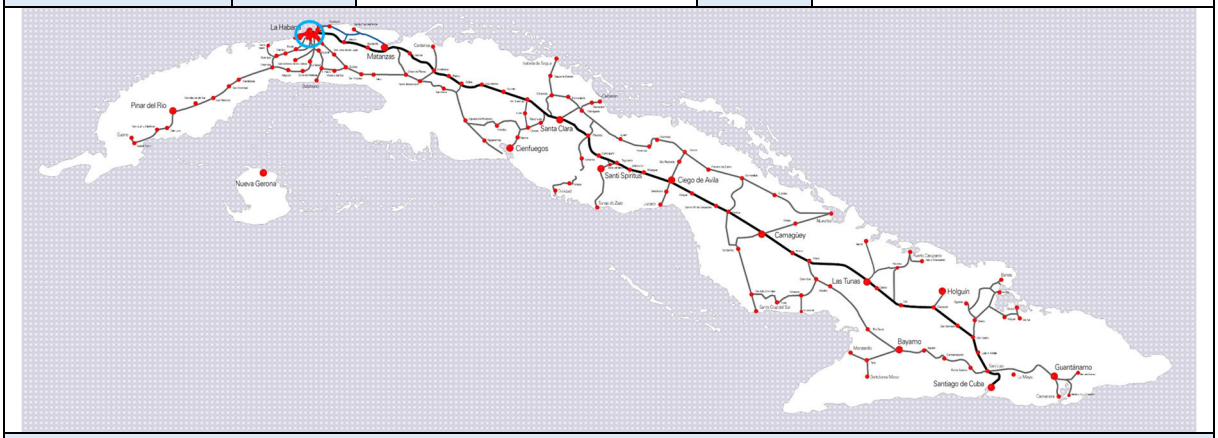
3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	125 million CUP (5.0 million USD)			Start	2026	End	2028
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2, 2.2.3, 2.2.4	2.2.1.1, 2.2.2.1, 2.2.3.1, 2.2.4.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To develop CCD Havana 222 as a logistic hub.	● Increase in CCD Habana 222 handling capacity ● Efficiency improvement in loading and unloading cargos ● Increase in productivity of CCD services
14. Project Description	15. Social-environmental consideration
● Detailed design ● Construction	1) Social impacts – no significant impacts are expected 2) Natural Environment –Positive impact is expected, such as reduction of emission of greenhouse gas due to modal shift from road transport 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – Needed as a part of the feasibility study
16. Relevant project(s)	
● RW015	

17. Project location	Province:	Havana	City:	Havana



18. Notes (if any)
●

1. Project Code	RW020	2. Project Title	Study and design for station rehabilitation

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1, 2.3.2	2.3.1.1, 2.3.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To rehabilitate and upgrade the existing railway stations ● To introduce “universal design” for all ● To increase LOS (level of service) for all rail users ● To provide non-rail business opportunities at railway stations	● Increased LOS for all types of rail passengers ● Increased attractiveness for non-Cuban visitors ● Increased fare-box revenue ● Increased revenue from non-rail business
14. Project Description	**15. Social-environmental consideration**
● The station building and facility inventory data collection and analysis ● Rehabilitation program (2025-2030) ● Preliminary design and cost estimate for priority ten stations for urgent rehabilitation	1) Social impacts – positive impacts are expected by improving the facilities and services for disabled and aged people 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● RW018	

17. Project location	Province:	Nationwide	City:	Nationwide
18. Notes (if any)				
● Refer to “Investment in repairment of railway station” (p.12) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW021	2. Project Title	The Second Stage of the Central Station of Havana Restoration and Rehabilitation

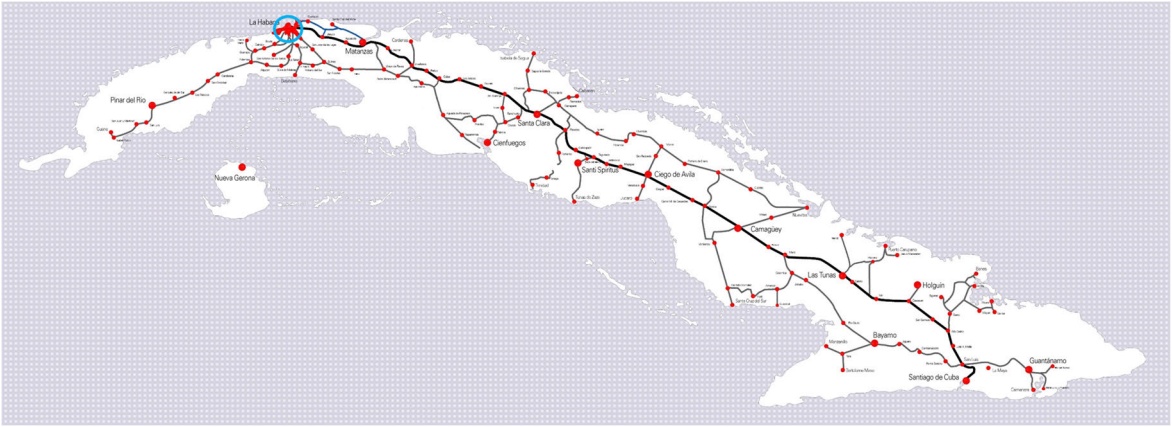
3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2026	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1, 2.3.2	2.3.1.1, 2.3.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To upgrade the Habana railway station and make it more attractive to passengers, including non-Cuban visitors. ● To preserve the historical and cultural value of the Havana Station	● Conservation of the cultural and heritage value of the Habana station ● Increased attractiveness of the Habana station for all, including international tourists ● Increased LOS for all types of station users/visitors
14. Project Description	**15. Social-environmental consideration**
● Study the cultural value of the station buildings and other facilities ● Restoration and rehabilitation plan ● Design and cost estimate for the restoration and rehabilitation work ● Construction work ● Installation of facilities and equipment	1) Social impacts – positive impacts are expected by improving the facility and services for disabled and aged people 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16 Relevant project(s)	
● RW017	

17. Project location	Province:	Havana	City:	Havana



18. Notes (if any)
● Refer to “Investment in repairment of Central Station” (p.12) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW022	2. Project Title	Research & Development of the modern railway technologies

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	125 million CUP (5 million USD)			Start	2022	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1, 3.2, 3.3	3.2.2, 3.2.3, 3.2.4	3.2.2.1, 3.2.3.1, 3.2.4.1
4. Transport service and industry development	4.3	4.3.1, 4.3.3, 4.3.5	4.3.1.1, 4.3.1.2, 4.3.5.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.4	6.4.4	6.4.4.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● Increase technical capacity and capability of MITRANS and UFC ● Study technologies that are suitable for the Cuban rail sector ● To study electrification of the train operation ● To study alternative power sources such as hydrogen for the train operation	● Increase the number of high-quality technical staff ● Application of technologies that are suitable for the Cuban rail sector ● Innovation in the rail sector
14. Project Description	**15. Social-environmental consideration**
● Establishment of a research & development unit (railway technology observatory) ● Study R&D agendas in other countries ● Carry out R&D activities continuously ● Overseas training program	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW004	

17. Project location	Province:	Nationwide	City:	
● Havana, Santiago de Cuba				
18. Notes (if any)				
● NA				

1. Project Code	RW023	2. Project Title	Study on Battery-Electric Locomotive and DEMU (Deisel Electric Multiple Unit)

3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1, 3.2.3	3.2.1.2, 3.2.3.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● As a part of the installation of environmentally friendly technologies in the rail sector, a series of studies shall be carried out	● Improvement of air quality ● CO2 reduction (reduction of the use of fossil fuels) ● Improvement of the country's energy matrix.
14. Project Description	**15. Social-environmental consideration**
● Study on technologies related to battery-electric locomotives and DEMU in other countries ● Feasibility study on the replacement of the existing railcars by battery-electric locomotives and DEMU	1) Social impacts – positive impacts are expected, such as public awareness about SDGs 2) Natural Environment – positive impacts are expected, such as reduction of emission of greenhouse gas and NOx, etc. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) –needed
16. Relevant project(s)	
● RW022	

17. Project location	Province:	Nationwide	City:	
● UFC				
18. Notes (if any)				
● N/A				

1. Project Code	RW024	2. Project Title	Installation of photovoltaic systems at stations, level crossings, and other railway facilities

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2024	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.4	3.2.4.1~3
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study and development of an installation (investment) plan of solar-powered facilities to rail stations, level crossings, and other public railway facilities. ● Installation of the solar-powered facilities	● Reduction of fossil fuel consumption. ● Contribution to SDGs
14. Project Description	**15. Social-environmental consideration**
● Study on use (demand) for electric power of rail stations, level-crossings, signal and communication systems, and other rail-related facilities. ● Development of overall investment program of the solar-powered facilities ● Feasibility study in the installation of the solar-powered facilities ● Procurement and installation of the solar-powered facilities and equipment	1) Social impacts – no significant impacts are expected 2) Natural Environment – Positive impacts are expected, such as reduction of fuel origin energy. 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW022	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	RW025	2. Project Title	Safety improvement of level crossings

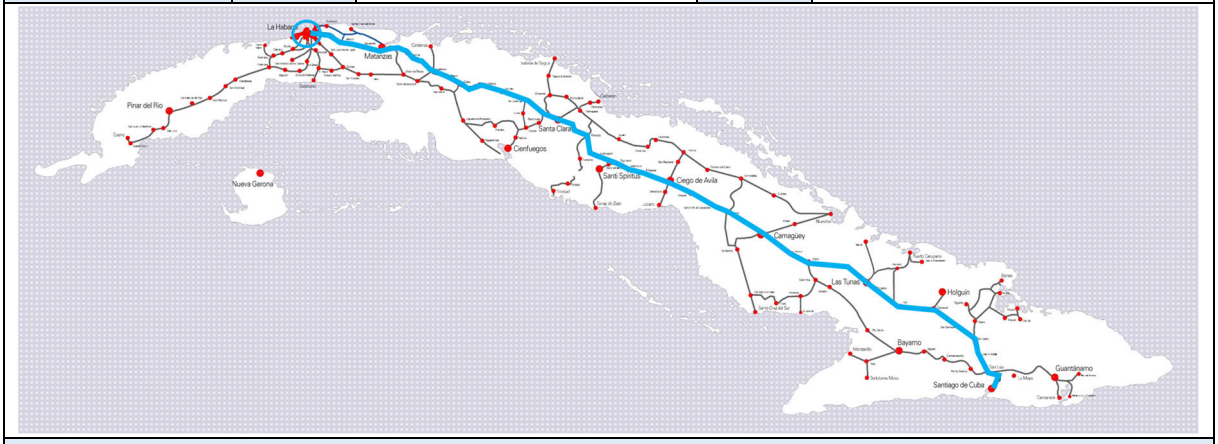
3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	42 million CUP (1.68 million USD)		Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1	3.1.2	3.1.2.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the safety of level crossing and reduce the accidents	● Increased level of safety at the level crossings ● Decreased accidents
14. Project Description	**15. Social-environmental consideration**
● 74 level crossings of the Central Line shall be renovated by installing a modern protection system ● 10 level crossings in Havana shall be renovated by installing a modern protection system	1) Social impacts – Positive impacts are expected by improving the safety of railway 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16 Relevant project(s)	
●	

17. Project location	Province:	Central Line, Havana	City:	Havana and the other major cities



18. Notes (if any)
●

1. Project Code	RW026	2. Project Title	Security improvement of cargo storage, handling, and transportation

3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	75 million CUP (3.0 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3	3.3.1, 3.3.2	3.3.1.1, 3.3.2.2
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Increase the level of security to protect people, cargo, railway infrastructure, and facilities against vandalism	● Improved level of security ● Reduced damages/loss caused by vandalism
14. Project Description	**15. Social-environmental consideration**
● Study security measures that are used in other countries ● Design security system, facilities, and equipment ● Install the security system to stations, loading and unloading centers (CCD), trains, platforms, railway yards, workshops, etc. ● Repair and expansion of fences and lighting systems.	1) Social impacts – Positive impacts are expected by improving the security level around railway facilities. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	Havana and the other major cities
18. Notes (if any)				
● Refer to “Investment in protection system at level crossings in Central Line” (p.61), “Investment in protection system at level crossings” (p.62) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW027	2. Project Title	Feasibility Study on the Improvement of passenger train service between Habana and Mariel SDZ (study)

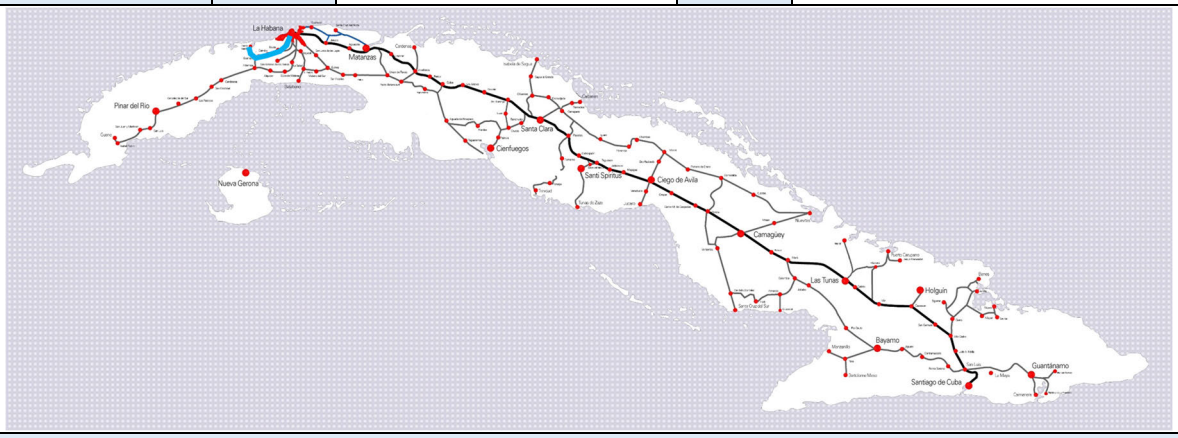
3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☒ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.1, 4.1.2, 4.1.3, 4.1.6	4.1.1.1, 4.1.2.1, 4.1.3.1, 4.1.6.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Improve LOS of the passenger train between Habana and the Mariel SDZ.	● Increased rail passengers between Habana and the Mariel SDZ ● Modal shift from bus to rail ● Improved financial performance of UFC
14. Project Description	**15. Social-environmental consideration**
● Study the current passenger transport demand between Habana and the Mariel SDZ ● Study the current LOS of the passenger transport services between Habana and the Mariel SDZ ● Feasibility study on the improvement of the passenger train services	1) Social impacts – Land acquisition and resettlement are possible if re-alignment and station expansion is expected. 2) Natural Environment – Noise, vibration, pollution due to waste, etc., are expected during and after construction work. 3) Pollution – There is a risk of pollution of air and soil water because of exhaust gas from rolling stock, construction machinery and vehicle, and maintenance work. 4) Environmental Impact Assessment (EIA) – necessary
16. Relevant project(s)	
●	

17. Project location	Province:	Havana	City:	Havana, Mariel



18. Notes (if any)
● Refer to “Investment in the railway to Mariel” (p.51) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW028	2. Project Title	Birán project - update of railbus service in rural areas

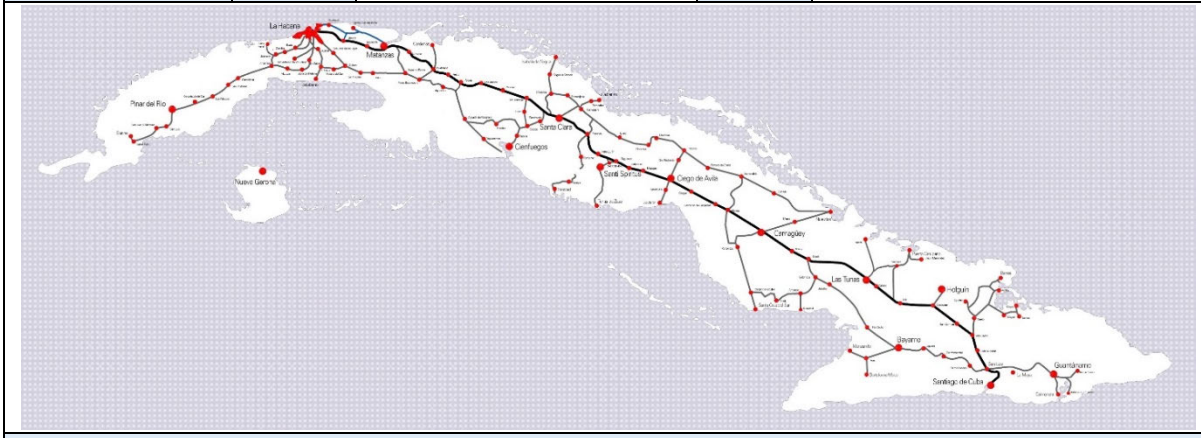
3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2022	End	2030
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.7	4.1.7.1, 4.1.7.2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

11. Purpose of the project	12. Expected Benefits/Outcomes
● To improve the passenger transport service in the rural area ● To increase the speed and operation frequency	● Increase in passenger volumes compared to those achieved in 2020. ● Improved level of services of public transport
13. Project Description	**14. Social-environmental consideration**
● To produce 300 light railbuses locally ● To import necessary parts to produce the railbuses	1) Social impacts – positive impacts are expected, such as enhanced social and economic activities in the rural areas 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
15. Relevant project(s)	
● N/A	

16. Project location	Province:	Nationwide	City:	Nationwide



17. Notes (if any)
● Refer to “Biran project” (p.12) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW029	2. Project Title	Rehabilitation of the Hershey electrified line

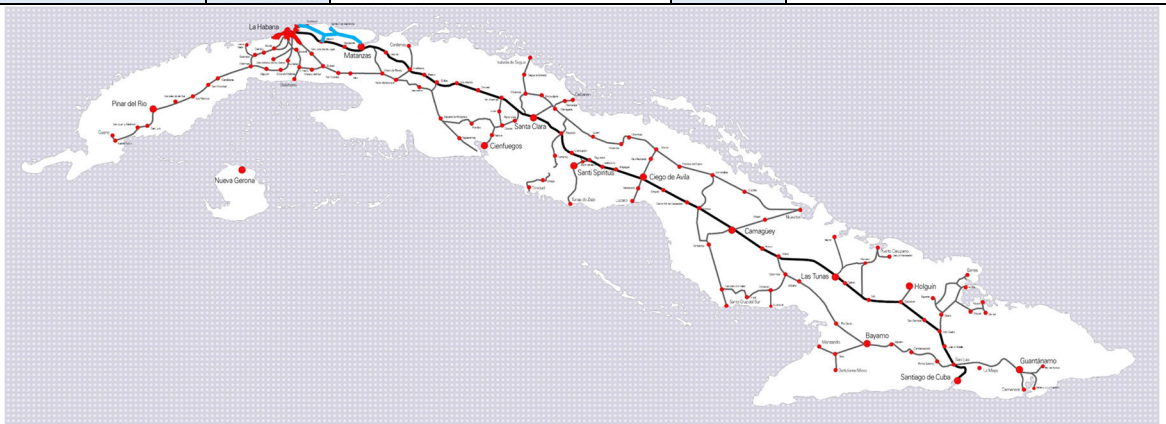
3. Implementation Agency	UFC, ATF, MITRANS		4. Implementation period			
5. Project cost (budget)	17.3 billion CUP (690 million USD)		Start	2024	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1	3.2.1.1, 3.2.1.2
4. Transport service and industry development	4.1	4.1.1, 4.1.2, 4.1.3, 4.1.4	4.1.1.1, 4.1.2.1, 4.1.3.1, 4.1.4.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Rehabilitate the HERSHEY electric railway to increase carrying capacity, speed, and comfort	● 1 million passengers per year ● Transport parcels
14. Project Description	**15. Social-environmental consideration**
● Investigation of the existing condition of the rail infrastructure, railcars, and other facilities ● Feasibility study on the rail infrastructure and station rehabilitation ● Detailed design of the rail infrastructure and station rehabilitation ● Feasibility study on the power supply, railcars, signal, and communication systems ● Detailed design of the power supply, railcars, signal, and communication systems ● Project implementation (procurement and construction) ● Staff training	1) Social impacts – positive impacts are expected, such as reduction of accidents and preservation of only electric railway in Cuba 2) Natural Environment – positive impacts are expected, such as reduction of emission of greenhouse gas due to modal shift 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) –necessary
16. Relevant project(s)	
● N/A	

17. Project location	Province:	The area along Hershey Line	City:	Havana, Matanzas



18. Notes (if any)
●

1. Project Code	RW030	2. Project Title	Rolling stock procurement program

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	6.5 billion CUP (260 million USD)			Start	2022	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1, 4.2	4.1.4, 4.2.2, 4.2.3, 4.2.6, 4.2.8	4.1.4.1, 4.2.2.1, 4.2.3.1, 4.2.4.1, 4.2.6.1, 4.2.8.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To increase passenger and cargo transport capacity by increasing the number of locomotives, passenger coaches, and wagons	● Manage to transport 24.2 million passengers, of which 2.9 million are long-distance travelers. ● Improve the level of the services
14. Project Description	**15. Social-environmental consideration**
● Demand forecast ● Train operation plan ● Procurement plan ● Economic and financial evaluation - Locomotives (possibly battery electric locomotives) - Passenger coaches (240 cars) - DEMUs - Wagons ● Staff training	1) Social impacts – positive impacts are expected due to introducing new rolling stock designed to consider vulnerable people. 2) Natural Environment –positive impacts such as reduction of emission of greenhouse gas are expected. 3) Pollution – positive impacts are expected by introducing rolling stock with a new diesel engine that emits fewer pollutants. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Main lines and Havana	City:	

18 Notes (if any)
● Refer to “Acquisition of 240 cars for national passenger trains” (p.6), “Investment in the acquisition of passenger trains for middle distance travel” (p.9), “Acquisition DMU for middle distance travel” (p. 10), “Locomotive Equipment” (p.29) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW031	2. Project Title	Installation of GPS for efficient train monitoring and operation

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	125 million CUP (5 million USD)			Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.3	4.3.5	4.3.5.1, 4.3.5.2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Upgrade the current GPS-based train operation monitoring system ● Install the GPS-based train operation monitoring system to the existing rollingstock	● Improved efficiency in dispatching trains ● Fuel-saving
14. Project Description	**15. Social-environmental consideration**
● Study GPS-based train operation location and condition monitoring systems in the world ● Design an upgraded GPS-based train operation monitoring system ● Design a train condition monitoring system such as a fuel consumption sensor for locomotive ● Install an upgraded GPS-based train operation monitoring system ● Staff training (train operation monitoring, train dispatching, etc.)	1) Social impacts – no significant impacts are expected 2) Natural Environment – Positive impact is expected, such as saving of fuel consumption due to efficient operation 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW004	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● Refer to “Investment in GPS” (p.64) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW032	2. Project Title	Study on the cargo transport efficiency improvement

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.2	4.2.1, 4.2.2, 4.2.5, 4.2.6, 4.2.8	4.2.1.2, 4.2.2.1, 4.2.2.2., 4.2.5.1~4, 4.2.6.1, 4.2.8.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To increase rail car rotation time by improving the failure rate of rolling stock etc.	● Cargo transportation volume is increased compared to 2020.
14. Project Description	**15. Social-environmental consideration**
● Cargo transport demand forecast. ● Analyze the cargo flow (movement) data, including loading factor, cargo sender, and recipient. ● Update the freight train operation plan based on the demand ● Optimize resource allocation concerning wagons, locomotives, fuels, crews, unloading and loading operations, etc. ● Effective coordination with the operation of CCDs ● Investment plans (locomotives, freight cars, and CCDs) to improve efficiency. ● Capacity building and technology transfer to UFC staff	1) Social impacts – no significant impacts are expected 2) Natural Environment –positive impact is expected on greenhouse gas emissions as a modal shift to railway advances. 3) Pollution – Positive impact on the atmosphere if the modal shift to railway advances. 4) Environmental Impact Assessment (EIA) – no need
15. Relevant project(s)	
● RW033	

16. Project location	Province:	Havana, Main Lines	City:	Havana, Mariel, Santa Clara, Cienfuegos, Santiago de Cuba
17. Notes (if any)				
● Refer to “Freight transportation” (p.16), “Investment in protection and surveillance system for cargo” (p. 68) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW033	2. Project Title	Study on the parcel transport service improvement

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.2, 4.3	4.2.4, 4.3.3	4.2.4.1, 4.2.4.2, 4.3.3.2
5. Transport pricing and resource allocation	5.1	5.1.2	5.1.2.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To Increase the share of the railway in the transportation of domestic and international parcels	● Increased parcel cargo transport by rail ● Increased revenue from the parcel transport services
14. Project Description	**15. Social-environmental consideration**
● Feasibility study on the parcel transport improvement options ● Demand forecast of the parcel transport ● Study on the international best practices for rail-based parcel transport service development ● Study on possible collaboration with international parcel transport service providers ● Parcel transport service plan ● Plan and preliminary design of necessary facilities and equipment to handle parcels ● Economic and financial analysis of the proposed options	1) Social impacts – no significant impacts are expected 2) Natural Environment –Positive impact is expected, such as reduction of emission of greenhouse gases due to modal shift from road transport 3) Pollution – Positive impact is expected, such as reduction of emission of exhaust gases due to modal shift from road transport 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW031	

17. Project location	Province:	Nationwide	City:	Nationwide
18. Notes (if any)				

1. Project Code	RW034	2. Project Title	Improve the cargo train operation diagram and operation

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.2	4.2.2, 4.2.4, 4.2.6, 4.2.8	4.2.2.1, 4.2.2.2, 4.2.4.1, 4.2.6.1, 4.2.8.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To upgrade the freight train operation planning system by using ICT ● To increase cargo handling capacity	● Increased cargo handling volume by rail ● Increased LOS for cargo owners ● Lowered cargo handling costs by improved train operation efficiency
14. Project Description	**15. Social-environmental consideration**
● Cargo demand data collection and analysis ● Freight train operation planning ● Updating the freight train diagram to respond to the demand ● Monitoring/tracking system of cargo handling services ● Staff training	1) Social impacts – Gender mainstreaming needs to be considered (capacity development of UFC). 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
●				
18. Notes (if any)				
●				

1. Project Code	RW035	2. Project Title	Digital transformation of cargo handing and transportation data collection and analysis system using Harmonized Commodity Description and Coding System (HS Code)

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.3	4.3.3	4.3.3.1, 4.3.3.2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	12. Expected Benefits/Outcomes
● To reorganize cargo statistics and database using HS cord ● To upgrade the cargo transport database using Cloud Service	● Achieve the classification of goods in correspondence with the harmonized system (HS cord) used internationally
13. Project Description	**14. Social-environmental consideration**
● Establish a market research unit (cargo database and analysis) ● Upgrade the cargo database using HS code (cloud service) ● Conduct customer (cargo owners) needs surveys regularly ● Crago transport service development plan	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
15. Relevant project(s)	
●	

16. Project location	Province:	Havana	City:	Havana
17. Notes (if any)				
● Refer to “Investment in computerization of UFC” (p.63) in “Railway Recovery and Development Programme 2018-2028”. ●				

1. Project Code	RW036	2. Project Title	Repair program of railcars

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	1.5 billion CUP (60 million USD)			Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.4	4.4.2, 4.4.4	4.4.2.1, 4.4.4.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To Carry out the repairment of the existing rail fleet to meet the updated train operation plan	● Increased number of available rail fleets ● Longer life of the existing rail fleets ● Reduced investment costs to procure new rail fleets ● Revitalized rail-related industries
14. Project Description	**15. Social-environmental consideration**
● Diagnosis of the existing rail fleets ● Prioritize the repair work of the rail fleets ● Carry out a series of repair work on the rail fleets	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Major workshops	City:	Havana, Camaguey, Santa Clara

18. Notes (if any)
● Refer to “Investment in railway repairment equipment” (p. 31), “Investment in specialized equipment” (p. 44) in “Railway Recovery and Development Programme 2018-2028”. ● The project cost will be estimated in this project

1. Project Code	RW037	2. Project Title	Modernization of the workshops

3. Implementation Agency	UFC, MITRANS		4. Implementation period			
5. Project cost (budget)	1.13 billion CUP (45 million USD)		Start	2022	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.4	4.4.1	4.4.1.1~4.4.4.5
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To modernize the railway workshops and equipment, introducing advanced technologies	● Achieve less time spent by the teams in the workshops. ● Adjust the capabilities of the facilities to current and future needs. ● Increase the quality of repairs. ● Have an up-to-date railway workshop modernization program
14. Project Description	**15. Social-environmental consideration**
● Diagnosis of the existing workshops and equipment ● Study on the international best practices regarding the railway workshop and related technologies ● Prepare a modernization plan for the workshops and equipment ● Feasibility study on the modernization of the workshops ● Detailed design and cost estimate of the workshop modernization, including procurement of equipment ● Construction of the new workshops	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	

17. Project location	Province:	Major workshops	City:	Havana, Camaguey, Santa Clara
18. Notes (if any)				
● Refer to “Investment in repairment of workshop” (p.34) in “Railway Recovery and Development Programme 2018-2028”.				

1. Project Code	RW038	2. Project Title	Modernization of the vaporization system of the fuel tanks of the Sagua workshop

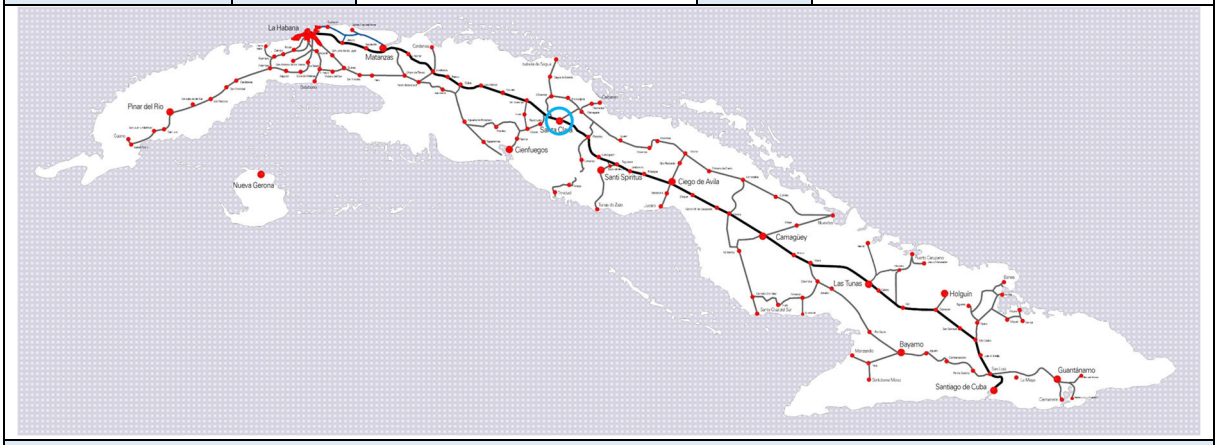
3. Implementation Agency	UFC, MITRANS	4. Implementation period			
5. Project cost (budget)	12.5 million CUP (0.5 million USD)	Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.4	4.4.1	4.4.1.3
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Modernize the facilities for vaporization of fuel wagons in the Sagua Workshop, province of Villa Clara	● Achieve less time spent by the teams in the workshops. ● Improved quality of repair works
13. Project Description	**14. Social-environmental consideration**
● Upgrade the steaming system with a new boiler of 660 Kg / h designed for a pressure of 12 Kg / cm2 and working 10 Kg / cm2 for Diesel fuel as well as the supply of all the necessary equipment for this type of service. ● Replace the existing equipment in poor condition. ● Improvement of the waste treatment system.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
15. Relevant project(s)	
● N/A	

16. Project location	Province:	Villa Clara	City:	Santa Clara



17. Notes (if any)
● Refer to “Investment in railway repairment equipment” (p. 31), “Investment in specialized equipment” (p. 44) in “Railway Recovery and Development Programme 2018-2028”.

1. Project Code	RW039	2. Project Title	Marketing of rail cargo and passenger

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.4	4.4.1	4.4.1.3
5. Transport pricing and resource allocation	5.1	5.1.1, 5.1.2, 5.1.3	5.1.1.1, 5.1.2.1, 5.1.3.1~2
6. Institutional and regulatory development	6.2	6.2.1	6.2.1.1

121. Purpose of the project	13 Expected Benefits/Outcomes
● Attract more rail passengers and cargo to increase revenue from the rail business ● Increase non-rail business opportunities	● Achieve 24.2 million passengers, of which 2.9 million are long-distance travelers. ● Achieve annual increases in income from the international passenger revenue more significant than 2% ● Achieve annual increases in income from the container cargo transportation services more remarkable than 2%
13. Project Description	**14. Social-environmental consideration**
● Develop a marketing plan to attract international rail passengers ● Develop a marketing plan to attract global shipping companies ● Prepare a plan for using rail assets (stations, etc.) for non-rail businesses such as kiosks, hotels, parking, etc.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – Not needed
15. Relevant project(s)	
● Project P/M-4.4.1 - Railway rolling stock procurement program	

16. Project location	Province:	Nationwide	City:	Nationwide
17. Notes (if any)				
● Refer to “Company logistics” (p.65) in “Railway Recovery and Development Programme 2018-2028”. ●				

1. Project Code	RW040	2. Project Title	Study on the railway transport tariff structure

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	12.5 million CUP (0.5 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1	5.1.1, 5.1.2, 5.1.4, 5.1.5	5.1.1.1, 5.1.2.1, 5.1.4.1~2, 5.1.5.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To review the tariff structure to be more competitive with keeping affordability	● Tariff of railway becomes competitive compared to road transport
14. Project Description	**15. Social-environmental consideration**
● To study the pricing of the other transport such as road transport ● To analyze the financial soundness of UFC due to the application of the new tariff structure ● Coordinate with related ministries etc.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● N/A	

17. Project location	Province:	Havana	City:	Havana
18. Notes (if any)				
●				

1. Project Code	RW041	2. Project Title	Increase the capacity of UFC as an integrated logistics operator

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)			Start	2027	End	2030
6. Source of finance	☒ State budget	☐ External financing agencies	☒ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1	5.1.2	5.1.2.1
6. Institutional and regulatory development	6.1, 6.2	6.1.1, 6.2.1	6.1.1.1, 6.2.1.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● Upgrade the capacity of UFC as a logistics service provider in Cuba ● Make UFC a part of an international shipping company	● The UFC's capacity as a logistic operator is enhanced ● The cargo volume transported by railway increases
14. Project Description	**15. Social-environmental consideration**
● Diagnosis of the existing capacity and capability as a logistics service provider ● Study best practices on the rail-based logistics service provider in the world ● Prepare a service development and associated organizational restructuring plan toward the establishment of an integrated logistics service provider ● Carry out a pilot project as a logistics provider using the Central Line and feeder services (trucks)	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Havana	City:	Havana
18. Notes (if any)				

1. Project Code	RW042	2. Project Title	Organizational restructuring of UFC and related entities

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2022	End	2030
6. Source of finance	☒ State budget	☐ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.1, 6.2, 6.3	6.1.1, 6.2.1, 6.3.1	6.1.1.1, 6.2.1.1, 6.3.1.1~2

12. Purpose of the project	13. Expected Benefits/Outcomes
● Increase and upgrade the capacity and performance of UFC and affiliated companies to achieve financial sustainability	● Enhanced financial sustainability of UFC and affiliated entities ● Strengthened management body to provide sustainable rail transport services
14. Project Description	**15. Social-environmental consideration**
● Transfer the Luyano Passenger Car Workshop to the EREF Workshop Company. ● Transfer of the Ciénaga Locomotive Workshop to the EREF Workshop Company. ● Transfer of container transportation in the eastern region to the FERROMAR Company. ● Segregation of assets (locomotive, passenger coaches, wagons' etc.) owning company and operation ● Merging the four territorial operating companies. ● Establishment of a company specialized in communication, signaling, computing, electricity, and development of technologies. ● Establishment of a company specializing in Express Transportation (parcels) ● Establishment of a company specializing in train dispatching management ● Transform UFC's preparation center into a company. ● Redefine the structure of the UFC logistics company in line with centralized supply management. ● Increase opportunities for MSME companies.	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW043	

17. Project location	Province:	Havana	City:	Havana

18. Notes (if any)
● Refer to "Investment in computerization of UFC" (p.63) and "Special training centers" (p. 74) in "Railway Recovery and Development Programme 2018-2028".

1. Project Code	RW043	2. Project Title	Study on the reorganization of the national railway planning, administration, and management systems

3. Implementation Agency	ATF, MITRANS			4. Implementation period			
5. Project cost (budget)	337.5 million CUP (1.5 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.1, 6.2, 6.3	6.1.1, 6.2.1, 6.3.1	6.1.1.1, 6.2.1.1, 6.3.1.1~2

12. Purpose of the project	13. Expected Benefits/Outcomes
● Define the role, limits, and responsibilities of each entity related to the railway sector, including MITRANS (OACE), ATF, UFC (OSDE), and other railway operators, in terms of asset ownership, planning administration, infrastructure development, operation & maintenance, service provision, and monitoring & enforcement.	● Achieve a simple and efficient structure of the national rail system with a transparent distribution of functions.
14. Project Description	**15. Social-environmental consideration**
● Study international best practices in countries such as Mexico, Spain, France, Germany, the UK, and Japan ● Propose a structure with each party's functions, obligations, and duties, with a clear delimitation between the regulatory role and the role of a service provider. ● Implement the creation of the National Regulatory Authority for the railway sector	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RW042	

17. Project location	Province:	Havana	City:	Havana
18. Notes (if any)				
●				

1. Project Code	RW044	2. Project Title	Upgrade training/educational system in the rail transport sector

3. Implementation Agency	UFC, MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.4	6.4.1, 6.4.2, 6.4.3, 6.4.4	6.4.1.1, 6.4.2.1, 6.4.3.1~2, 6.4.4.1

12. Purpose of the project	13. Expected Benefits/Outcomes
● To upgrade the existing training/educational system in the Cuban rail sector to an international standard	● Increased number of qualified staff in the rail sector
14. Project Description	**15. Social-environmental consideration**
● Study the international best practices about training/educational systems in the world ● Prepare a comprehensive program linked to training that includes: - Improvement of facilities. - Improvement and completion of the material base of study. - Elevation of the academic teaching level of the professors of the UFC Preparation Center. - Increase collaboration with secondary and higher education institutions. - Expand the use of simulators. ● Installation of new rail operation simulators	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● N/A	

17. Project location	Province:	Havana	City:	Havana
18. Notes (if any)				
●				

1. Project Code	RW045	2. Project Title	Study on Return on Asset (ROA)

3. Implementation Agency	UFC			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2026
6. Source of finance	☐ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☒ Railway ☐ Aviation ☐ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1	5.1.6	5.1.6.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To study the usage of unused land owned by UFC	● Unused land which has a high potential for development is identified ● A development plan is prepared for each of the potential lands
14. Project Description	**15. Social-environmental consideration**
● To study the unused land owned by UFC. ● To prepare a land development plan for the unused land ● To carry out financial analysis	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Havana	City:	Havana
18. Notes (if any)				
●				

6 章

Appendix A4: Port & Maritime Transport Sector

1. Project Code	M001	2. Project Title	Development of Cruise Passenger Terminal in Cienfuegos Port (Plan, Feasibility Study)

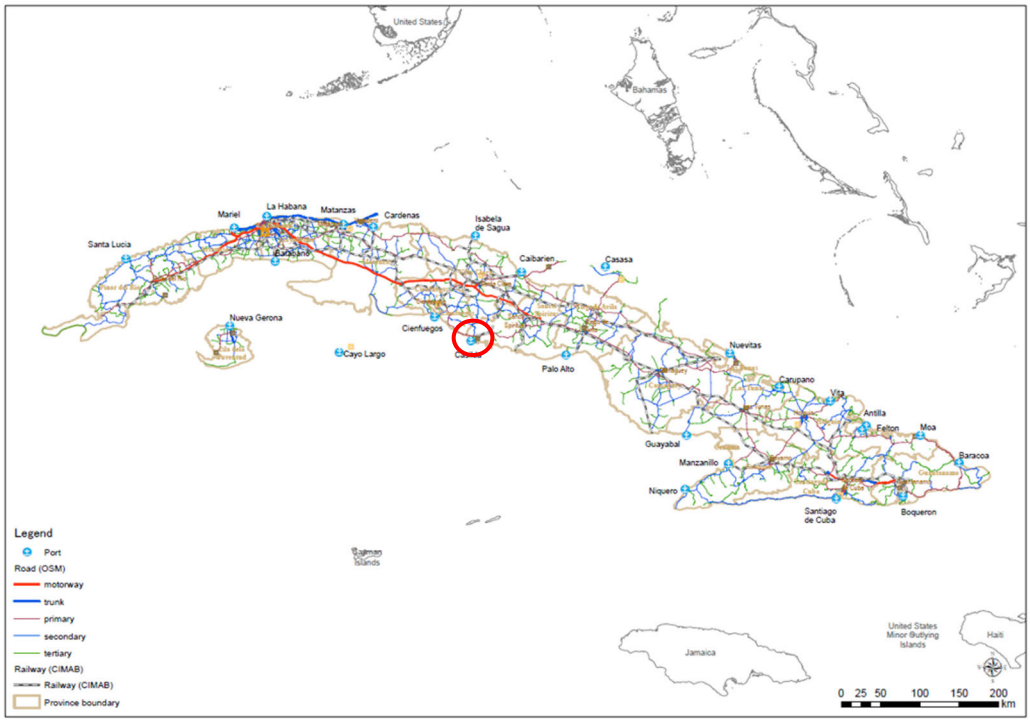
3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

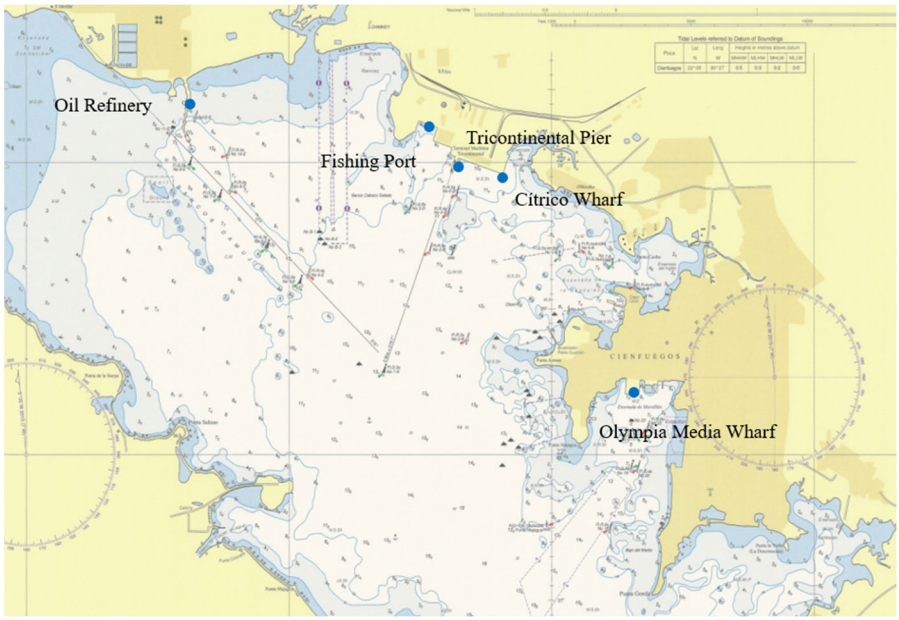
7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1	1.1.3	1.1.3.2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Cienfuegos port is one of Cuba's most important ports for tourism development. A new passenger terminal is studied and planned to accommodate foreign tourists visiting by cruise ships. ● The city of Cienfuegos is under development in terms of historical avenues and buildings to increase its attractiveness to foreign tourists. However, the port passenger terminal for cruise ship passengers remains an old building with partially open-air facilities.	● The number of cruise ship visitors is increased and contributes to the acquisition of foreign currencies.
14. Project Description	**15. Social-environmental consideration**
● Existing facilities' condition and capacity ● Demand forecast (including revenue forecast) ● Planning and Design - layout plan, conceptual design of facilities ● Cost estimates ● Economic and Financial analysis ● Environmental Impact Assessment (EIA) ● Implementation plan	1) Social impacts – NA 2) Natural Environment – Construction phase and operation phase 3) Pollution – construction phase and operation phase 4) Environmental Impact Assessment (EIA) – Needed
16. Relevant project(s)	
●	

17. Project location	Province:	Cienfuegos	City:	Cienfuegos





18. Notes (if any)

- Technical assistance (TA)/external loans can be considered to carry out FS.
- Private investors can be invited to do detailed design (DD), construction, operation & maintenance.

1. Project Code	M002	2. Project Title	Containerization of International/Domestic Cargo Transport (Plan and Feasibility Study)

3. Implementation Agency	GEMAR, MITRANS	4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)	Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.2	1.3.2.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Existing container transportation for international/domestic cargo has less efficiency because many empty containers are transported. ● The study is to survey the existing container transportation, analyze the obstacles, and find a way to achieve more effective container transportation. ● The study proposes the potential cargoes which are to be suitable for containerization. ● The study should report the costs of cargo containerization.	● By encouraging containerization (for export and import), balanced container transportation (fewer empty container transport) is achieved, which is expected to reduce container transport costs. ● Quality/quantity of cargo handling capacity will be improved
14. Project Description	**15. Social-environmental consideration**
● Data collection and surveys - Existing container transport statistics (international/domestic) - Existing transportation of empty container - Existing cargo other than container transport ● Preliminary study - The efficiency of the container and other forms of cargo transport - Identification of the causes of existing cargo transport problems - Measures to increase containerization of various cargo - Measures to increase container cargo and reduce empty container transportation - Demand forecast of containerization - Estimation of costs associated with the containerization ● Plan and feasibility study (FS) - A containerization roadmap - A preliminary FS on the initial containerization projects	1) Social impacts – SIA is needed 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – EIA is needed
16. Relevant project(s)	
● M004	

17. Project location	Province:	Whole country	City:	NA
Whole country				
18. Notes (if any)				
● Technical assistance (TA)/external loans can be considered to carry out FS.				

1. Project Code	M003	2. Project Title	Port Statistics and Database System Development Project

3. Implementation Agency	MITRANS, GEMAR	4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)	Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector			8. Project Priority	
	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others		☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.5	1.5.1, 1.5.2	1.5.1.1~2, 1.5.2.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish and operate a statistical database system to improve government planning capability and to contribute to efficient and appropriate transportation activities - Statistical data collection and sharing system - Real-time domestic cargo movement monitoring system - Port facility and equipment inventory database	● By sharing the data and information about the port-related facilities, and ongoing and scheduled activities, port users, can improve the transport business ● The port operator(s) can provide services to the port users efficiently and effectively. ● The planning capability of MITRANS and GEMAR is upgraded. ● Further advancement of the port operation can be achieved.
14. Project Description	**15. Social-environmental consideration**
● Plan and design - Study the existing port-related database systems in other countries - Research on the available port-related data - Design an initial database using the available data (including data definition and coding system) - Design a unit to operate and manage the database system ● Implementation - Establish the unit to operate and manage the database system - Procurement of software, hardware, etc., to run the system	1) Social impacts – NA 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
●	

17. Project location	Province:	Whole country	City:	NA
Whole country				
18. Notes (if any)				
● Including procurement of software and equipment ● Technical assistance (TA)/external loan can be considered to carry out the project and procure the equipment				

1. Project Code	M004	2. Project Title	Preparatory Study to Introduce Maritime Transport Planning Courses to Academic Institutes/Colleges in Cuba.

3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	12.5 million CUP (0.5 million USD)		Start	2023	End	2024
6. Source of finance	☒ State budget	☐ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.6	1.6.1	1.6.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To increase quality human resources in the maritime transport sector ● To provide regular educational and training courses to learn the modern maritime transport systems and technologies in the academic institutes, universities, and colleges ● Invite lecturers and trainers from overseas to provide training at the educational institutes, universities, and colleges	● Quality human resources are increased, which leads to further development of the maritime transport sector.
14. Project Description	**15. Social-environmental consideration**
<u>Academic Institute</u> ● Planning - Establish training programs: invite practitioners such as port masters, CFS operators, and scholars from other countries to design curriculums and training courses. ● Budgeting - Prepare a necessary budget to invite practitioners/lecturers from overseas and in Cuba ● Implementation - Invite practitioners/lecturers - Recruiting applicants **<u>Overseas Training</u>** ● Planning: Find available overseas institutes to receive trainees ● Budgeting: Fee for the training, travel cost, etc. ● Implementation	1) Social impacts – NA 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
●	

17. Project location	Province:	Whole country	City:	NA
Whole country				
18. Notes (if any)				
● Technical assistance (TA) can be considered to carry out the overseas training				

1. Project Code	M005	2. Project Title	Expansion and modernization of Casasa Port

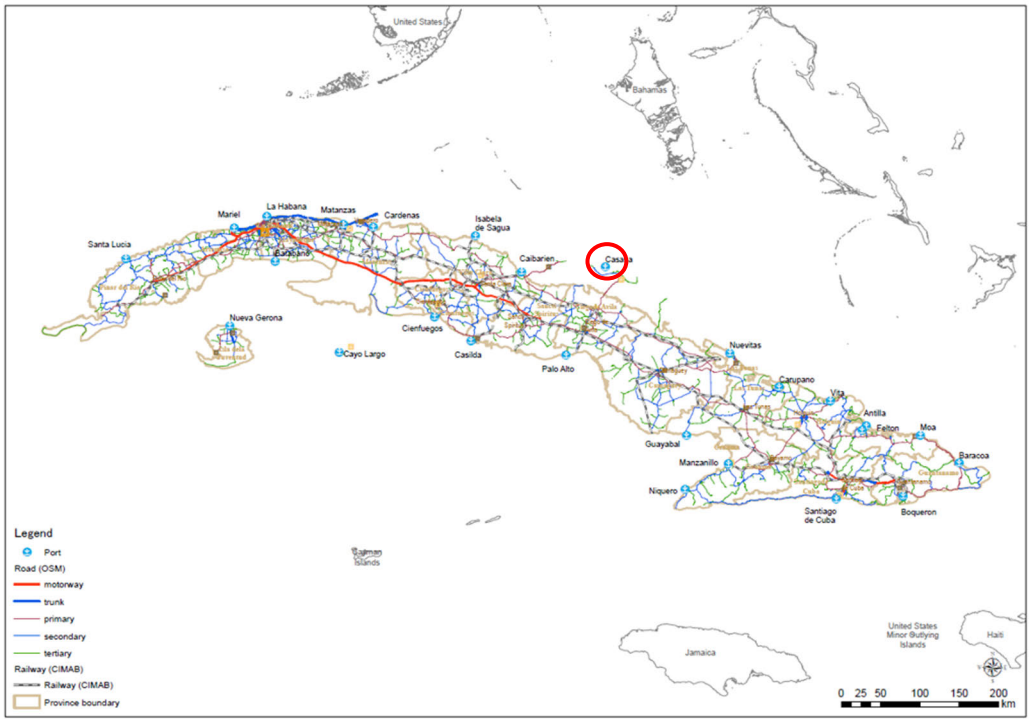
3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector				8. Project Priority	
	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others			☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The Casasa port in Cayo Coco was not addressed in any previous Resolutions. However, now it is expected to play a vital role in the tourism development in the northern area, namely from Villa Cara to Camaguey. ● The Feasibility Study of this investment has already been made. ● Ministerio de economía y Planificación (MEP, Economy and Planning Ministry) has evaluated the study.	● Construction material/equipment in the Cayo Coco area can be transported by coastal ships. ● After the completion of the new pier, supplies for the Cayo Coco area can be easily made by coastal ships. ● Tourism development in the Cayo Coco area is accelerated, and the associated employment opportunities are increased.
14. Project Description	**15. Social-environmental consideration**
● The plan is to build a pier with a gravitational structure (reinforced concrete boxes stuffed with sand that rests on the seabed) of 110,0 m long, 52,3 m wide, 5,40 m deep, and an area of 5753 m2. ● The design is for ships with the following characteristics: ● Length – 90 m ● Draft – 4,50 m ● Beam – 14 m ● Deadweight – 3000 tons	1) Social impacts – positive impacts are expected, such as increased income from tourism and employment in the relevant sectors 2) Natural Environment – EIA for construction and operation should be carried out 3) Pollution – to be examined for the construction phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

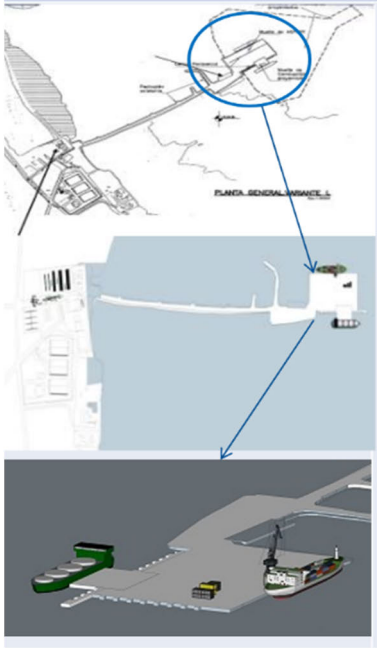
17. Project location	Province:	Ciego de Ávila	City:	Cayo Coco



18. Notes (if any)

AMPLIACIÓN DE PUERTO CASASA. 2019-2020

ALCANCE Y PRINCIPALES CARACTERÍSTICAS (34.2MMP)



Se proyecta la construcción de un muelle de estructura gravitacional (cajones de hormigón armado, rellenados con arena, que descansan sobre el lecho marino), con una longitud de 110,0 m, un ancho de 52.3 m, un área de 5 753 m2 y una profundidad de 5.40 m.
Se diseña para un buque tipo de las siguientes características:

- Eslora 90 m
- Calado 4,50 m
- Manga 14 m
- Peso muerto 3000 ton

Equipamiento requerido para las operaciones del nuevo muelle	Cantidad.
Grúa de muelle sobre neumático	1
Grúa s/neumáticos de 50 t	1
Cargador frontal con capacidad cubo 5 m3	2
Jaibas para áridos de 5m3	2
Tolvas p/áridos	2
Spreader contenedor 20´	1
Spreader contenedor 40´	1
Equipo especializado p/contenedores	1
Camiones cuñas	4
Arrastres Volquetas	4
Arrastres para contenedores	4
Roll trailers	2
Montacargas de 2,5 ton	1
Montacargas de 4 ton	1
Montacargas de 10 ton	1
Motocompresor	1
Tomas eléctricas y accesorios p/ contenedores refrigerados	10
Camioneta de doble tracción y 4 plazas.	1
Ambulancia	1

Required equipment for the operation of the new wharves	Quantity
Quayside rubber-tire crane	1
Rubber-tire crane of 50 tons	1
Front loader of 5 m3	2
Grab crane for aggregates 5 m3	2
Hopper for aggregates	2
Spreader for 20 feet	1
Spreader for 40 feet	1
Specialized equipment for container	1
Container truck	4
Semi dump trailer	4
Tractor	4
Roll trailer	2
Forklift 2,5 tons	1
Forklift of 4 tons	1
Forklift of 10 tons	1
Motor compressor	1
Plugs and other parts for refrigerated containers	10
Four-wheel drive Pickup truck with 4 seats	1
Ambulance	1

1. Project Code	M006	2. Project Title	Santiago de Cuba Port Container Terminal

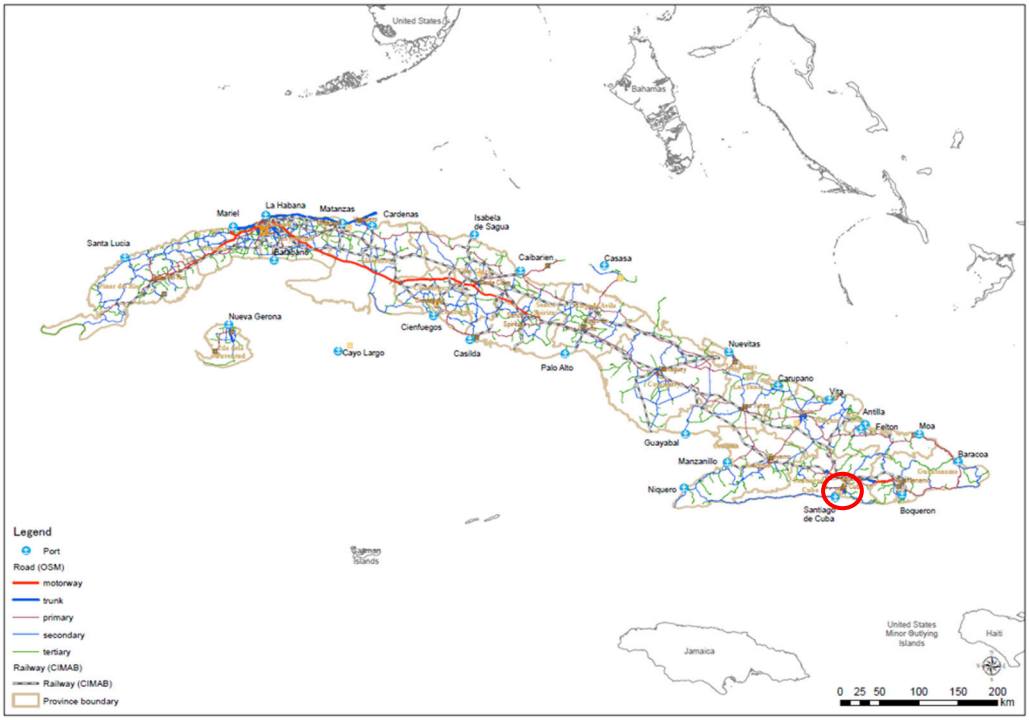
3. Implementation Agency	GEMAR, MITRANS			4. Implementation period			
5. Project cost (budget)	625 million CUP (25 million USD)			Start	2026	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies	☒ Foreign Investors				

7. Sector				8. Project Priority	
	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others			☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	2.1, 2.2	2.1.1, 2.2.1	2.1.1.1, 2.2.1.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Renovation and modernization of the container Terminal of the Guillermón Moncada port in Santiago de Cuba. ● As part of the Santiago de Cuba port development, investment in its container terminal is needed because the existing facility and infrastructure condition for the container operation is in poor condition: the tiles of the yard are cracked, and the container handling needs the cranes of the ships because the lack of quayside cranes and something makes this operation very inefficient and accordingly it has been below the level of international standards. ● Renovating and modernizing the container terminal is expected to improve the operation of the Santiago de Cuba port to the level of the first category port. ● A preliminary design has been prepared already, and it is under discussion whether the financing can be made through the same government used for the Multipurpose Terminal (built by a Chinese corporation CCCC).	● Efficient container handling services can be provided, and accordingly, the cost of container cargo handling can be reduced. ● This will contribute to an increase in container cargo handling volume at the Santiago de Cuba port ● Relevant business and economic activities are increased.
14. Project Description	**15. Social-environmental consideration**
● Construction of a berth with the following features: - Length 240 m, width 30 m, depth 13.60 m - Two quayside container cranes: 65 t and 50 m reach - Fenders that protect the ships - Specialized technology for loading/unloading cargo to/from ships - Equipment to move cargo to/from storage yards	1) Social impacts– positive impacts are expected, such as increased government revenue from the port operation. Besides, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be carried out. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
● Multipurpose Terminal built by a Chinese corporation CCCC.	

17. Project location	Province:	Santiago de Cuba	City:	Santiago de Cuba



18. Notes (if any)

TERMINAL DE CONTENEDORES DEL PUERTO DE SANTIAGO DE CUBA 2019-2021

ALCANCE Y PRINCIPALES CARACTERÍSTICAS (VALOR ESTIMADO 90.0MMP)

Construcción de atraque de 240 metros de longitud, con un ancho de diseño de 30 metros, profundidad 13.60m, dos grúas portainer de 65 toneladas de capacidad y 50 metros de alcance, así como las defensas que protegen el atraque de los impactos e inercia del buque. Además, tendrá el equipamiento especializado de alta tecnología para operar la carga y/o descarga de buques, así como los equipos para el trasbordo de éstas hacia los patios de almacenaje y despacho hacia la Economía Interna y la Exportación.

Equipos	Especificaciones técnicas	Cantidad
Grúa STS	65 ton - 50m,	2
Rubber tired gantry (RTG)	41 ton - 23,47 m hasta 5 cont de alto	3
Roll Trailer	2 × 20 pulgadas / 1 × 40 pulgadas / 1 × 45 pulgadas	15
Semirremolque	2 × 20 pulgadas / 1 × 40 pulgadas / 1 × 45 pulgadas	18
Montacarga de cont (Reach Stacker)	Apilador de contenedores vacíos de 10 ton, hasta 7 cont de alto	1
Reach Stacker	Capacidad de elevación 45 ton	1
Carretilla elevadora	Capacidad de elevación 3 ton	2
Total		**42**

EQUIPMENT	TECHNICAL CHARACTERISTICS	QUANTITY
STS Cranes	65 t – 50 m	2
Rubber tired Gantry	41 t – 23,47 m up to 5 cont. high	3
Roll Trailer	2 x 20 inches, 1 x 40 inches, 1 x 45 inches	15
Semi-trailer	2 x 20 inches, 1 x 40 inches, 1 x 45 inches	18
Forklift for empty containers	For empty containers of 10 t and up to 7 cont. high	1
Reach Stacker	45 t of capacity	1
Forklift	3 t of capacity	2
TOTAL		42

1. Project Code	M007	2. Project Title	Cienfuegos Port Expansion and modernization

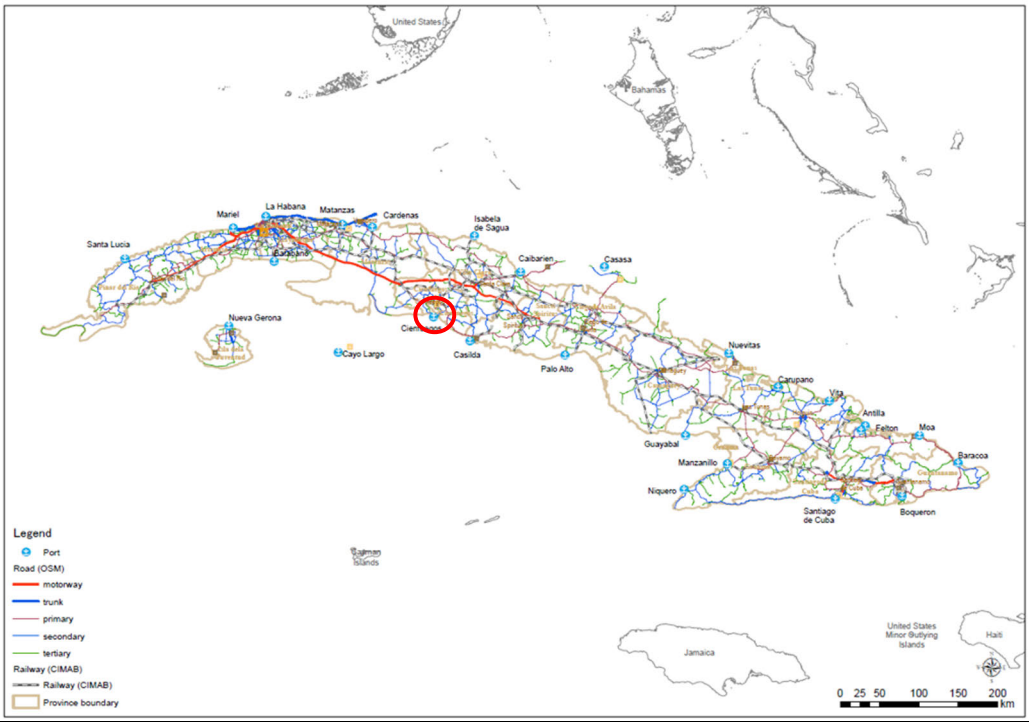
3. Implementation Agency	MITRANS, GEMAR	4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)	Start	2026	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Cienfuegos port is classified as a General Interest Port of the First Priority because of its commercial importance. It provides services to ships for international and coastal navigation. It also provides various port services such as storage, unloading/loading general cargo and raw materials (sugar, grain). In addition to the cargo handling services, cruise ships can be accommodated at Olympia Media Wharf. Olympia Media Wharf was built in the 1950s, and it is now deteriorating. Recently Cimab conducted an investigation and developed a plan for repairing and maintaining Cítrico Wharf and Tricontinental Pier, built in the 1970s to 1990s. ● This project will build a new berth and renovate and modernize the existing infrastructure and facilities by 2030 to accommodate more passengers and cargo. The level of service will be upgraded to international standards.	● Quality and quantity of cargo handling capacity and services are improved. ● Contribute to the industrial development of Cienfuegos. ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The plan is to build a new berth in the area of O Bourque, including developing the facilities for the commercial cargo operations from Zone 1, modernization of the existing warehouses, and automatization of port operations and all its systems. In addition, renovation and modernization of the sugar terminal, reception, boarding, and storage systems are included.	1) Social impacts– positive impacts are expected, such as increased government revenue from the port operation. Besides, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be carried out. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
● Multipurpose Terminal built by the Chinese corporation CCCC.	

17. Project location	Province:	Cienfuegos	City:	Cienfuegos



18. Notes (if any)

AMPLIACIÓN Y MODERNIZACIÓN DEL PUERTO DE CIENFUEGOS. 2025-2027

ALCANCE Y PRINCIPALES CARACTERÍSTICAS (40 MMP)

Se proyecta la construcción de nuevo atraque en la zona de OBourque.
Se desarrollarán las instalaciones destinadas a las operaciones de cargas comerciales trasladadas desde la Zona 1, la modernización de los almacenes existentes y la automatización de las operaciones portuarias y todos sus sistemas.
Rehabilitación y modernización de la Terminal azucarera. Sistemas de recepción, embargue y almacenes.

Equipamiento requerido para las operaciones en los nuevos muelles	Cantidad.
Grúa pórtico de 50 t	1
Grúa pórtico de 30 t	2
Grúa s/neumáticos de 25 t	2
Tolvas de carga y auxiliares 100t/h	3
Jaibas para áridos de 10m3	7
Montacargas de 2,5 ton	4
Montacargas de 4 ton	3
Montacargas de 10 ton	2
Cargador frontal con capacidad cubo 3.2 m3	1
Trimming dozer	1
Arrastres para contenedores	3
Roll trailers	2
Equipo especializado p/contenedores	2
Reach staker	1
Báscula de vehículos	2
Spreader contenedor 20´	2
Spreader contenedor 40´	10
Camioneta.	1
Ambulancia	1

1. Project Code	M008	2. Project Title	Cruise Passenger Terminal in Santiago de Cuba Port (Feasibility Study)

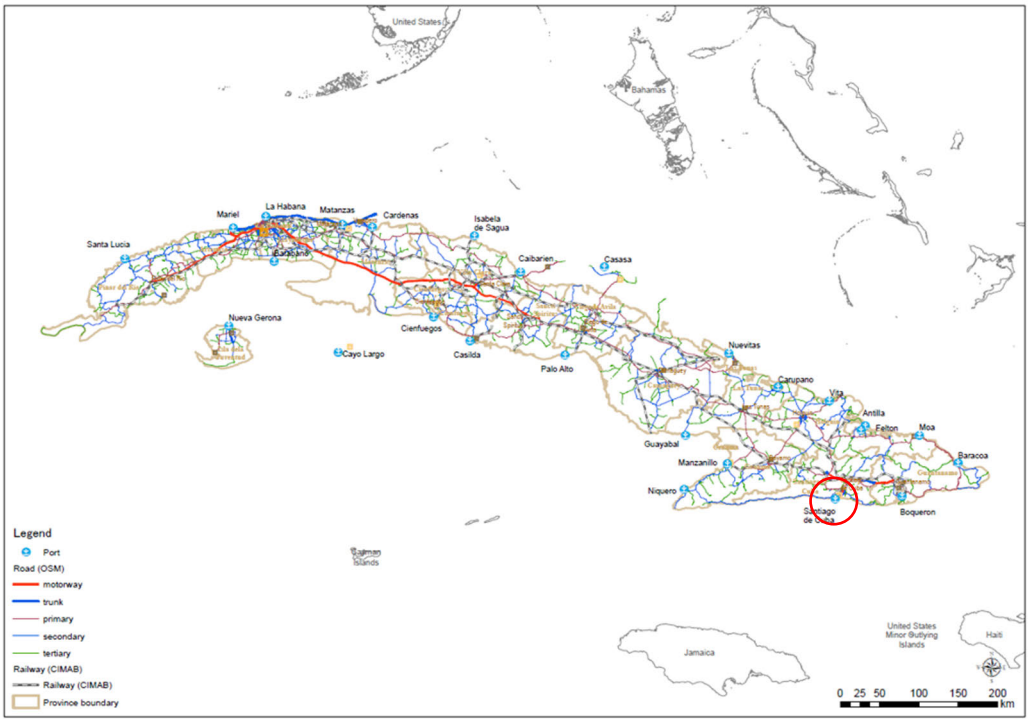
3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2022	End	2026
6. Source of finance	☒ State budget	☐ External financing agencies		☒ Foreign Investors		

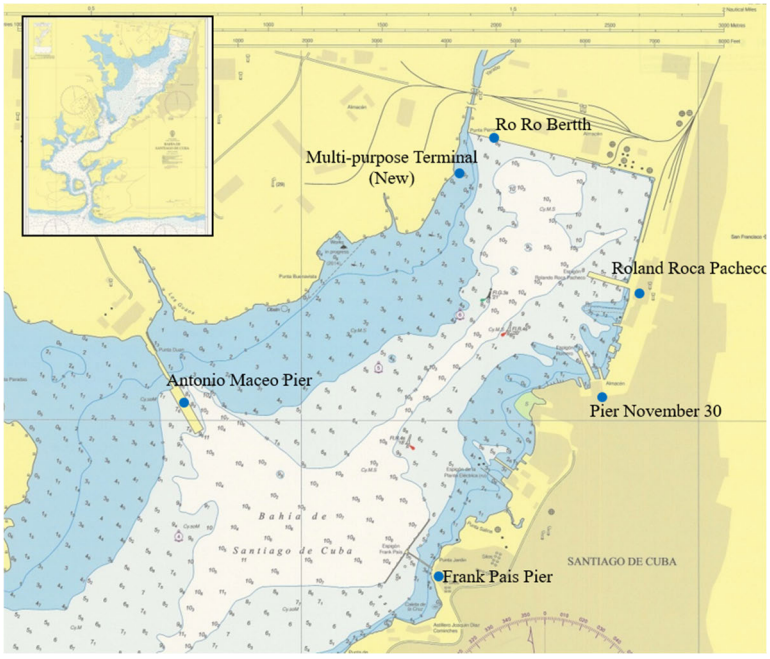
7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1	1.1.3	1.1.3.3
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Santiago de Cuba port is one of Cuba's most important tourist ports. Therefore, a new passenger terminal is studied and planned to accommodate foreign tourists visiting by cruise ships. ● The city of Santiago de Cuba is under development in terms of historical avenues and buildings to increase its attractiveness to foreign tourists. However, the port passenger terminal for cruise ship passengers remains an old building.	● The number of cruise ship visitors is increased and contributes to the acquisition of foreign currencies.
14. Project Description	**15. Social-environmental consideration**
1. Existing facilities' condition and capacity 2. Demand forecast (including revenue forecast) 3. Planning and Design - layout plan, conceptual design of facilities 4. Cost estimates 5. Economic and Financial analysis 6. Environmental Impact Assessment (EIA) Implementation plan	1) Social impacts – NA 2) Natural Environment – Construction phase and operation phase 3) Pollution – construction phase and operation phase 4) Environmental Impact Assessment (EIA) – Needed
16. Relevant project(s)	
●	

17. Project location	Province:	Santiago de Cuba	City:	Santiago de Cuba





18. Notes (if any)
• NA

1. Project Code	M009	2. Project Title	Repair and modernization of the port of Nuevitas

3. Implementation Agency	GEMAR, MITRANS	4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)	Start	2022	End	2025
6. Source of finance	☐ State budget	☐ External financing agencies		☒ Foreign Investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

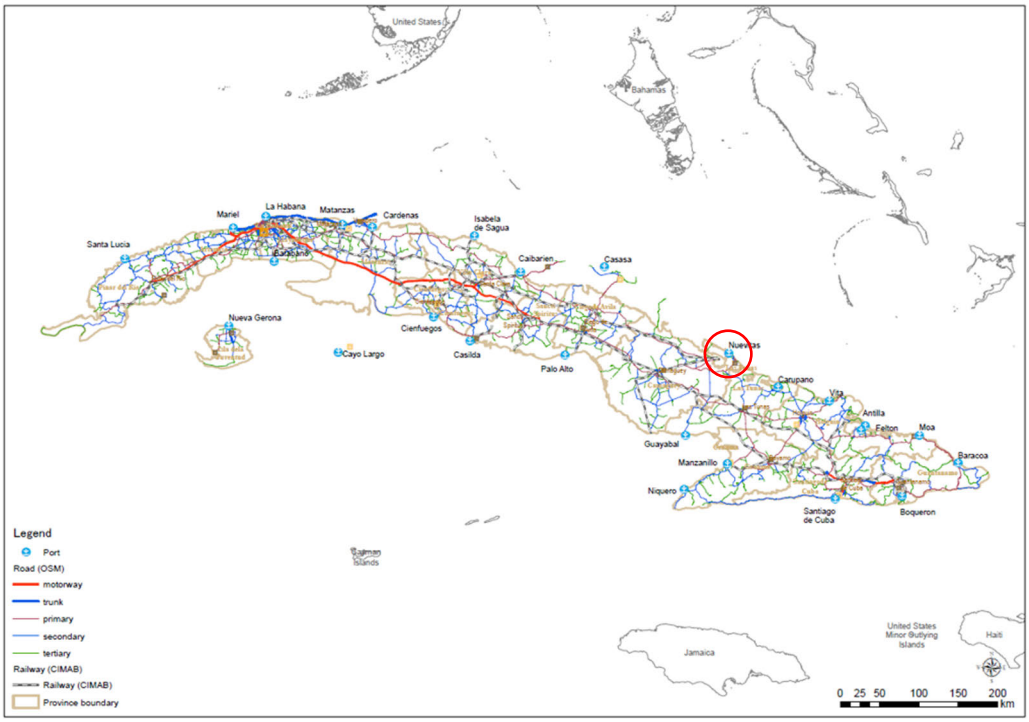
Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Nuevitas port mainly handles the export of chromium ore, import of fertilizer, domestic transport of cement clinker, etc. ● Old piers built during the 1990s are deteriorated and not usable. Therefore, the Littoral pier should be repaired and upgraded. ● The route of the entrance channel is complicated; navigation safety will be ensured. ● In mid-2017, as part of the renovation of port infrastructure, the decision to demolish pier “C” was taken to allow bigger ships to dock at the “B” berth. This action was the beginning of the renovation and modernization of Tarafa port. ● This port is mainly used for unloading goods. The unloaded goods are transported by the railway to Ciego de Avila, Camaguey, Las Tunas, and Holguin (Vita Port) by coastal shipping. ● In the past, goods for these provinces were handled in the Havana port and transported by railway. However, this operation caused operational difficulties for Havana and Santiago de Cube warehouses due to their capacity limits and high railway transport costs. ● A preliminary study on new berth construction has been made recently.	● Quality and quantity of cargo handling capacity and services are improved. ● Contribute to the economic development of Nuevitas. ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**

● The existing piers will be demolished, and a more extensive berthing area will be built, allowing larger ships from Mariel and the touristic northern keys to berth mainly in the Casasa port. The following studies will be conducted for Nuevistas.
  ● 220 m long berthing with 3 multi-purpose gantry cranes.
  ● Construction of a container yard.
  ● Modernization of the existing warehouses.
  ● Navigation safety will be improved.
	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation.
	2) Natural Environment – EIA for construction and operation should be examined.
	3) Pollution – to be examined for construction and operation phase.
	4) Environmental Impact Assessment (EIA) – required

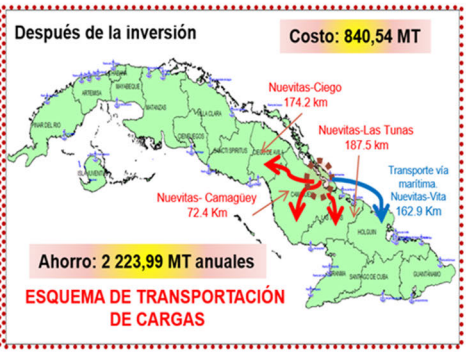
16. Relevant project(s)	
● Multipurpose Terminal built by the Chinese corporation CCCC.	

17. Project location	Province:	Camaguey	City:	Nuevitas



18. Notes (if any)

Análisis de la transportación de cargas para las provincias de Camagüey, Ciego de Ávila, Las Tunas y Holguín.



Cargas a transportar y sus costos:

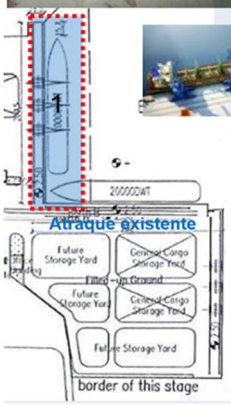
PROVINCIAS	ARROZ	FRIJOL	CHICHARO	TOTAL	Distancia	Costo Ton/Km	Costo TOTAL
	En miles de toneladas				Km	MP	MP
Puerto de La Habana-Ciego de Ávila	16184	1142	2925	20251	426,6	0,0732	632.38
Puerto de La Habana-Camagüey	18777	1232	5145	25154	528,4	0,0732	972.93
Puerto Santiago de Cuba -Las Tunas	28427	1322	2965	32714	192,0	0,0732	459.78
Santiago-Holguín(ferrocarril)	47305	1542	6806	55653	285,1	0,083	1316,75
TOTAL	110693	5238	17841	133772	1432,1		3381,83

Cargas a transportar y sus costos:

PROVINCIAS	ARROZ	FRIJOL	CHICHARO	TOTAL	Distancia	Costo Ton/Km	Costo TOTAL
	En miles de toneladas				Km	MP	MP
Puerto Nuevitas-Ciego de Ávila	16184	1142	2925	20251	174,2	0,0732	258.23
Nuevitas-Camagüey	18777	1232	5145	25154	72,4	0,0732	133.31
Puerto Nuevitas -Las Tunas	28427	1322	2965	32714	187,5	0,0732	449.00
Nuevitas-Vita	47305	1542	6806	55653	162,9	0,0350	317.31
TOTAL	110693	5238	17841	133772	597.0		1157,84

REHABILITACIÓN Y MODERNIZACIÓN DEL PUERTO DE NUEVITAS. 2022-2025

ALCANCE Y PRINCIPALES CARACTERÍSTICAS (30.0 MMP)



Se proyecta la construcción de un atraque de mayor longitud al actual, en la zona en el que se demuelen los espigones existentes, permitiendo el atraque de los buques de mayor porte previstos recibir por el incremento de la demanda de cargas desde Mariel y las correspondientes al desarrollo turístico de la Cayería Norte con destino al puerto de Casasa fundamentalmente.

- Un Atraque de largo 220 m, con 3 grúas pórticos multipropósitos.
- Construcción de patio de contenedores.
- Modernización de almacenes existentes.

Equipamiento requerido para las operaciones de cada nuevo muelle	Cantidad.
Grúa pórtico de 50 t	1
Grúa pórtico de 30 t	2
Grúa s/neumáticos de 25 t	2
Tolvas de carga y auxiliares 100t/h	3
Jaibas para áridos de 10m3	7
Montacargas de 2,5 ton	4
Montacargas de 4 ton	3
Montacargas de 10 ton	2
Cargador frontal con capacidad cubo 3.2 m3	1
Trimming dozer	1
Arrastres para contenedores	3
Roll trailers	2
Equipo especializado p/contenedores	2
Reach staker	1
Báscula de vehículos	2
Spreader contenedor 20´	2
Spreader contenedor 40´	10
Camioneta.	1
Ambulancia	1

1. Project Code	M010	2. Project Title	Repair of hydro-technical issues of the facilities of Gerona, Cayo Largo del Sur, and Batabanó ports.

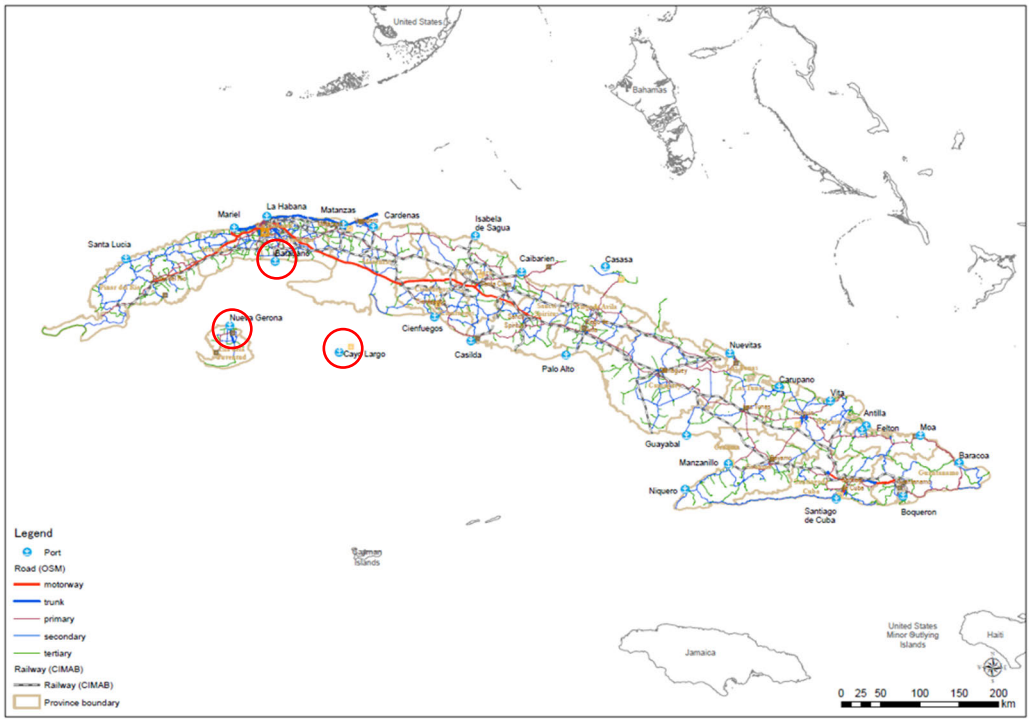
3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	50.0 million CUP (2.0 million USD)			Start	2023	End	2025
6. Source of finance	☐ State budget	☐ External financing agencies	☒ Foreign Investors				

7. Sector				8. Project Priority	
	☐ Transport Planning	☒ Logistics/Cargo			☐ Immediate (2022 – 2023)
	☐ Road/Bridge	☐ Bus passenger transport			☒ Short-term (2024 – 2026)
	☐ Railway	☐ Environment			☐ Medium-term (2027 – 2030)
	☐ Aviation	☐ Institution/Regulation			
	☒ Port/Maritime	☐ Relevant business and others			

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Three ports, namely Gerona, Cayo Largo del Sur, and Batabanó ports under GEMAR, need renovation and modernization of the port infrastructure and facilities. ● These three ports are essential to boost the tourism sector in the region as well as to sustain the daily life f the residents of the islands. ● The existing port infrastructure ad facilities heavily deteriorate and need urgent rehabilitation.	● Quality and quantity of cargo handling capacity and services are improved. ● Contribute to the tourism development of Cayo Largo and Isla de la Juventud ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● Repair the wharf with all its systems (structure, fenders, berth, lights, and signals). ● Repair and modernization of warehouses. ● 6.0 million CUP	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

17. Project location	Province:	Havana	City:	Havana



18. Notes (if any)

REPARACIÓN Y MODERNIZACIÓN DE LA INFRAESTRUCTURA PORTUARIA.
(50.0 millones de pesos))

Objeto de Obra	2018	2019	2020	2021	2022	2023-2030	Descripción
Reparación general del puerto de La Habana 	x 1.0 MMP	x 1.0 MMP	x 0.5 MMP	x 0.5 MMP			Reparación de losa de pantalla y muelle de Cayo Largo del Sur. Reparación de atraque C del puerto de Gerona. Sustitución de defensas portuarias. **3.0 MMP**
Reparación obra Hidrotécnica e instalaciones de los puertos Gerona y Cayo Largo del Sur y Batabanó. 	x 0.5 MMP	x 1.5 MMP	x 2.4 MMP	x 1.6 MMP			Reparación del muelle con solución de todos los sistemas (estructural defensas, amarre, iluminación y señalización). Reparación general y modernización de almacenes. **6.0 MMP**
Reparación general de la infraestructura existente, muelles, redes hidrosanitarias, eléctricas, tratamiento de residuales y otras edificaciones de las instalaciones de GEMAR en La Habana, Cienfuegos, Santiago de Cuba y demás puertos. 	x 3.0 MMP	x 2.0 MMP	x 3.0 MMP	x 4.0 MMP	x 4.0 MMP	x 25.0 MMP	Reparación de obra hidrotécnica, almacenes, canalizaciones de las redes hidrosanitarias y eléctricas , sustitución de tuberías cables eléctricos, completamiento de torres de alumbrado y reparación de las existentes. Construcción de plantas de tratamiento de residuales y reparación general de otras edificaciones de los puertos. **41.0MMP**

1. Project Code	M011	2. Project Title	**Baracoa** port Repair and modernization

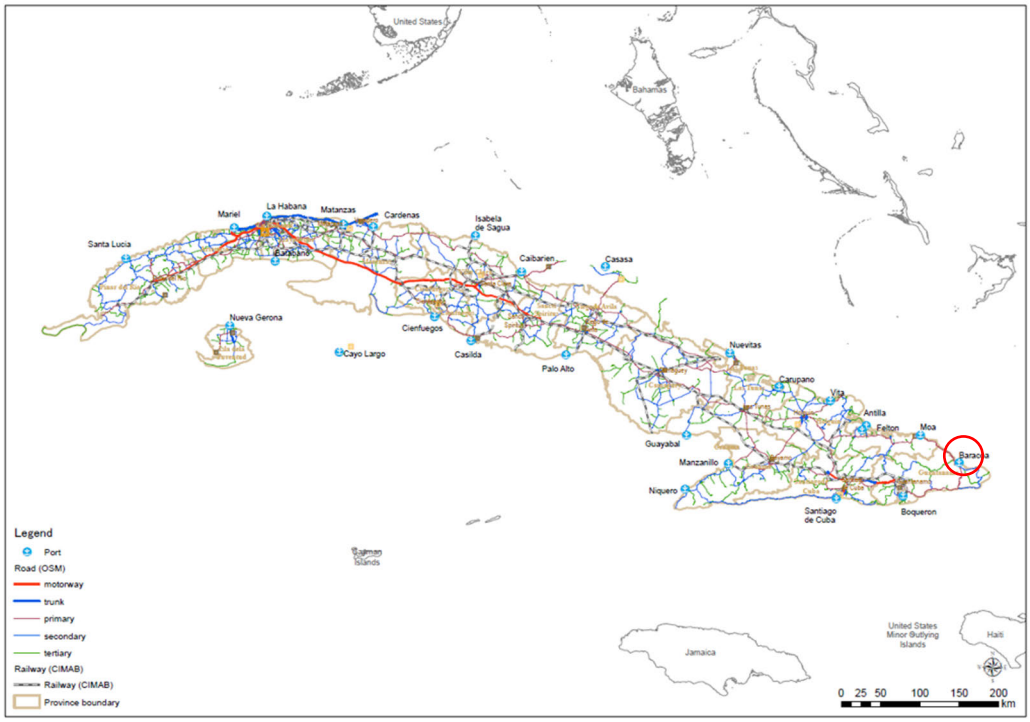
3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	250 million CUP (10.0 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1	2.2.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The No.136 MITRANS Resolution in April 2006 has established 12 ports of Category 2, from which 9 ports belong to GEMAR (Carupano, Vita, Antilla, **Baracoa**, Boqueron, Manzanillo, Guayabal, Palo Alto y Casilda). ● The Baracoa port plays a vital role in the area's cabotage of staple food (canasta basica). However, it has been becoming difficult because of its limited draft level and the lack of equipment for dredging. The situation has not been improved yet, and the port operation will soon be stopped if nothing is done to secure a safe navigation channel. ● The existing port infrastructure ad facilities heavily deteriorate and need urgent rehabilitation. ● Besides, dredging work is urgently needed to secure the safe navigation channel and berth.	● Quality and quantity of cargo handling capacity and services are improved. ● Stable supply of Canasta Basica ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The existing wharf will be repaired by renewing all structures and facilities: fenders, berth, lights, etc. ● Construction of an access road ● Renovation of the electrical system and warehouses.	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

17. Project location	Province:	Guantánamo	City:	Baracoa



18. Notes (if any)

REPARACIÓN Y MODERNIZACIÓN DE LA INFRAESTRUCTURA PORTUARIA.
(5.0 millones de pesos))

Objeto de Obra	2018	2019	2020	2021	2022	2023-2030	Descripción
Reparación general del puerto de Baracoa. 	X 2.2 MMP	X 1.8 MMP	X 1.0 MMP				Construcción de escollera. Reparación del muelle con solución de todos los sistemas (estructural, defensas, amarre, iluminación y señalización), construcción de vial de acceso y rehabilitación del sistema eléctrico. 5.0 **MMP**

1. Project Code	M012	2. Project Title	General repair of Havana Port

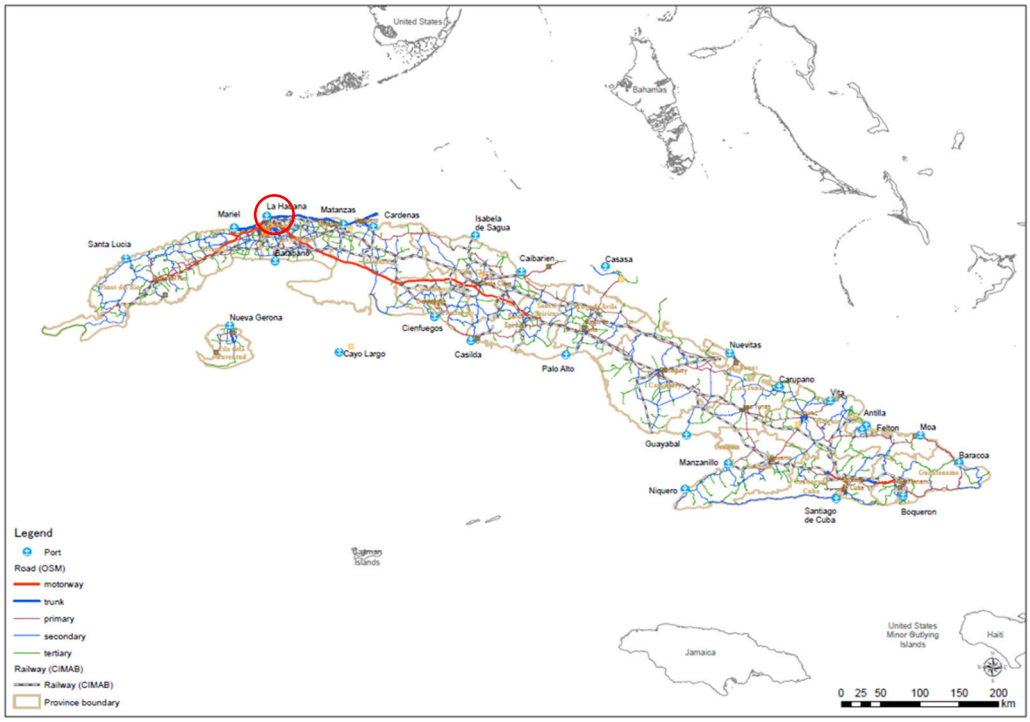
3. Implementation Agency	GEMAR, MITRANS	4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)	Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1	2.2.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Among the ports of GEMAR, Havana port is the most important port of Category 1. ● To maintain the current operation, it is necessary to rehabilitate the existing deteriorated port infrastructure and facilities. ● It is expected that the port operation of Havana will reach an international standard.	● Quality and quantity of cargo handling capacity and services are improved ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The general repair of Havana port will be carried out, like the repair of concrete slab and wharf of Cayo Largo de Sur, restoration of C berthing of Gerona port, and renewal of the berth fenders. ● Repair and modernization shall be done within the budget of 1M.CUP for 2018, 1 M.CUP for 2019, and 0.5 M.CUP for 2020 and 2021 (this schedule will be adjusted).	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

17. Project location	Province:	Havana	City:	Havana



18. Notes (if any)

REPARACIÓN Y MODERNIZACIÓN DE LA INFRAESTRUCTURA PORTUARIA.
(50.0 millones de pesos))

Objeto de Obra	2018	2019	2020	2021	2022	2023-2030	Descripción
Reparación general del puerto de La Habana 	x 1.0 MMP	x 1.0 MMP	x 0.5 MMP	x 0.5 MMP			Reparación de losa de pantalla y muelle de Cayo Largo del Sur. Reparación de atraque C del puerto de Gerona. Sustitución de defensas portuarias. **3.0 MMP**
Reparación obra Hidrotécnica e instalaciones de los puertos Gerona y Cayo Largo del Sur y Batabanó. 	x 0.5 MMP	x 1.5 MMP	x 2.4 MMP	x 1.6 MMP			Reparación del muelle con solución de todos los sistemas (estructural, defensas, amarre, iluminación y señalización). Reparación general y modernización de almacenes. **6.0 MMP**
Reparación general de la infraestructura existente, muelles, redes hidrosanitarias, eléctricas, tratamiento de residuales y otras edificaciones de las instalaciones de GEMAR en La Habana, Cienfuegos, Santiago de Cuba y demás puertos. 	x 3.0 MMP	x 2.0 MMP	x 3.0 MMP	x 4.0 MMP	x 4.0 MMP	x 25.0 MMP	Reparación de obra hidrotécnica, almacenes, canalizaciones de las redes hidrosanitarias y eléctricas , sustitución de tuberías cables eléctricos, completamiento de torres de alumbrado y reparación de las existentes. Construcción de plantas de tratamiento de residuales y reparación general de otras edificaciones de los puertos. **41.0MMP**

1. Project Code	M013	2. Project Title	Matanzas Port Repair and Modernization

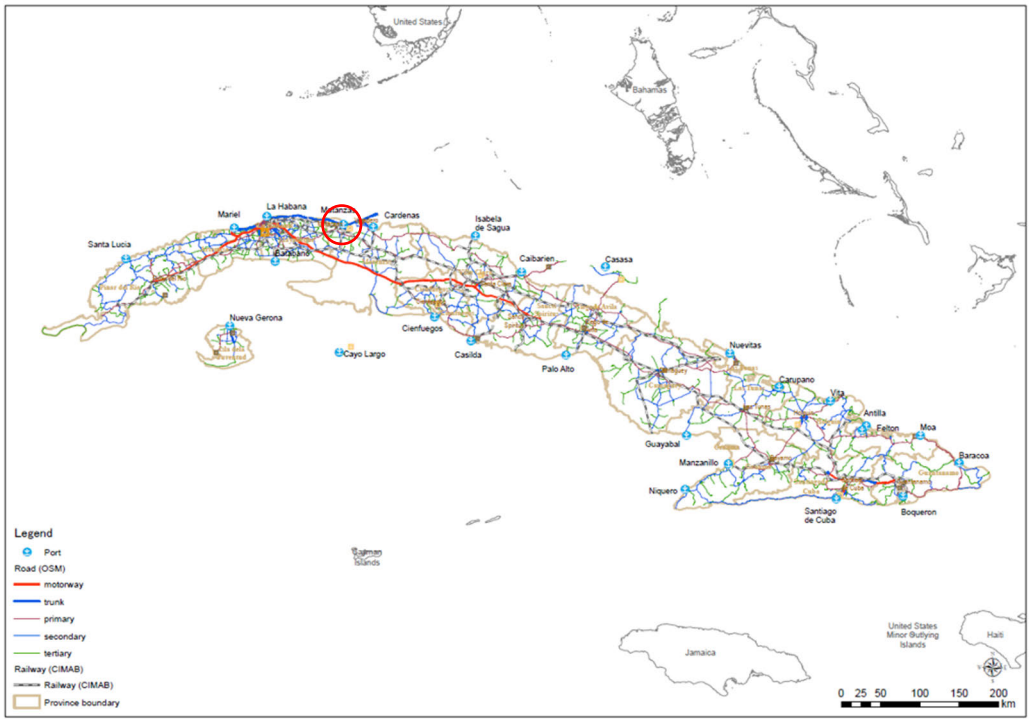
3. Implementation Agency	GEMAR, MITRANS		4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)		Start	2026	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1	2.2.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Matanzas port mainly handles the export of sugar, import of fertilizer, domestic transport of sulfur, etc. ● Jose Luis Dubrocq Wharf and Reynold Garcia Pier should be repaired and maintained. In addition, cargo storage warehouses are to be facilitated.	● Quality and quantity of cargo handling capacity and services are improved ● Contribute to the economic development of Matanzas and the surrounding area ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● Jose Luis Dubrocq Wharf will be repaired. ● Warehouses for Jose Luis Dubrocq Wharf will be repaired and newly constructed. ● Reynold Garcia Pier (for sugar export) will be inspected, and maintenance will be applied.	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

17. Project location	Province:	Matanzas	City:	Matanzas



18. Notes (if any)
• NA

1. Project Code	M014	2. Project Title	The repair and modernization project of the port of Antilla

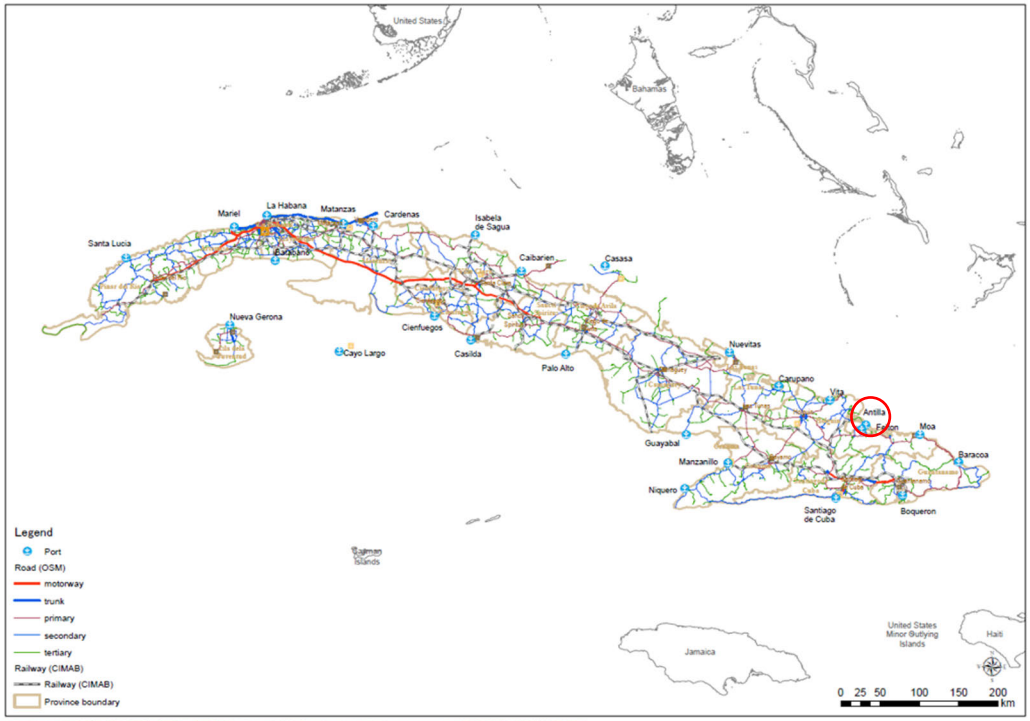
3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)			Start	2027	End	2029
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector				8. Project Priority	
	☐ Transport Planning	☒ Logistics/Cargo			☐ Immediate (2022 – 2023)
	☐ Road/Bridge	☐ Bus passenger transport			☐ Short-term (2024 – 2026)
	☐ Railway	☐ Environment			☒ Medium-term (2027 – 2030)
	☐ Aviation	☐ Institution/Regulation			
	☒ Port/Maritime	☐ Relevant business and others			

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1	1.1.2	1.1.2.2
2. Transport infrastructure development	2.1	2.1.1	2.1.1.8
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The port of Antilla, according to the classification of the ENOT (Esquema Nacional de Ordenamiento Territorial), is classified as a port of general interest in Category 2. ● The commercial operation of the port was closed in 2011 due to the damage to the railway bridge (now it has been rehabilitated), which connects to Antilla. Besides, the maritime cargo transportation demand has decreased in recent years, so the port has been only sporadically used. ● Pilotage and tugboat services are provided from this port to the northern ports of Holguín. ● The port is expected to play a vital role in cabotage transportation and in receiving cruise ships in the future. ● The project is vital for the future development of tourism in Cuba, especially on the north coast of Holguín Province.	● Quality and quantity of cargo handling capacity and services are improved ● Contribute to the tourism development in the northern coastal area of Holguin Province ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
A feasibility study shall be carried out considering the following development stages and implementation. **Stage I** Its main objective is to create the minimum and safe conditions that allow the operation of general and containerized cargo destined for the development of El Ramón de Antilla Peninsula Tourist Pole through the La Bacaladera wharf. It is also considered to improve the conditions established for access to land for cruise ship passengers through the Southside pier and the Costa wharf. **Stage II** The main objective is to enable other areas of the port facility, for cargo handling, to assimilate an increase in cargo. **Stage III** The objective of this stage would be the repair of the existing pier. Its execution would only be justified if the capacities created in stages I and II were insufficient to meet the increase in cargo demand, as well as it would be justified the construction of a berth for the operation of cruise ships.	1) Social impacts – positive impacts such as increased government revenue from the port operation are expected. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required
16. Relevant project(s)	
●	

17. Project location	Province:	Holguín	City:	Antilla



18. Notes (if any)

Stage I. Short term.(3.5 years)

No	Description		Value (MP)
TO OPERATE CARGOES BY LA BACALADERA WHARF			
1	Evaluation of the structural condition of La Bacaladera wharf.		20
2	Topobathymetric study in the berth basin and the access channel. Feasibility and environmental study.		110
3	Project contracts for dredging: wharf repair; construction of open storage areas; roofed warehouse.		120
4	Execution of the dredging works in the berth and in the basin.		400
5	Wharf repair and its back area for an open temporary storage.		2,350
6	Construction of the administrative premise, workshop, parking area, perimeter fence and access sentry box.		500
7	Electric, lighting and communications networks, sanitation and hydraulic installations.		500
	SUB-TOTAL		4,000
CARGO HANDLING MEANS (EQUIPMENT)		Quantity	
8	Reach Staker	1	800
9	Forklifts	2	110
10	Truck crane	1	1,000
11	Tractor unit	1	106
12	General cargo (flat) and container trailers (length 12 m, flat type with twist locks for container operations).	2	360
13	Pick up	1	19
14	Automobile	1	5
	SUB-TOTAL	9	2,400
FOR THE RECEPTION OF CRUISE SHIP PASSENGERS			
15	Execution of actions for receiving passengers (bus parking area, pedestrian hall, road repair).		800
16	Perimeter fence for the facility and access sentry box		400
17	Repair of rooms for the attention to cruise ship passengers and external areas.		400
	SUB-TOTAL		1,600
	TOTAL FIRST STAGE		8,000

Stage II. Medium term (2 years)

No	Description		Value (MP)
PREPARATION OF WAREHOUSE AREA			
1	To draw up an open and roofed warehouse project.		80
2	Construction of warehouses		3,290
3	Construction of perimeter fence and access sentry boxes.		80
4	Electrical, lighting and communications networks, sanitary and hydraulic installations.		300
	SUB-TOTAL		3,750
CARGO HANDLING MEANS (EQUIPMENT)		Quantity	
5	Forklifts	2	110
6	Tractor units	2	226
7	General cargo and container trailers (length 12 m, flat type with twist locks for container operations).	2	360
8	Ambulance	1	35
9	Pick up	1	19
	SUB-TOTAL	8	750
	TOTAL SECOND STAGE		4,500

Stage III. Long term **(3 years)**

No	Description		Value (MP)
TO OPERATE CARGOES AND CRUISE SHIPS BY THE WHARVES.			
1	Elaboration of projects, feasibility studies and the obtaining of permissions and licenses.		150
2	Dredging of the basin and the wharves.		2,500
3	Repair of the railway access to the wharves.		500
4	Structural repair of the pier and placement of berth fenders.		5,600
5	Hydraulic, sanitary and electrical networks; other systems and roads.		250
6	Construction of premises and other equipment for passenger control.		1,500
	SUBTOTAL		10,500
	TOTAL THIRD STAGE		10,500

1. Project Code	M015	2. Project Title	Repair and modernization of Sugar Ports (Cienfuegos, Carupano, Guayabal)

3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	750 million CUP (30 million USD)			Start	2026	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

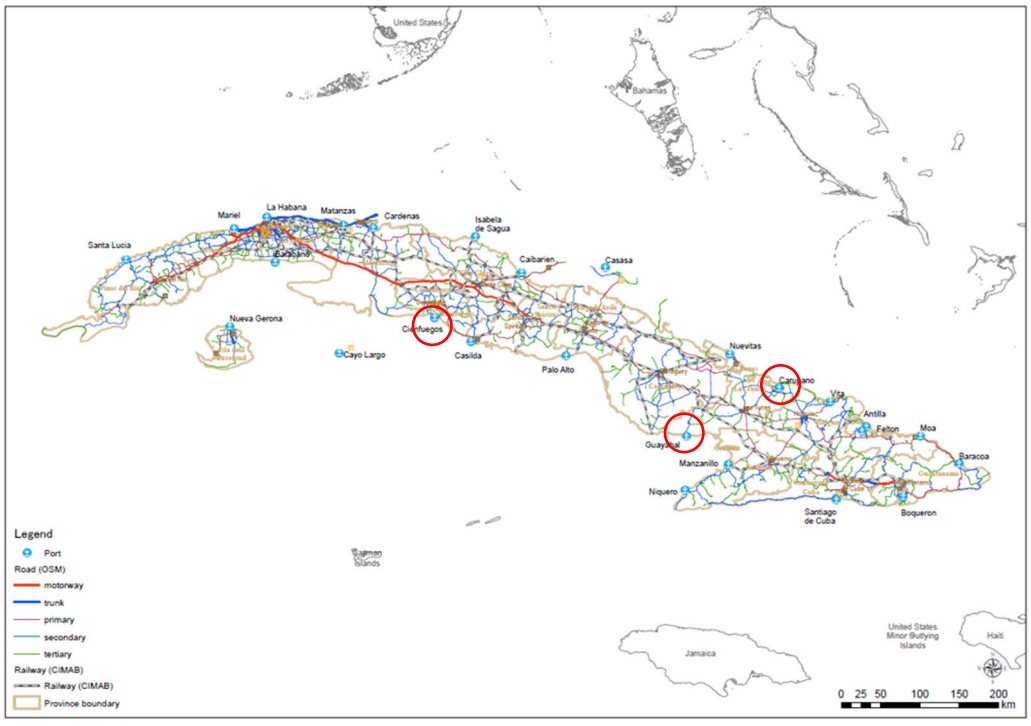
7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1	2.3.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
• GEMAR ports in Matanzas, Nuevitas, Carupano, Vita, Guayabal, Niquero, Baracoa, Boqueron, and the network of Batabanó - Nueva Gerona – Cayo Largo del Sur are used for sugar export. • Urgent repair and modernization and continuous operation and maintenance are needed to support one of the essential products for export.	• Quality and quantity of cargo handling capacity and services are improved • Contribute to the sugar industry in Cuba • Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
Repairing work: • Repair roofs, facades, floors, and electrical and water networks. • Renovation and improvement of the ventilation, lighting, fire, and drainpipe systems. Repair and modernization of equipment. 35.0 million CUP. • Repair the metal structure, locks, roofs, buckets, and pipes— Assembly of fire system and other equipment. 15.0 million CUP. • Repair the wharf with all its systems (structure, fenders, berth, lighting, and signals). Renovation and modernization of the system of reception and embankment. Repair of the electrical system. Automatization of processes. 15.0 million CUP • Repair the wharf with all its systems (structure, fenders, berth, lighting, and signals). Renovation and modernization of the system of reception and embankment. Repair of the electrical system. Automatization of processes. 10.0 million CUP. **Equipment:** The plan is to renew 290 pieces of equipment. 210 from 290 to be renewed until 2022 (short and mid-term). Summary of the principal planned investments for this subprogram: equipment for port operations. • Forklift 2.5-10t: substitute numbers 68 out of total quantity 90. • Forklift 16t: substitute numbers 7 out of total quantity 17 • Trimming dozer 70-80 kW: substitute numbers 9 out of total quantity 15	1) Social impacts – positive impacts are expected, such as increased government income from the port operation. In addition, employment will be increased through construction and operation. 2) Natural Environment – EIA for construction and operation should be examined. 3) Pollution – to be examined for construction and operation phase. 4) Environmental Impact Assessment (EIA) – required

• Truck crane 25-50t: substitute numbers 1 out of total quantity 4 • Orange peel grab: substitute numbers 10 out of the total quantity of 20 • Reach Staker 45t: substitute numbers 6 out of total quantity 17 • Conveyor belt: substitute numbers 50 out of the total quantity of 70 • Rubber-tired crane 25-75t: substitute numbers 9 out of the total of 12 • Contact grab: substitute numbers 3 out of the total of 19 • Spreader cont.20 feet: substitute nos.17 out of the total of 30 • Spreader cont.40feet: substitute nos.9 out of the total of 20 • Rubber-tired Tractor 65-90hp: replacement 6 nos. out of the total of 15 • Rubber-tired crane 100t: substitute 1 nos. out of the total of 3 • Trailer and semi-trailer: substitute 24 nos. out of the total of 55 • Tractors 60t: replacement 15 nos. out of the total of 30 • Roll trailer: substitute 32 nos. out of the total of 54 • Electromagnet crane: substitute 10 out of the total of 19 • Rubber-tired front loader 2.5-3.2 m^3: substitute 11 nos. out of the total of 14 • Crawler Bulldozer 160-180kw: substitute 2 out of the total if 4 nos • Servo scales: no substitution in the total of 20 nos. • Quayside cranes: no substitution in the total of 20 nos. • Dredging mechanism: no substitution in the total of 3 nos.	
16. Relevant project(s)	
• M013 (Matanzas)	

17. Project location	Province:	Matanzas, Cienfuegos, Holguin	City:	Matanzas, Cienfuegos, Carupano, Guayabal



18. Notes (if any)

Repair and modernization of sugar ports.

REPARACIÓN Y MODERNIZACIÓN DE LA INFRAESTRUCTURA PORTUARIA DE TERMINALES AZUCARERAS. (75.0 millones de pesos)							
Objeto de Obra	**2018**	**2019**	**2020**	**2021**	**2022**	**2023-2030**	**Descripción**
Reparación y modernización de almacenes y otras infraestructuras. 	x 2.5 MMP	x 2.8 MMP	x 3.0 MMP	x 2.5 MMP	x 2.5 MMP	x 21.7 MMP	Reparación de cubiertas, elementos de cierre de fachadas, pisos y conductores. Rehabilitación y mejora de sistemas de ventilación, alumbrado, contraincendios, desagües pluviales y otros. Reparación y modernización de equiparniento. **35.0 MMP**
Reparación y modernización de tanques de miel y alcohol en las Terminales azucareras. 	x 0.5 MMP	x 0.8 MMP	x 1.0 MMP	x 1.5 MMP	x 1.8 MMP	x 9.4 MMP	Reparación de estructura metálica y cierres, así como de cubiertas, cuberas y conductos. Montaje de sistema contraincendios y otros equiparnientos. **15.0 MMP**
Reparación general Terminal azúcar de Guayabal 		x 2.0 MMP	x 5.0 MMP	x 8.0 MMP			Reparación del muelle con solución de todos los sistemas (estructural, defensas, amarre, iluminación y señalización). Rehabilitación y modernización del sistema de recepción y embargue de azúcar. Reparación del sistema eléctrico. Automatización de procesos. **15.0 MMP**
Reparación general Terminal azúcar de Carúpano. 				X 1.0 MMP	x 1.5 MMP	x 7.5 MMP	Reparación del muelle y sus sistemas (estructural, defensas, amarre, iluminación y señalización). Rehabilitación y modernización del sistema de recepción y embargue de azúcar. Reparación del sistema eléctrico. Automatización de los procesos. **10.0 MMP**

Equipment

Investment budget.

COSTS OF THE INVESTMENT ACCORDING TO DECREE 327/2014

INDICATORS	TOTAL	THOUSANDS CUP	THOUSANDS CUC	THOUSANDS USD
PLANNING				
CONSTRUCTION AND ASSEMBLY	0,0	0,0	0,0	0,0
EQUIPMENT	104420,2	10442,0	93978,2	70483,6
OTHERS	5495,8	549,6	4946,2	494,6
WORK CAPITAL				
TOTAL	**109916,0**	**10991,6**	**98924,4**	**70978,3**
ECONOMIC FINANCE ASSESSMENT				
FIXED CAPITAL				
FIXED INVESTMENT	104420,2	10442,0	93978,2	70483,6
PREVIOUS EXPENSES	5495,8	549,6	4946,2	494,6
WORK CAPITAL	0,0			
TOTAL	**109916,0**	**10991,6**	**98924,4**	**70978,3**

1. Project Code	M016	2. Project Title	Rehabilitation and modernization of the GEMAR vessels

3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	1,000 million CUP (40 million USD)		Start	2022	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.4	2.4.2	2.4.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Ships under the Caribbean Navigation company have difficulty navigating under rough weather conditions, especially for the coastal shipping along the north coast. As a result, they cannot operate for 120 days a year. ● Repair costs for some ships are closer to or sometimes higher than buying a new ship. ● For port operation, sometimes it is necessary to bring tugboats from other ports, which leads to additional fuel consumption and offshore waiting (delays for ships to enter the harbor, complaints from ship owners).	● Quality and quantity of cargo handling capacity and services are improved ● Contribute to economic development through increased coastal shipping activities ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The project includes repair programs for the ships that belong to the auxiliary, cabotage, and passenger fleet and the pilot boats and Mambisa (a ship owner/manager/operator in Havana). ● The number of planned repairs by type of ship is as follows; - 32 vessels in 2018: 10 tugboats, 2 Ships Ro-Ro type, 6 Barges, 4 Pilot boats, 7 ship chandlers, 1 clean bay boat, 2 catamarans, and ferry boats. - 29 ships in 2019: 9 tugboats,1 Ship Ro-Ro type, 7 Barges, 3 Pilot boats, 6 ship chandlers, 1 clean bay boat, 2 catamarans, and ferry boats. - 31 ships in 2020: 8 tugboats, 3 Ships Ro-Ro type, 5 Barges, 3 Pilot boats, 9 ship chandlers, 1 clean bay boat, 2 catamarans, and ferry boats. - 25 ships in 2021: 7 tugboats, 2 Ships Ro-Ro type, 4 Barges, 5 Pilot boats, 4 ship chandlers, 2 clean bay boats, 1 catamaran, and ferry boats. - 27 ships in 2022: 6 tugboats, 2 Ships Ro-Ro type, 6 Barges, 3 Pilot boats, 8 ship chandlers, 1 clean bay boat, 1 catamaran, and ferry boats. - 210 ships in 2023-2030: 56 tugboats, 15 Ships Ro-Ro type, 35 Barges, 35 Pilot boats, 51 ship chandlers, 10 clean bay boats, 8 catamarans, and ferry boats.	1) Social impacts – positive impacts are expected, such as an increase in employment opportunities 2) Natural Environment – No impacts 3) Pollution – environment-friendly technologies should be used for the repair work. 4) Environmental Impact Assessment (EIA) – Not required

16. Relevant project(s)	
•	

17. Project location	Province:	All Cuba	City:	
• NA				
18. Notes (if any)				

The number of planned groundings per type of ship is as follows:

SHIPS	2018	2019	2020	2021	2022	2023-2030
Tugboats	10	9	8	7	6	56
Ships RoRo type	2	1	3	2	2	15
Barges	6	7	5	4	6	35
Pilot boats	4	3	3	5	3	35
Ship chandlers	7	6	9	4	8	51
Clean bay boats	1	1	1	2	1	10
Catamarans and Ferry Boats	2	2	2	1	1	8
Total	**32**	**29**	**31**	**25**	**27**	**210**

Old and deteriorated fleet. Lack of spare parts and maintenance. The Caribbean Navigation Company is undercapitalized from a financial and human resources point of view.

Investment budget.

COST OF THE INVESTMENT ACCORDING WITH DECREE 327/2014				
INDICATORS	**TOTAL CURRENCY**	**THOUSANDS CUP**	**THOUSANDS CUC**	**THOUSANDS USD**
PLANNING				
CONSTRUCTION AND ASSEMBLY	0,0	0,0	0,0	0,0
EQUIPMENT	265414,1	119436,3	145977,7	58391,1
OTHERS	2681,0	1876,7	804,3	0,0
WORK CAPITAL				
TOTAL	**268095,0**	**121313,0**	**146782,0**	**58391,1**
FINANCIAL AND ECONOMIC ASSESSMENT				
FIXED CAPITAL				
FIXED INVESTMENT	265414,1	119436,3	145977,7	58391,1
PREVIOUS EXPENSES	2681,0	1876,7	804,3	0,0
WORK CAPITAL	0,0			
TOTAL	**268095,0**	**121313,0**	**146782,0**	**58391,1**

1. Project Code	M017	2. Project Title	Procurement of Two 2,500DWT multipurpose vessels for coastal shipping in the north coast

3. Implementation Agency	GEMAR, MITRANS			4. Implementation period			
5. Project cost (budget)	375 million CUP (15 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.4	2.4.2	2.4.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To improve the coastal shipping services in the northern coastal area, an economic and technical feasibility study on the procurement (2018 and 2019) of the multipurpose freighters was presented to the MEP (Ministry of Economy and Planning). ● However, the proposed vessels were not purchased due to the lack of financing. ● This previous study needs to be updated by reconsidering the capacity of the vessel and financing availability.	● Quality and quantity of cargo handling capacity and services are improved ● Contribute to economic development through increased coastal shipping activities ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The previous study informed the necessity of acquiring the two multipurpose freighters in 2018-2019. ● General specifications of the proposed vessels are as follows: - 2500 t of DWT, 4,80 m of draft, and 2 cranes of 35t - Navigation in category 4 in the Beaufort scale ● Review the previous study and update the information for the procurement of the vessels.	4) Social impacts – positive impacts are expected, such as an increase in employment opportunities 5) Natural Environment – No impacts 6) Pollution – environment-friendly technologies should be used for the repair work. 4) Environmental Impact Assessment (EIA) – Not required
16. Relevant project(s)	
●	

17. Project location	Province:	Camaguey	City:	
● NA				

18. Notes (if any)

In the following chart, there are characteristics of the necessary ships.

BUQUE TIPO		CANTIDAD	ESTIMADO MMP	AÑO PLAN	CARACTERÍSTICAS
TRÁFICO COSTA NORTE					
	Carguero Multipropósito	1 1	15.0 15.0	2018 2019	2500 t de DWT , 4.80 m de calado con 2 grúas de 35 t y navegación mar fuerza 4
TOTAL		2	30.0		

1. Project Code	M018	2. Project Title	Procurement of cargo vessels for tourism development in the north coast (port of Casasa)

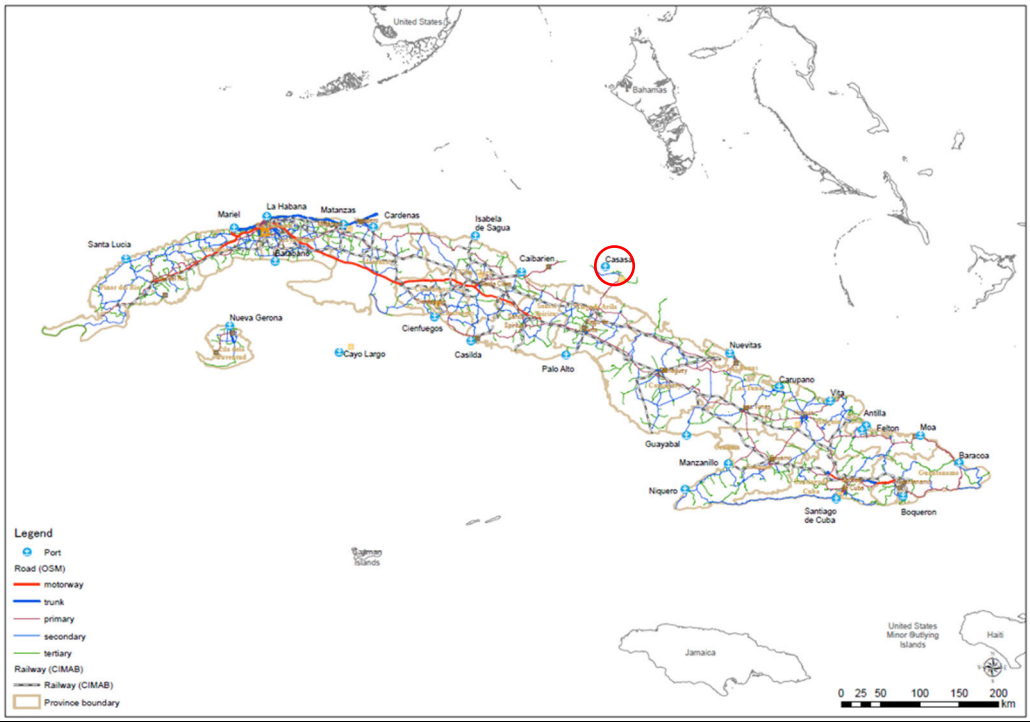
3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	1,000 million CUP (40 million USD)		Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.4	2.4.2	2.4.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● It is necessary to increase cargo transport capacity to support tourism development in the northern coastal areas. ● An economic and technical feasibility study was made and presented to the Ministry of the Economy and Planning (MEP) ● It was proposed to procure four ships; two multipurpose freighter (Container carrier) and two tankers of 1000 t (the suggested years for procurement were 2018-2020). ● However, the procurement was not made due to the lack of funds. ● This previous study needs to be updated by reconsidering the capacity of the vessel and financing availability.	● Quality and quantity of cargo handling capacity and services are improved ● Contribute to economic development through increased coastal shipping activities ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● The general specification of the proposed ships are as follows: - Tanker (2019) 1000t, two segregations (fuel-oil and turbo), 280m of draft, and 60 m of max. length - Container ship (2019) from 50 to 60 containers, 35t cranes, 2.80 m draft, and 60m of maximum length - Container ship (2020) same condition as planned in 2019 - Tanker (2020) same conditions as planned in 2019	7) Social impacts – positive impacts are expected, such as an increase in employment opportunities 8) Natural Environment – No impacts 9) Pollution – environment-friendly technologies should be used for the repair work. 4) Environmental Impact Assessment (EIA) – Not required
16. Relevant project(s)	
● Multipurpose Terminal built by the Chinese corporation CCCC.	

17. Project location	Province:	Camaguey	City:	Casasa



18. Notes (if any)

ASEGURAMIENTO DESARROLLO TURÍSTICO CAYERÍA NORTE (CASASA)

	Buque tanquero	1	10.0	2019	1000 t, 2 segregaciones (fuel-oil y turbo), calado 2.80 m y eslora máxima 60 m.
	Buque portacontene-dores.	1	7.5	2019	De 50-60 contenedores, grúa de 35 t, calado 2.80 m y eslora máxima 60 m.
	Buque portacontene-dores.	1	7.5	2020	De 50-60 contenedores, grúa de 35 t, calado 2.80 m y eslora máxima 60 m.
	Buque tanquero	1	10.0	2020	1000 t, 2 segregaciones (fuel-oil y turbo), calado 2.80 m y eslora máxima 60 m.
TOTAL		**4**	**35.0**		

1. Project Code	M019	2. Project Title	Development of GEMAR Shipyards

3. Implementation Agency	MITRANS, GEMAR		4. Implementation period			
5. Project cost (budget)	625 million CUP (25 million USD)		Start	2026	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

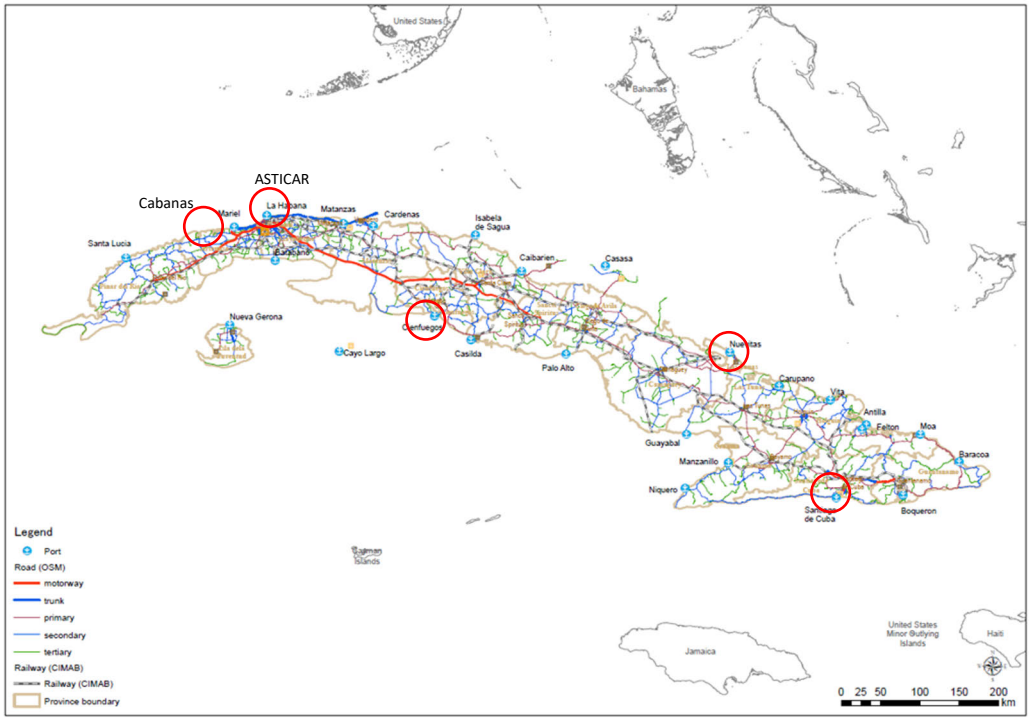
7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.5	2.5.1	2.5.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● GEMAR has 3 shipyards destined for small and medium-sized ships: Caribbean Drydock S.A.(CDC), Astillero del Caribe (ASTICAR), and Damex Shipbuilding & Engineering AVV, S.A.(DAMEX). ● GEMAR has 3 other shipyards for smaller ships: Astillero de Oriente (Astor), Empresa de Astillero (ENA) y Astillero Roberto Nodarse. ● There are 6 dry docks and a floating dock in ASTICAR. ● None of these shipyards, except DAMEX, have received funds for the repair of the infrastructure nor the modernization of the cranes and the workshop machinery and equipment. ● The existing dry docks are outdated, and the number of dry docks is insufficient. Consequently, the number of qualified workers is also insufficient. ● Due to the shortage of spare parts supply, it is difficult to provide the repair service. Currently, the existing shipyards can meet about 35-40% of the demand. The demand for repair work has been increasing, but the current facilities cannot accommodate such growing demand. ● In this regard, it is indispensable to rehabilitate the existing shipyards and build new ones.	● Contribute to the economic development through increased available ships ● Increased employment opportunities
14. Project Description	**15. Social-environmental consideration**
● According to the previous study, building 2 floating docks, 4 modular docks, and one dry dock can meet the demand for cruise ship repair. General specifications are as follows: - Floating dock – 1 ASTICAR, the target year 2020, Length 60m, Beam 26m, Ships capacity up to 1500t, 2 Gantry cranes of 5t. - Floating docks – 1 ASTICAR, the target year 2022, length 112-120m, beam 32m, ship capacity up to 4500t, max. draft 11m, 2 gantry cranes of 5t - Modular dock – 1 Cabanas/1 Nuevitas/ 1 Cienfuegos/ 1 Santiago de Cuba, target year 2021-2030, from 1000-1750t of max. lifting capacity, length 50m, beam 26m, Inner width 20m.	10) Social impacts – positive impacts are expected, such as an increase in employment opportunities 11) Natural Environment – To be addressed in EIA 12) Pollution – environment-friendly technologies should be used for building shipyards and repair work. 4) Environmental Impact Assessment (EIA) – Required

- Dry dock – 1 CDC, the target year 2020-2022, for ships up to 300 m long - Travel lift – 2 of 60t (2020) - Rubber-tire crane of 100t (for four places) (2019-2023) - Forklift of 5t – 1 ASTICAR/ 1 CDC (2019-2023) The previous study needs to be reviewed and updated.	
16. Relevant project(s)	
• Multipurpose Terminal built by a Chinese corporation CCCC.	

17. Project location	Province:	Artemisa, Havana, Cienfuegos, Camaguey, Santiago de Cuba	City:	Cabanas, Havana, Cienfuegos, Nuevitas, Santiago de Cuba



18. Notes (if any)

There are inefficient, outdated and low number of dry docks. Exodus of qualified workforce of the shipyards that cannot be replaced with workers from other fields. Lack of spare parts and other materials for the ships.

DEMAND OF SHIP REPAIR OF GEMAR ENTERPRISES.

SHIPS	2018	2019	2020	2021	2022	2023-2030
Tugboats	10	9	8	7	6	56
RoRo ships	2	1	3	2	2	15
Barges	6	7	5	4	6	35
Pilot boats	4	3	3	5	3	35
Ship chandler	7	6	9	4	8	51
Bay clean boats	1	1	1	2	1	10
Catamarans and Ferry boats	2	2	2	1	1	8
Floating cranes and other auxiliary means	3	4	3	5	3	20
Total	**35**	**33**	**34**	**30**	**30**	**230**

CONCEPT	QUANTITY	TARGET YEAR	ESTIMATE MILLIONS	CHARACTERISTICS
Floating Dock 1500 t	1 ASTICAR	2020	20.0	Length 60m, Beam 26m, Ships capacity up to 1500 t, 2 Gantry Cranes of 5t
Floating Dock 4500 t	1ASTICAR	2022	30.0	Length 112-120 m, Beam 32m, Ships capacity up to 4500 t, max. draft 11 m, 2 Gantry Cranes of 5 t
Modular Docks	1 Cabañas 1Nuevitas 1Cienfuegos 1Santiago de Cuba	2021 2030	120.0	From 1000-1750 t of max. Lifting capacity, length 50 m, beam 26 m, Inner width 20 m
Dry Dock	1 CDC	2020 2022	50.0	For ships up to 300 m long
Travel Lift	2	2020	2.0	60 t

SUMMARY CHART OF THE MAIN PLANNED INVESTMENTS			
INVESTMENTS	SHORT AND MID TERM	LONG TERM	TOTAL
	MILLIONS CUP		
Docks and essential equipment	170,0	59,0	229,0
Procurement of equipment for the shipyards	3,5	1,5	5,0
Repair and modernization of shipyards facilities	9,9	12,2	22,0
TOTAL	183,4	72,7	256,0

COST OF THE INVESTMENT ACCORDING WITH THE DECREE 327/2014

INDICATORS	TOTAL CURRENCY	THOUSANDS CUP	THOUSANDS CUC	THOUSANDS USD
PLANNING				
CONSTRUCTION AND ASSEMBLY	15433,5	9260,1	6173,4	1852,0
EQUIPMENT	233684,6	11684,2	222000,4	213120,3
OTHERS	6929,8	1386,0	5543,8	5266,6
WORK CAPITAL				
TOTAL	**256047,9**	**22330,3**	**233717,6**	**220239,0**
EVALUACIÓN ECONÓMICA FINANCIERA				
FIXED CAPITAL				
FIXED INVESTMENT	249118,1	20944,3	228173,8	214972,4
PREVIOUS EXPENSES	6929,8	1386,0	5543,8	5266,6
WORK CAPITAL	0,0			
TOTAL	**256047,9**	**22330,3**	**233717,6**	**220239,0**

1. Project Code	M020	2. Project Title	Strategic Environmental Assessment (SEA) for Port and Maritime Projects

3. Implementation Agency	MITRANS, GEMAR (Cimab)		4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1	3.1.1	3.1.1.1~3.1.1.3
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Strategic Environmental Assessment has not yet been well established in the port/maritime transport sector. ● It is necessary to study SEA issues in the port/maritime transport sector and increase the capacity of doing SEA in the planning and design process. ● The associated capacity increase plan and organizational development plans are also needed.	● To support the planning and decision-making process from SEA's point of view. ● To contribute to SDGs through SEA exercises ● The social and natural environment is protected/improved.
14. Project Description	**15. Social-environmental consideration**
● Review SEA in the port/maritime transport sector in other countries ● Study SEA-related issues/agendas in Cuba ● Draft Strategic Environmental Assessment procedure in the port/maritime transport sector ● Prepare a capacity development plan for doing SEA ● Overseas training	1) Social impacts–various aspects can be addressed through SEA 2) Natural Environment–effective use of satellite images, GIS, and other statistical information 3) Pollution–possible environmental deterioration will be avoided at a planning stage 4) Environmental Impact Assessment (EIA)–EIA follows SEA
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	

18. Notes (if any)
● Technical assistance (TA)/external loan can be considered to carry out the study ● A joint study with CITMA is expected.

1. Project Code	M021	2. Project Title	Reduction of Fuel Consumption for Port and Maritime Sector

3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3	3.3.1	3.3.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● This is to study how fuel efficiency (t-km/fuel) can be improved.	● Fuel efficiency will be achieved ● Contribution to SDGs - GHG emissions will be reduced
14. Project Description	**15. Social-environmental consideration**
● Existing conditions of the maritime transport fuel consumption ● Issues to be addressed - Optimization of shipping schedule (size, frequency, etc.) - Suitable cargo for the maritime transportation - Modal shift from the road transport - Containerization and other forms of transport - Advanced technologies ● Expected outcomes from the study - As a part of the Logistics sector development plan, future maritime cargo transport development strategies and associated plan proposals are prepared.	1) Social impacts – NA 2) Natural Environment – possible GHG emissions will be estimated 3) Pollution – NA 4) Environmental Impact Assessment (EIA) – NA
15. Relevant project(s)	
●	

16. Project location	Province:	All country	City:	All country
● NA				
17. Notes (if any)				
● Technical assistance (TA)/external loan can be considered to carry out the study ● A joint study with GEA, UFC, and MINCIN is expected.				

1. Project Code	M022	2. Project Title	Study on Modal Shift from Road Transport to Maritime Transport

3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.4	3.4.1	3.4.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Maritime transport is vital in transporting fuel and other bulk goods in Cuba. However, the amount of general cargo transported by the maritime transport sector has been limited. ● The maritime transport sector is generally advantageous for large- and long-distance cargo transportation. Therefore, a modal shift from the road transport sector to the maritime transport sector is expected by taking such an advantage. ● This study aims to establish a set of detailed strategies and corresponding measures to encourage a modal shift from the road transport sector to the maritime transport sector.	● To provide multimodal transport services at lower transport fare ● By reducing the use of trucks, GHG emissions can be reduced
14. Project Description	**15. Social-environmental consideration**
● Customer (market) survey A potential customers (cargo owners) survey will be carried out to find cargo for the maritime transport sector. Types of cargo, forms of transport (such as containers), willingness to pay for the transport services, etc. will be studied to attract customers to the maritime transport sector. ● Use of Balance de Cargas data (BC data) To find potential cargo demand for the maritime transport sector, BC data shall be used effectively. ● Service development Coordinating with land transport service providers is needed to provide multimodal transport services. The generalized cost (fare + time cost) of multimodal transport service, including maritime transport, should be lower than that of truck transportation service. In this regard, a maritime transport-based multimodal transport service should be developed. HG emission. ● Pilot project A pilot project shall be carried out by identifying a few strategic goods for a proposed multimodal transport service.	1) Social impacts – NA 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – EIA will be needed for a selected pilot project.
16. Relevant project(s)	
● Balance de Cargas	

17. Project location	Province:	Whole country	City:	NA
Whole country				
18. Notes (if any)				
• Technical assistance (TA)/external loan can be considered to carry out the study				

1. Project Code	M023	2. Project Title	Study on Upgrading Plan for Ship Navigation System in Cuban Ports

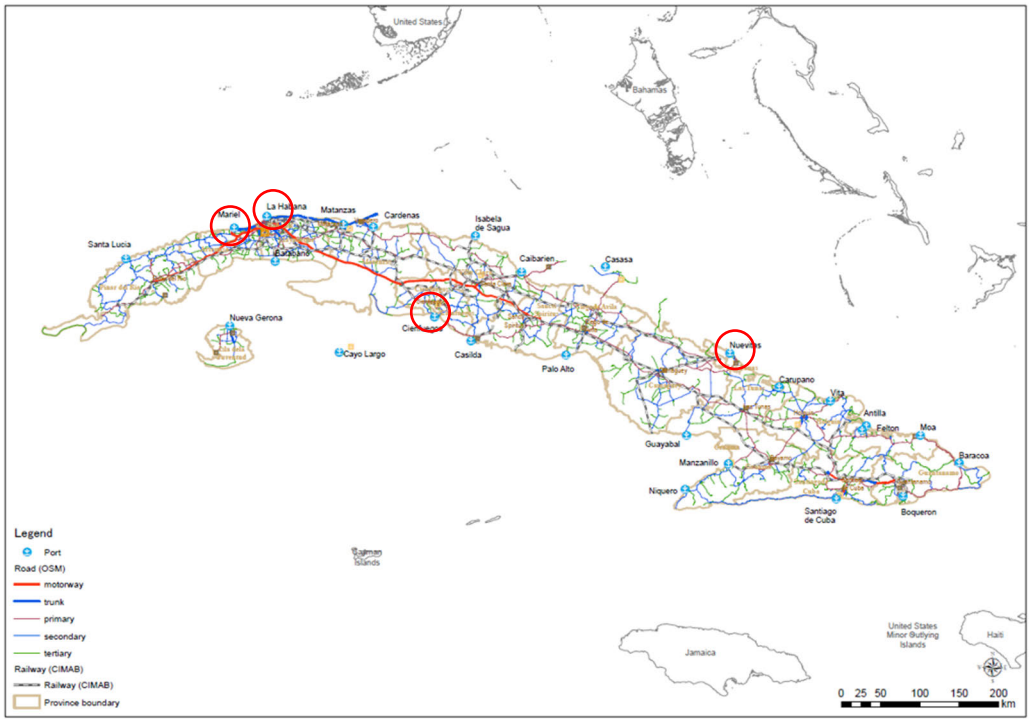
3. Implementation Agency	GEMAR, MITRANS		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.7	3.7.1, 3.7.2	3.7.1.1, 3.7.2.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● This project aims at developing a comprehensive navigation safety improvement plan for four major ports, namely, Mariel, Havana, Cienfuegos, and Nuevitas	● Safer navigation will be achieved; hence the risk of an accident will reduce.
14. Project Description	**15. Social-environmental consideration**
● Survey and analysis of the existing conditions related to safe navigation ● Safety improvement plan (facilities and devices) - Channel dredging, including maintenance, widening - Navigation aids (buoys, leading light, charts) - The pilot boat, Tugs ● Safety improvement plan (pilotage) - Training of pilot - Plan of pilotage ● Vessel Traffic Service (VTS) development plan	1) Social impacts –NA 2) Natural Environment – NA 3) Pollution – NA 4) Environmental Impact Assessment (EIA) – NA
16. Relevant project(s)	
●	

17. Project location	Province:	All country	City:	All country



18. Notes (if any)

- Technical assistance (TA)/external loan can be considered to carry out the study
- A joint study with MINFAR could be considered.

1. Project Code	M024	2. Project Title	Study on Appropriate Price of Port Service and Domestic Transportation (incl. Passengers)

3. Implementation Agency	MITRANS, GEMAR (Cimab)		4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1, 5.2	5.1.1, 5.2.1	5.1.1.1~2, 5.2.1.1~2
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
The primary purposes of this study are: ● To establish an appropriate fee/fare structure for - Port tariff (port service fees) - Domestic maritime transportation fees - Domestic passenger transportation fees ● To clarify whether the revenue is sufficient to cover the maintenance and repairing of vessels and other port facilities	● Financially sustainable port operation and maintenance will be achieved. ● Cuban people can use maritime transport services at a reasonable fare. ● To achieve appropriate budget allocation for maintenance and repair work.
14. Project Description	**15. Social-environmental consideration**
● Survey - Existing fees and revenue from the port operation - Costs for service production and, operation & maintenance - Net profit from the port operation and other related activities - Customer survey (expected services, willingness to pay for such services, etc.) - Benchmark port study ● New fee (tariff) system - Establish new appropriate fee/tariff systems ● Application and execution Application of newly established fee system Monitor income and expenditures	1) Social impacts – NA 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – NA.
16. Relevant project(s)	
●	

16. Project location	Province:	Whole country	City:	NA
Whole country				
17. Notes (if any)				
● Technical assistance (TA)/external loan can be considered to carry out the study (under CIMAB)				

1. Project Code	M025	2. Project Title	Strategic Plan for Foreign Direct Investment of Port and Maritime Sector (Use of Concession Agreement)

3. Implementation Agency	MITRANS, GEMAR	4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)	Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.4	5.4.1, 5.4.2	5.4.1.1, 5.4.2.1
6. Institutional and regulatory development	6.2	6.2.1	6.2.1.1, 6.2.1.2

12. Purpose of the project

- The primary purpose of this study is to find a way to invite foreign direct investment (FDI) to Cuba's port and maritime transport sector. In this regard,
  - Use of concession agreement should be studied, and
  - Necessary changes in laws/rules/regulations should be studied

13. Expected Benefits/Outcomes

- Risks and the state budget will be reduced through foreign investment
- The use of experienced foreign operators will improve port service
- State revenue will increase by obtaining concession fees.

14. Project Description

The study components may include, but are not limited to:

- Existing conditions
  - Mariel port (PSA)
  - Habana, Santiago de Cuba
- Suitable port management structure
- Introduction of Concession Agreement
- Law / Rule / Regulations
- Way to increase attractiveness for foreign investors
- Future development/government investment plan

15. Social-environmental consideration

1) Social impacts – A study is needed for future development project
2) Natural Environment – A study is needed for future development project
3) Pollution – A study is needed for future development project
4) Environmental Impact Assessment (EIA) – A study is needed for future development project

16. Relevant project(s)

-

17. Project location	Province:	All country	City:	All country

18. Notes (if any)

- Technical assistance (TA)/external loan can be considered to carry out the study

Port Management Models

Type	Basic infrastructure	Superstructure, equipment	Cargo operation, labor
Public service port	Public	Public	Public
Tool port	Public	Public	Private
Landlord port	Public	Private	Private
Private service port	Private	Private	Private

Concession Arrangements
In concession agreements, …… public bodies will retain the ultimate ownership of assets (especially land), but will transfer a major part of the financial and operational risks to the private sector. Governments will act mainly as regulators and land developers, while private firms will assume the responsibility for port operations. …….

….. A port concession is a contract in which a government transfers operating rights to private enterprise, which then engages in an activity contingent on government approval and subject to the terms of the contract. The contract may include the rehabilitation or construction of infrastructure by the concessionaire……. Concessions, by permitting governments to retain ultimate ownership of the port land and responsibility for licensing port operations and construction activities, further permit governments to safeguard public interests. At the same time, they relieve governments of substantial operational risks and financial burdens.

There are two main forms of concession used in ports today: lease contracts, where an operator enters into a long-term lease on the port land and usually is responsible for superstructure and equipment, and concession contracts, where the operator covers investment costs and assumes all commercial risks. Such contracts are often combined with specific financing schemes such as BOTs.
Lease contracts and concession contracts share the same principal characteristics:

The government or public port authority conveys specific rights to a private company.
They have a defined term (10~50 years).
They are geographically delimited.
They directly or implicitly allocate financial and operational risks.

1. Project Code	M026	2. Project Title	Strategic Plan for Development of Non-state Enterprises of Port and Maritime Sector

3. Implementation Agency	GEMAR, MITRANS		4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)		Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.3	6.3.1	6.3.1.1, 6.3.1.2

12. Purpose of the project	13. Expected Benefits/Outcomes
The purpose of this study is to find a way to encourage non-state enterprises to join the port and maritime transport sector (cargo, passenger, and port-related various services)	● Port operation efficiency is improved ● Port users are increased ● The state budget is reduced to operate the ports in Cuba
14. Project Description	**15. Social-environmental consideration**
● Case studies A series of case studies in other countries shall be carried out regarding the port operation and maintenance, cargo and passenger transport services, and other related business opportunities. Lessons should be derived from the case studies. ● Existing conditions in Cuba - existing cases of non-state enterprise participation - the benefit of participation of non-state enterprises - obstacles for non-state enterprises to enter the port-related business ● For future effective participation of non-state enterprises - Benefit and risks analysis - Restrictions - Suitable form of participation ● Laws / Rules / Regulations	1) Social impacts – A study is needed for future development project 2) Natural Environment – A study is needed for future development project 3) Pollution – A study is needed for future development project 4) Environmental Impact Assessment (EIA) – A study is needed for future development project
16. Relevant project(s)	
●	

17. Project location	Province:	All country	City:	All country
18. Notes (if any)				
● Technical assistance (TA)/external loan can be considered to carry out the study				

1. Project Code	M027	2. Project Title	Study on EDI and Installation of System in Cuban Ports

3. Implementation Agency	MITRANS, GEMAR			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.3	4.3.1	4.3.1.1, 4.3.1.2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
It is necessary to increase cargo handling efficiency and reduce associated costs by introducing EDI in major ports in Cuba. This is also important to increase the competitiveness of the ports in Cuba. In this regard, this project aims at - Introduction of EDI system for the main ports in Cuba - To improve procedures of import/export and domestic maritime transportation, maritime transport costs can be reduced accordingly.	● To speed up the port and related transportation procedures, achieving effective performance with limited facilities and human resources.
14. Project Description	**15. Social-environmental consideration**
● Case studies A series of case studies in other countries shall be carried out regarding the port operation and maintenance, cargo and passenger transport services, and other related business opportunities. Lessons should be derived from the case studies. ● Study existing systems - Ships maneuvering (entry and sailing schedule) - Port service fee collection - Customs clearance - Quarantine procedures - Immigration control - Cargo forwarders' application control - Connection from import/export to domestic transportation - Linkage to the statistics database ● Application and execution - Introduction and customization of available EDI systems and Customs control system - Establish linkage among port operation system, customs system, and statistics database system - Develop and application systems	1) Social impacts – NA 2) Natural Environment – NA 3) Pollution – NA. 4) Environmental Impact Assessment (EIA) – NA.
16. Relevant project(s)	
●	

17. Project location	Province:	Whole country	City:	NA
Whole country				
18. Notes (if any)				
● Technical assistance (TA) can be considered to carry out the study				

6 章

Appendix A5: Airport & Civil Aviation Sector

1. Project Code	A001	2. Project Title	Major Three Airports Facility and Equipment Master Plan Project

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2022	End	2023
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2	2.2.1~3, 2.2.2.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Development of airport facility and equipment master plan	● Airport Facility and Equipment Master Plan for major airports ● Mid-Long term demand forecast for major airports ● Information for securing budget
14. Project Description	**15. Socio-economic consideration**
● Some facilities and equipment are obsolete and deteriorated ● Some airport facilities & equipment are inadequate to meet the demand ● There is no facility and equipment master plan for major airports	1) Social impacts – no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● Airport System Digitalization Project (Code 02) – needs to be implemented in line with a master plan.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A002	2. Project Title	Major Three Airports System Digitization Project

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)		Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1	1.1.1, 1.1.2, 1.1.3, 1.1.5	1.1.1.1~3, 1.1.2.1~3, 1.1.3.1~4, 1.1.5.1
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Digitization of airport management and operation systems	● Installation of airport operation and management system ● Real-time monitoring of information ● Efficient airport operation and management
14. Project Description	**15. Socio-economic consideration**
● Some information concerning airport operation & management is collected inefficiently. ● Information is not analyzed as it is not organized.	1) Social impacts – positive impacts are expected, including greater passenger satisfaction. 2) Natural Environment – reduced emissions are expected with new equipment. 3) Pollution – positive impacts are expected, including reduced emissions due to more efficient operation. 4) Environmental Impact Assessment (EIA) – not needed.
16. Relevant project(s)	
● Major Airport Facilities and Equipment Master Plan Project (Code A001) – needs to be implemented per the Master Plan.	

17. Project location	Province:	Havana	City:	Havana

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A003	2. Project Title	Major Three Airports GSE (Ground Support Equipment) Procurement Project

3. Implementation Agency	MITRANS, CACSA	4. Implementation period			
5. Project cost (budget)	750 million CUP (30 million USD)	Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.4	2.4.1	2.4.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Urgent procurement of GSE	● The ratio of serviceable GSE will increase. (Serviceable GSE/Total GSE) ● Accidents in ramp areas will be reduced. ● Aged GSE is replaced.
14. Project Description	**15. Socio-economic consideration**
● Much of the existing GSE fleet is aged and deteriorated. ● Some existing GSE will be replaced, and the fleet will be expanded.	1) Social impacts – positive impacts are expected, including increased passenger satisfaction. 2) Natural Environment – reduced emissions are expected with new equipment 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – not needed
16. Relevant project(s)	
● Project Technical Cooperation for GSE repair and maintenance (Code A004) – needs to be implemented in parallel.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● An external (soft) loan from an international financing agency can be considered.

1. Project Code	A004	2. Project Title	Major Three Airports Technical Assistance for GSE (Ground Support Equipment) maintenance

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)		Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1	1.2.1.1~5
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish a training program for the repair and maintenance of GSE. ● Train staff for GSE maintenance. ● GSE maintenance facilities (e.g., GSE hangar) are improved or installed.	● Lower GSE failure ratio. ● Develop a high-standard training program ● Train qualified staff ● Install GSE maintenance facilities ● Contribute to on-time-performance
14. Project Description	**15. Socio-economic consideration**
● Existing GSE maintenance procedures are reviewed. ● Existing GSE repair procedures are reviewed. ● Existing GSE human resources are enhanced. ● Existing GSE maintenance facilities are reviewed.	1) Social impacts – positive impacts are expected, including more efficient GSE operations. 2) Natural Environment – no significant impacts are expected. 3) Pollution – no significant impacts are expected, but environment-friendly technologies can be considered. 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● GSE procurement project (Code A003) needs to be implemented in parallel.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A005	2. Project Title	Jose Marti International Airport Passenger Terminal Expansion Project

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	2.5 billion CUP (100 million USD)		Start	2023	End	2027
6. Source of finance	☒ State budget	☒ External financing agencies		☒ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☒Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.2	2.2.2.4
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Add passenger terminal capacity to meet demand.	● The expanded terminal satisfies passenger demand. ● The sufficient terminal capacity is developed in line with demand. ● Secure sufficient space for terminal amenities.
14. Project Description	**15. Socio-economic consideration**
● Survey demand for the expanded passenger terminal. ● Design an expanded passenger terminal. ● Construct a new/expanded passenger terminal.	1) Social impacts – positive impacts are expected, including increased passenger satisfaction. 2) Natural Environment – Positive impacts are expected, including reduced need for air conditioning with modern terminal design. 3) Pollution – positive impacts are expected, including lower emissions due to modern energy cycle facilities. 4) Environmental Impact Assessment (EIA) – EIA is required to determine a proper site for the terminal.
16. Relevant project(s)	
● Airport facilities & equipment master plan and Airport system digitization (Code A002) – facilities & equipment need to be selected in line with the master plan and policy for airport system digitization.	

17. Project location	Province:	Havana	City:	Havana

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● An external (soft) loan from an international financing agency can be considered. ● Concession arrangements can be considered.

1. Project Code	A006	2. Project Title	Air Freight Logistics Process Digitization Project

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)		Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2022 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1	2.1.1.1~3
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Digitization of air freight logistics process	● More efficient air freight logistics
14. Project Description	**15. Socio-economic consideration**
● Fully establish classification and codification of products. ● Install efficient logistics management system.	1) Social impacts – positive impacts are expected, including improved delivery speed and quality. 2) Natural Environment – lower emissions are expected with new equipment. 3) Pollution – positive impacts are expected, including lower emissions due to more efficient operation. 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
Not applicable	

17. Project location	Province:	All	City:	

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)

- Technical Assistance (TA) from international aid agencies (grant aid) can be considered.
- An external (soft) loan from an international financing agency can be considered.

1. Project Code	A007	2. Project Title	Major airports technical assistance for ground handling (passenger/ramp handling)

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector				8. Project Priority	
	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others			☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1	1.2.1.1~5
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Create a training program for ground handling (passenger/ramp handling). ● Train staff for ground handling ● Establish a structure to maintain handling quality.	● Develop high standard training program. ● Train qualified staff. ● Contribute to on-time-performance. ● Boost passenger satisfaction with quality services.
14. Project Description	**15. Socio-economic consideration**
● Review existing ground handling procedures. ● Enhance existing ground handling training programs. ● Update existing manuals & regulations for ground handling.	1) Social impacts – positive impacts are expected, including more efficient GSE operations. 2) Natural Environment – no significant impacts are expected. 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – not required.
16. Relevant project(s)	
● GSE procurement project (Code 03) – needs to be implemented before this project.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Snta Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A008	2. Project Title	Aviation sector sustainability master plan development project

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1	3.1.1, 3.1.2, 3.1.3	3..1.1.1, 3.1.2.1~2, 3.1.3.1~2
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Contribute to sustainable aviation sector development.	● Sustainable aviation sector development plan ● Attract customers and investors.
14. Project Description	**15. Socio-economic considerations**
● Survey global environmental trends in aviation. ● Develop a policy for Cuba's aviation sector ● Develop a mitigation and adaptation plan.	1) Social impacts – positive impacts are expected, including enhanced national reputation. 2) Natural Environment – positive impacts, including protecting natural resources, are expected. 3) Pollution – positive impacts are expected, including lower emissions. 4) Environmental Impact Assessment (EIA) – not needed.
16. Relevant project(s)	
● This plan should precede procurement and infrastructure development projects.	

17. Project location	Province:	All	City:	

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A009	2. Project Title	Development of innovative logistics warehouse (Havana)

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	1.25 billion CUP (50 million USD)		Start	2025	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.4	2.2.4.1~4
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish an efficient logistics chain based on an innovative warehouse.	● Install innovative warehouse ● Improve air freight throughput
14. Project Description	**15. Socio-economic considerations**
● Create an air freight demand forecast. ● Design efficient warehouse in line with air freight demand forecast. ● Build a highly automated warehouse.	1) Social impacts – positive impacts are expected, including improved logistics chain and better-quality services. 2) Natural Environment – no significant impact is expected. 3) Pollution – no significant impact is expected. 4) Environmental Impact Assessment (EIA) – EIA might be required since a new building is to be constructed.
16. Relevant project(s)	
● Logistics Process Digitization (Code A006) – The warehouse needs to be based on digitized logistics.	

17. Project location	Province:	Havana	City:	Havana

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● An external (soft) loan from an international financing agency can be considered.

1. Project Code	A010	2. Project Title	Aircraft Renewal/Procurement/Lease Plan

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.3	2.3.1	2.2.3.1~2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Preparation of an updated aircraft renewal plan	● Improve national airline business (increase revenue) ● Improve efficiency in managing aircraft (improve availability ratio) ● Save fuel by using new aircraft
14. Project Description	**15. Socio-economic consideration**
● Review existing aircraft renewal plan ● Update demand forecast ● Update aircraft procurement/lease plan	1) Social impacts – positive impacts expected, e.g., increased employment opportunities. 2) Natural Environment – the impact of increased air operation may need to be considered. 3) Pollution – Using new aircraft is expected to save fuel and reduce GHG emissions. 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● Climate change mitigation and adaptation plan (Code A008), GSE procurement project (Code A003), Development of sustainable airport services improvement plan (Code A015).	

17. Project location	Province:	All	City:	

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A011	2. Project Title	Upgrading air traffic control system & operation project (HAV, VRA, SCU, SNU)

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2023	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector				8. Project Priority	
	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others			☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1	3.2.1.1~3
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Ensure a safe air navigation system	● Increase the safety of air navigation system ● Increase take-off/landing capacity ● Boost airport revenues
14. Project Description	**15. Socio-economic consideration**
● CNS/ATM system plan is developed in line with ICAO plans such as GNAP (Global Air Navigation Plan) & CAR/SAMCaribbean/South American Regional Plan ● New equipment/ operation systems to be installed based on the plan	1) Social impacts – positive impacts are expected, e.g., increased employment opportunities. 2) Natural Environment – not relevant 3) Pollution – smooth air traffic operation may lead to fuel savings & reduced GHG emissions. 4) Environmental Impact Assessment (EIA) – not required.
16. Relevant project(s)	
● Human resource capacity building plan project (Code A013)	

17. Project location	Province:	Havana, Matanzas, Villa Crara, Santiago de Cuba	City:	Havana, Varadero, Santa Clara, Santiago de Cuba

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● An external (soft) loan from an international financing agency can be considered.

1. Project Code	A012	2. Project Title	Upgrading the safety management system (SMS) & safety security equipment

3. Implementation Agency	MITRANS, CACSA		4. Implementation period			
5. Project cost (budget)	500 million CUP (20 million USD)		Start	2023	End	2027
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Private investors		

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3, 3.4	3.3.1, 3.3.2, 3.4.1, 3.4.2	3.3.1.1~2, 3.3.2.1~2, 3.4.1.1~3, 3.4.2.1~2
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Secure comprehensive airport safety and security structure	● Develop a safety manual in line with ICAO standards ● Install equipment in line with manual ● Secure safety & security at airports
14. Project Description	**15. Socio-economic consideration**
● Develop manual in line with ICAO ANNEX 19 & ICAO Safety Management Manual ● Develop equipment procurement plan in line with ICAO manual ● Install equipment in line with the equipment procurement plan	1) Social impacts – positive impacts are expected, e.g., improved safety at airports. 2) Natural Environment – no significant impact is expected. 3) Pollution – no significant impact is expected. 4) Environmental Impact Assessment (EIA) – not needed.
16. Relevant project(s)	
● Human resources capacity building plan project (Code A013)	

17. Project location	Province:	All	City:	All

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● An external (soft) loan from an international financing agency can be considered.

1. Project Code	A013	2. Project Title	Human resources capacity-building plan project

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2022 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.2	1.2.1	1.2.1.1~5
2. Transport infrastructure development			
3. Environment, safety, and security	3.5	3.5.1	3.5.1.1~3
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Maintain high-quality human resources ● Ensure human resources management plan	● Introduce the Competency-Based Training (CBT) concept recommended by ICAO ● Develop training program ● Train well-qualified persons ● Increase service quality of air transportation
14. Project Description	**15. Socio-economic consideration**
● Analyze training requirements ● Design competency-based training program ● Develop training and assessment materials	1) Social impacts – quality human resources are secured 2) Natural Environment – not relevant 3) Pollution – improved awareness among people in the air sector 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● All procurement, infrastructure development, and technical assistance projects need to align with this CBT concept.	

16. Project location	Province:	All	City:	

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A014	2. Project Title	Study on state & non-state investment in the aviation sector

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2023	End	2027
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☒ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.1	4.1.1.1~2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.1, 6.2	6.1.1, 6.2.1	6.1.1.1~3, 6.2.1.1~2

12. Purpose of project	13. Expected Benefits/Outcomes
● Identify business areas in the civil aviation sector in which state and non-state companies/investors can participate ● Prepare guidelines to invite state and non-state companies	● State/non-state companies become involved in airport-related business ● Increased airport revenue ● Upgrade various airport services
14. Project Description	**15. Socio-economic consideration**
● Benchmark study of business opportunities in the civil aviation sector (case studies in countries such as Canada, China, Japan, Mexico, Panama, Spain, etc.) ● Study business opportunities at international airports in Cuba ● Feasibility studies on priority business development projects that state and non-state companies can implement ● Study on PPP arrangements to attract FDI ● Institutional & legal/regulatory framework study to encourage FDI	1) Social impacts – positive impacts such as increased employment opportunities are expected. 2) Natural Environment – no significant impact is expected. 3) Pollution – no significant impact is expected. 4) Environmental Impact Assessment (EIA) – not required.
16. Relevant project(s)	
● Airport facility and equipment master plan project (A001)	

17. Project location	Province:	All	City:	

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A015	2. Project Title	Sustainable Airport Services Improvement Plan

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	50 million CUP (2 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.2	4.2.1	4.2.1.1~2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of project	13. Expected Benefits/Outcomes
● Establish sustainable/eco-friendly airport operation maintenance systems.	● Upgrade airport services in a sustainable manner ● Contribute to mitigation of climate change and SDGs ● Develop a green airport concept
14. Project Description	**15. Socio-economic consideration**
● Conduct case studies on airport service improvements ● Conduct risk assessment study and implement identified climate change mitigation measures ● Develop long-term green airport concept using advanced technologies	1) Social impacts – no significant impact is expected. 2) Natural Environment – reduced emissions are expected due to new equipment in line with the green airport concept. 3) Pollution – positive impacts are expected, including reduced emissions due to eco-friendly facilities and equipment. 4) Environmental Impact Assessment (EIA) – not needed.
16. Relevant project(s)	
● All procurement & infrastructure development projects need to align with the green airport concept	

17. Project location	Province:	All	City:	All

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A016	2. Project Title	Strategic Pricing System Introduction Plan Project

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation	5.1, 5.2, 5.3	5.1.1~2, 5.2.1, 5.3.1~2	5.1.1.1~4, 5.2.1, 5..3.1.1~3
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Creating a better pricing system responsive to market demand.	● Increased airport and airfare revenue should cover airport operations and maintenance budgets. ● Set affordable/reasonable prices for Cubans
14. Project Description	**15. Socio-economic consideration**
● Conduct benchmark studies on pricing for airfares, airport tax, and other taxable items, considering Caribbean/S. American countries and major international airlines ● The new airfare pricing system is to be competitive while also providing reasonable/affordable pricing for Cubans ● Design a new airport taxation system	1) Social impacts – no significant impact is expected 2) Natural Environment – no significant impact is expected 3) Pollution – no significant impact is expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● Development of Investment Plan Project (A014) and Promotion of Aircraft Renovation Plan (A010)	

17. Project location	Province:	All	City:	All

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A017	2. Project Title	Upgrading of aviation sector regulatory framework

3. Implementation Agency	MITRANS, CACSA			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.3	6.3.1	6.3.1.1~3

12. Purpose of the project	13. Expected Benefits/Outcomes
● Upgrade existing regulations on airport safety operations	● Update IACC regulatory framework in line with ICAO standards and recommended practices ● Update regulations for air navigation and airport operations in line with ICAO standards and recommended practices
14. Project Description	**15. Socio-economic consideration**
● Review the latest ICAO standards and recommended practices (SARPs) ● Review/update existing regulations ● Clarify content/timing for future revisions	1) Social impacts – no significant impact is expected 2) Natural Environment – no significant impact is expected 3) Pollution – no significant impact is expected 4) Environmental Impact Assessment (EIA) – not required
16. Relevant project(s)	
● NA	

17. Project location	Province:	Havanna	City:	Havanna

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)
● Technical Assistance (TA) from international aid agencies (grant aid) can be considered.

1. Project Code	A018	2. Project Title	Santa Clara International Airport facility expansion project

3. Implementation Agency	MITRANS	4. Implementation period			
5. Project cost (budget)	2.5 billion CUP (100 million USD)	Start	2026	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☒ Private investors	

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.2	2.2.2.5
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Increased passenger terminal capacity needed to meet demand ● Airside capacity required to meet increasing demand	● Expanded terminal/airside facilities can meet demand up to 2040 ● Provide sufficient terminal space for passenger amenities
14. Project Description	**15. Socio-economic consideration**
● Conduct feasibility study on the expansion of passenger terminal and airside facilities ● Conduct basic design and detailed design studies on passenger terminal and airside facilities ● Construct expanded passenger terminal and airside facilities	1) Social impacts – positive impacts are expected, including improved passenger satisfaction 2) Natural Environment – Positive impacts are expected, including reduced air conditioning need with modern terminal design 3) Pollution – positive impacts are expected, including lower emissions due to modern energy cycle facility 4) Environmental Impact Assessment (EIA) – EIA is required to determine a proper site for facilities
16 Relevant project(s)	
● Airport facility & equipment master plan and airport system digitization (A002)	

17. Project location	Province:	Havanna	City:	Havanna

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)

● An external (soft) loan from an international financing agency can be considered.

1. Project Code	A019	2. Project Title	Introduction of facilities and equipment adjusted to universal design.

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	20 million USD			Start	2023	End	2030
6. Source of finance	☐ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1	
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
• Introduction of universally designed facilities and equipment	• All passengers will be able to enjoy the airport comfortably.
14. Project Description	**15. Socio-economic consideration**
• Some facilities and equipment are not suitable for passengers with reduced mobility (PMR by its acronym in Spanish) • A detailed study and design with cost estimation will be carried out.	1) Social impacts – Positive impact is expected. 2) Natural Environment – significant impacts are not expected. 3) Pollution – significant impacts are not expected. 4) Environmental Impact Assessment (EIA) – Not required.
16 Relevant project(s)	
• The airport facilities and equipment Master Plan (Code A001) - should be implemented in line with this project.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)

1. Project Code		A020	2. Project Title	Modernization of facilities and fuel equipment/truck project (major three airports)

3. Implementation Agency	CACSA, MITRANS			4. Implementation period			
5. Project cost (budget)	375 million CUP (15 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2, 2.4	2.2.3, 2.4.1	2.2.3.1~4, 2.2.4.1~4
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Follow the global standard that fuel truck filters should have. ● Replacement of fuel trucks.	● Fulfillment of established standards for fuel supply. ● Operation of appropriate fuel trucks/equipment.
14. Project Description	**15. Socio-economic consideration**
● Review of IATA fuel supply standards. ● Preparation of the necessary documents for the procurement process, taking into account the management of spare parts. ● Implementation of the procurement process such as tendering. ● Training by the manufacturer on the operation and maintenance of the new equipment.	1) Social impacts – significant impacts are not expected. 2) Natural Environment – significant impacts are not expected. 3) Pollution – significant impacts are not expected. 4) Environmental Impact Assessment (EIA) – Not required.
16 Relevant project(s)	
NA	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)

1. Project Code	A021	2. Project Title	Project for the procurement of technological equipment.

3. Implementation Agency	CACSA, MITRANS			4. Implementation period			
5. Project cost (budget)	750 million CUP (30 million USD)			Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.2	2.2.2.1~2.2.2.7
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Replace technological equipment to offer better services to customers (Passengers/Airlines).	● Increased airport capacity due to high performance. ● High customer (passenger) satisfaction due to a pleasant airport experience.
14. Project Description	**15. Socio-economic consideration**
● Study the current status of facilities and equipment, such as passenger boarding bridges, baggage handling systems, security checkpoints, immigration, check-in, etc. ● Development of a budget request. ● Choose the appropriate procurement procedure. ● Procurement of technological equipment	1) Social impacts – significant impacts are not expected. 2) Natural Environment – significant impacts are not expected. 3) Pollution – significant impacts are not expected. 4) Environmental Impact Assessment (EIA) – Not required.
16 Relevant project(s)	
The airport facilities and equipment Master Plan (Code A001) - should be implemented in line with this project.	

17. Project location	Province:	Havana, Matanzas, Villa Clara	City:	Havana, Varadero, Santa Clara

Source: Map Resources (map). | GAO-18-526

18. Notes (if any)

1. Project Code	A022	2. Project Title	Technical assistance for the development of a plan to increase non-aeronautical revenues

3. Implementation Agency	CACSA, MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Private investors				

7. Sector	☐ Transport Planning ☐ Road/Bridge ☐ Railway ☒ Aviation ☐ Maritime	☐ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development	6.1	6.1.1	6.1.1.1~6.1.1.3

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish advanced non-aeronautical revenue management knowledge	● Advanced airport management is achieved ● Non-aeronautical revenues will be increased ● Customer (passenger/airlines) satisfaction is increased
14. Project Description	**15. Socio-economic consideration**
● Introduce the experiences of management in other airports ● Knowledge of tenant management is transferred ● Knowledge of airport/passenger services is transferred ● Knowledge of facilities management transferred	1) Social impacts – significant impacts are not expected 2) Natural Environment – significant impacts are not expected 3) Pollution – significant impacts are not expected 4) Environmental Impact Assessment (EIA) – Not required
16 Relevant project(s)	
NA	

17. Project location	Province:	All	City:	

Fuente: Map Resources (map). | GAO-18-526

18. Notes (if any)

6 章

Appendix A6: Logistics Sector

1. Project Code	LG001	2. Project Title	Digital Transformation (DX) of the BC system Phase 1

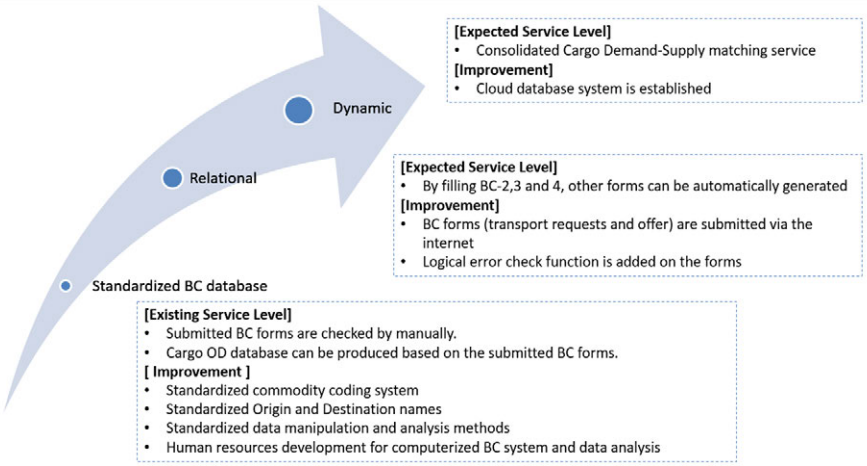
3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2022	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.2, 1.3	1.1.1, 1.2.1~3, 1.3.1~2	1.1.1.1~3, 1.2.1.1, 1.2.2.1, 1.2.3.1
2. Transport infrastructure development	2.1	2.1.3	2.1.3.1, 2.1.3.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Standardize the existing Balance de Cargas (BC) database ● Establish a single platform (database) for commodity movement data collection and provision using ICT.	● Foundation is developed to update the existing BC system ● Time and other resources in balancing the cargo transport needs and the supply (transport means) are saved.
14. Project Description	**15. Social-environmental consideration**
● Standardize the commodity coding system using the Harmonized Commodity Description and Coding System (HS code) ● Standardize the location names (origin and destination places) ● Develop a set of standardized commodity movement analysis methods ● Develop an online data collection (BC form submission) and sharing system ● Establish a BC data management unit in MITRANS/staff training	1) Social impacts –no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● Project LG002	

17. Project location	Province:	Nationwide	City:	



18. Notes (if any)
● Technical Assistance (TA) from international cooperation agencies can be considered to implement this project.

1. Project Code	LG002	2. Project Title	Digital Transformation (DX) of the BC system Phase 2

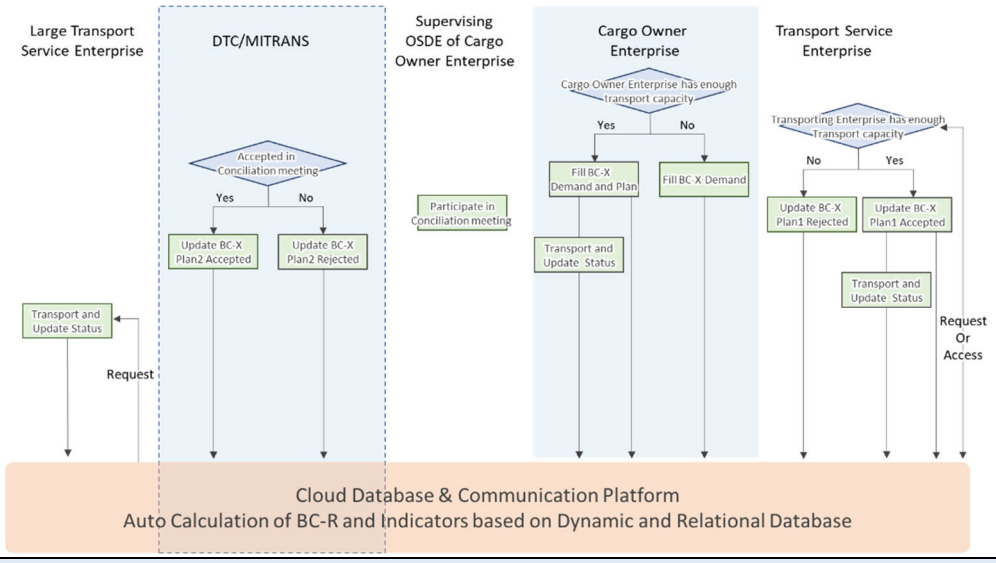
3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	50 million CUP (2.0 million USD)			Start	2027	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.2, 1.3	1.1.2, 1.2.1~3, 1.3.1~2	1.1.2.1, 1.2.1.1, 1.2.2.2, 1.2.3.2
2. Transport infrastructure development	2.1	2.1.3	2.1.3.1, 2.1.3.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Cargo transport demand and supply (transport means) matching services become fully operational.	● Foundation is developed to update the existing BC system ● Time and other resources in balancing the cargo transport needs and the supply (transport means) are saved.
14. Project Description	**15. Social-environmental consideration**
● Cargo transport demand and supply (transport means) matching services are further enhanced using a cloud system ● The BC data management unit is further enhanced ● Staff training	1) Social impacts –no significant impacts are expected 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● Project LG002	

17. Project location	Province:	Nationwide	City:	



18. Notes (if any)
● Technical Assistance (TA) from international cooperation agencies can be considered to implement this project.

1. Project Code	LG003	2. Project Title	Cargo Transport Service Integration

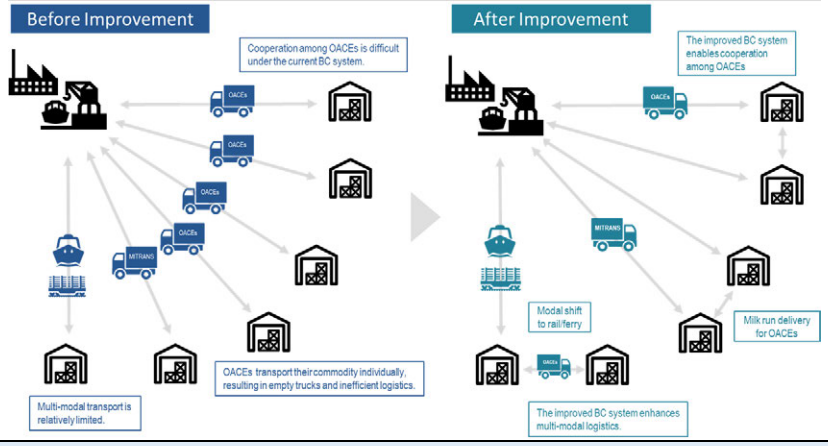
3. Implementation Agency	MITRANS		4. Implementation period			
5. Project cost (budget)	60 million CUP (0.3 mi. USD per year)		Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.1, 1.2, 1.3	1.1.2, 1.2.1~3, 1.3.1~2	1.1.2.1, 1.2.1.1, 1.2.2.2, 1.2.3.2
2. Transport infrastructure development	2.1	2.1.3	2.1.3.1, 2.1.3.2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish a consolidated logistics planning and coordination mechanism ● Provision of integrated cargo transport & storage services	● Domestic and international cargo is efficiently transported ● Savings in resources (fuels, staff, trucks, etc.) are achieved.
14. Project Description	**15. Social-environmental consideration**
● Establish a high-level committee for logistics planning and coordination under MITRANS ● Establish a logistics planning and coordination center under the supervision of the committee ● The BC data management unit becomes a part of the logistics planning and coordination center ● Management of human resource development in the logistics sector	1) Social impacts – positive impacts, such as increased qualified staff in the logistics sector, are expected. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002	

17. Project location	Province:	Nationwide	City:	



18. Notes (if any)

1. Project Code	LG004	2. Project Title	Human Resouce (HR) Development in the logistics sector

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	60 million CUP (0.3 mi. USD per year)			Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1~2	1.3.1.1, 1.3.1.2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Increase the number of qualified staff in the logistics sector	● The logistics business sector is enhanced ● The number of experts, professionals, and staff is increased
14. Project Description	**15. Social-environmental consideration**
● Study the international best practices for human resource development in the logistics sector ● Prepare training programs, including engineering courses, information & communication technology (ICT), logistics business management & administration, etc. ● Provision of regular training courses ● Overseas training	1) Social impacts – positive impacts, such as increased qualified staff in the logistics sector, are expected. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG005	2. Project Title	Formulation of the National Logistic Master Plan 2040

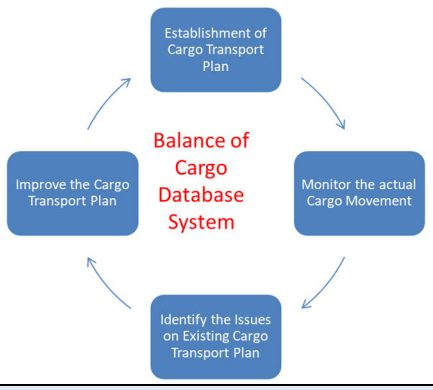
3. Implementation Agency	MITRANS	4. Implementation period			
5. Project cost (budget)	75 million CUP (3 million USD)	Start	2024	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

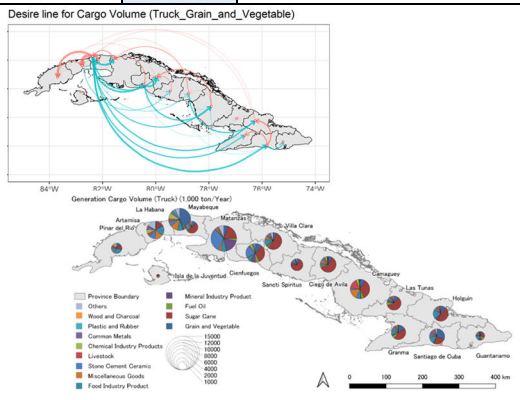
7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination	1.3	1.3.1~2	1.3.1.1, 1.3.1.2
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● The National Transport Master Plan 2030 is updated, focusing on the logistics sector, with the planning horizon of 2040	● Business opportunities for non-Cuban business entities are increased
14. Project Description	**15. Social-environmental consideration**
● Review of the National Transport Master Plan 2030 ● Update the socio-economic development framework ● Update the data inventory and analysis using the updated BC system ● Study advanced technologies in the logistics sector ● Study advanced business, management, and administration in the logistics sector ● Prepare the Logistics Development Master Plan 2040 ● Feasibility studies of the selected priority projects	1) Social impacts – positive impacts, such as increased qualified staff in the logistics sector, are expected. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003, LG004	

17. Project location	Province:	Nationwide	City:	





18. Notes (if any)

- Currently, there is no specific master plan for the logistics sector.
- The Logistics Master Plan 2040 will be prepared under the supervision of the Logistics Planning and Coordination Committee.

1. Project Code	LG006	2. Project Title	Renewal of aged vehicles (trucks)

3. Implementation Agency	MITRANS		4. Implementation period			
5. Project cost (budget)	1.0 billion CUP (40 million USD)		Start	2023	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1, 2.1.2	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Renewal of aged trucks owned by enterprises under MITRANS/MINCIN (800~1,000 trucks) Note: 26% of trucks are less than 15 years old; 37% are 16 to 30 years old; the remaining 37% are over 30 years old (total number ?)	● The transport capacity of enterprises under MITRAS/MINCIN is enhanced
14. Project Description	**15. Social-environmental consideration**
● Review the data inventory of vehicles ● Demand analysis (the number of required trucks) ● Prepare a procurement plan for new trucks ● Procurement	1) Social impacts – positive impacts are expected, such as stable delivery of commodities 2) Natural Environment – no significant impacts are expected 3) Pollution – positive impacts are expected, such as air quality improvement using new vehicles 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● Currently, there is no specific master plan for the logistics sector. ● The Logistics Master Plan 2040 will be prepared under the supervision of the Logistics Planning and Coordination Committee.				

1. Project Code	LG007	2. Project Title	DPT(Dirección Provincial de Transporte) enhancement plan

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	240 million CUP (9.6 million USD)			Start	2022	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.1	2.1.1.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Enhance provincial transport capacity to deliver the Canasta Básica	● Cargo (canasta básica) transport capacity is enhanced ● Communities in rural areas receive necessary commodities timely
14. Project Description	**15. Social-environmental consideration**
● Update the DPT truck inventory data ● Demand forecast of Canasta Básica delivery needs ● Prepare a truck procurement plan ● Procurement of the trucks ● Upgrade the truck maintenance workshop and equipment ● Driver/staff training	1) Social impacts – positive impacts are expected, such as stable delivery of commodities 2) Natural Environment – no significant impacts are expected 3) Pollution – positive impacts are expected, such as air quality improvement using new vehicles 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG006	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG008	2. Project Title	Establishment of standard inspection procedure and a procurement plan for inspection equipment

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	25 million CUP (1.0 million USD)			Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2	2.1.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To upgrade the existing vehicle inspection procedure to an international standard	● Existing and new vehicles will be regularly inspected; accordingly, the level of safety will be maintained/improved. ● Similarly, the air quality will be maintained/improved.
14. Project Description	**15. Social-environmental consideration**
● Study vehicle inspection standards/techniques in other countries ● Establish new inspection standards ● Demand forecast (the number of vehicles to be inspected) ● Procurement plan for inspection equipment ● Inspection staff training program	1) Social impacts – positive impacts are expected, such as increased qualified staff for vehicle inspections 2) Natural Environment – no significant impacts are expected 3) Pollution – positive impacts are expected, such as air quality improvement 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG006	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG009	2. Project Title	Establishment of vehicle inspection companies based on the vehicle inspection plan (LG008)

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	150 million CUP (6.0 million USD)			Start	2024	End	2027
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.1	2.1.2	2.1.2.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To establish state-owned vehicle inspection companies ● To encourage the establishment of non-state vehicle inspection companies	● The capacity for providing vehicle inspection services is increased. ● High-quality vehicle inspection services are provided. ● The number of qualified vehicle inspection staff is increased.
14. Project Description	**15. Social-environmental consideration**
● Vehicle inspection companies are established based on the vehicle inspection plan (LG008). ● Private sector can be invited to provide vehicle inspection services. ● Training of inspection staff	1) Social impacts – positive impacts are expected, such as increased qualified staff for vehicle inspections 2) Natural Environment – no significant impacts are expected 3) Pollution – positive impacts are expected, such as air quality improvement 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG008	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG010	2. Project Title	General warehouse rehabilitation/renewal plan

3. Implementation Agency	MINCIN and provinces			4. Implementation period			
5. Project cost (budget)	100 million CUP (4.0 million USD)			Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2	2.2.1.1~2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To make a rehabilitation/renewal plan of warehouses under MINCIN	● Storage capacity and quality are improved ● A foundation for supply-chain management will be prepared
14. Project Description	**15. Social-environmental consideration**
● Collection of the inventory data of warehouses (under MINCIN and provinces) ● Evaluation of the existing condition of the warehouses ● Storage demand forecast ● Warehouse rehabilitation/renewal program ● Preliminary design of the rehabilitation/renewal, including equipment such as refrigeration and freezers ● Cost estimate	1) Social impacts – positive impacts are expected, such as increased qualified warehouse staff 2) Natural Environment – no significant impacts are expected 3) Pollution – negative impacts are expected, such as wastewater and solid waste 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● LG009	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG011	2. Project Title	Rehabilitation/renewal of the general warehouse of each province

3. Implementation Agency	MINCIN and provinces			4. Implementation period			
5. Project cost (budget)	4.0 billion CUP (160 million USD)			Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2	2.2.1.1~2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To implement the rehabilitation/renewal plan of warehouses under MINCIN	● Storage capacity and quality are improved ● A foundation for supply-chain management will be prepared
14. Project Description	**15. Social-environmental consideration**
Based on the warehouse rehabilitation/renewal plan (LG010), ● Detailed design of the warehouses, including equipment such as refrigeration and freezers ● Construction and procurement plan ● Environmental Impact Assessment (EIA) ● Traffic Impact Assessment (TIA) ● Cost estimate ● Tender and Construction supervision	1) Social impacts – positive impacts are expected, such as increased qualified warehouse staff 2) Natural Environment – no significant impacts are expected 3) Pollution – negative impacts are expected, such as wastewater and solid waste 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● LG010	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● The cost will be estimated based on the detailed design.				

1. Project Code	LG012	2. Project Title	A Study on the need for storage of specific important goods in Mariel, Matanzas, Cienfuegos, and Santiago de Cuba

3. Implementation Agency	Ministry of Economy and Industry			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2025	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2	2.2.1.1~2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study the need for building specialized storage facilities in Mariel, Matanzas, Cienfuegos, and Santiago de Cuba.	● Export and import activities are supported ● Coordination between concerned business entities
14. Project Description	**15. Social-environmental consideration**
Based on the exporting/importing and industrial development strategies, special storage facilities in/near the ports in four provinces will be studied. ● Planning coordination with MEP/MINCIN and other industrial sectors ● Demand forecast of export and import of specific commodities ● A plan for building storage facilities/equipment for particular commodities ● Initial Environmental Evaluation (IEE)	1) Social impacts – positive impacts are expected, such as an increase in qualified planning staff 2) Natural Environment – no significant impacts are expected 3) Pollution – negative impacts are expected, such as wastewater and solid waste 4) Environmental Impact Assessment (EIA) – IEE will be needed
16. Relevant project(s)	
● LG010	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				

1. Project Code	LG013	2. Project Title	Construction of priority new warehouses

3. Implementation Agency	Concerned Ministries		4. Implementation period			
5. Project cost (budget)	4.0 billion CUP (160 million USD)		Start	2027	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies		☒ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.1, 2.2.2	2.2.1.1~2
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Construction of specialized storage buildings with the installation of equipment	● Storage capacity and quality are improved ● A foundation for supply-chain management will be prepared
14. Project Description	**15. Social-environmental consideration**
Based on the study on the need for storage of specific important goods in Mariel, Matanzas, Cienfuegos, and Santiago de Cuba (LG012), ● Feasibility study on the selected priority storage facilities, ● Detailed design of the storage facilities, including equipment such as refrigeration and freezers ● Construction and procurement plan ● Environmental Impact Assessment (EIA) ● Traffic Impact Assessment (TIA) ● Cost estimate ● Tender and Construction supervision	1) Social impacts – positive impacts are expected, such as increased qualified warehouse staff 2) Natural Environment – no significant impacts are expected 3) Pollution – negative impacts are expected, such as wastewater and solid waste 4) Environmental Impact Assessment (EIA) – needed
16. Relevant project(s)	
● LG010	

17. Project location	Province:		City:	
18. Notes (if any)				
● The costs are estimated based on the detailed design.				

1. Project Code	LG014	2. Project Title	Study on packaging technology and industry development

3. Implementation Agency	MINCIN			4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)			Start	2022	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development	2.2	2.2.3	2.2.3.1
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study modern packaging technologies ● Encourage the companies to use the new packaging technologies	● The amount of exported goods will be increased ● Damaged goods (ratio) during transportation will be decreased
14. Project Description	**15. Social-environmental consideration**
New packaging technologies help maintain the quality of products and increase the quality of transportation services. ● Study packaging technologies in other countries ● Study the need for packaging of domestic products ● Prepare a program to support state-owned companies in installing new packaging technologies	1) Social impacts – positive impacts are expected, such as an increase in the delivery of high-quality/fresh goods 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. However, the use of plastic should be carefully considered 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● The cost of installing new packaging technologies shall be studied separately for each company.				

1. Project Code	LG015	2. Project Title	Business Continuity Plan in the logistics sector

3. Implementation Agency	MINCIN/MITRANS			4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)			Start	2022	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1, 3.2	3.1.1, 3.2.2	3.1.1.1, 3.2.2.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Develop/update a business continuity plan (PCP) to be prepared for potential risks caused by natural disasters and infection diseases	● Logistics services in the event of disasters are maintained ● The life of the people is secured
14. Project Description	**15. Social-environmental consideration**
A business continuity plan (BCP) in the logistics sector is a system of prevention and recovery from potential threats to the state. The plan ensures that alternative transport means/routes and logistics personnel are protected and can function quickly in the event of a disaster. ● Study logistics BCPs in other countries ● Study the health/hygienic measures for the staff in the logistics sector in other countries ● Prepare a BCP in the event of severe natural disasters, such as hurricanes and earthquake ● Prepare a BCP in the event of severe inflectional diseases (pandemic)	1) Social impacts – positive impacts are expected in the event of disasters and infection diseases 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● The preparation of the national-level BCP is urgently needed.				

1. Project Code	LG016	2. Project Title	Disaster/Road Accident information sharing system development

3. Implementation Agency	MITRANS and National Revolutionary Police		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2024	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.2	3.2.1	3.2.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Develop/update a business continuity plan (PCP) to be prepared for potential risks caused by natural disasters and infection diseases	● Avoid natural disasters/traffic accidents ● Maintain the logistics services in the event of disasters
14. Project Description	**15. Social-environmental consideration**
A disaster information sharing system provides various information to help transport service providers and users, including - Prior information: such as nearing hurricane, - Ex post information: damaged transport infrastructure, operation status of the transport services, and alternative route and means Similarly, a road accident information sharing system provides: - Prior information: weather, black spots(locations of higher risks), congestion, etc. - Ex post information: accident status, closed road section, alternative routes, etc. ● Study disaster/accident information systems in other countries ● Feasibility study on a disaster/accident information sharing system	1) Social impacts – positive impacts are expected in the event of disasters, such as maintaining commodity supply to the communities 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	

18. Notes (if any)
● The installation of the information-sharing system will follow this study (LG017).

1. Project Code	LG017	2. Project Title	Installation of Disaster/Road Accident information sharing system at Michi-no-Eki

3. Implementation Agency	MITRANS and National Revolutionary Police		4. Implementation period			
5. Project cost (budget)	120 million CUP (4.8 million USD)		Start	2026	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.1	3.1.1	3.1.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Install the disaster/road accident information sharing system at Michi-no-Eki (a rest area along the major highways)	● Avoid natural disasters/traffic accidents ● Maintain the logistics services in the event of disasters
14. Project Description	15. Social-environmental consideration
A disaster/road accident information-sharing system shall be installed at Michi-no-Eki(RB008)	1) Social impacts – positive impacts are expected in the event of disasters, such as maintaining commodity supply to the communities 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● RB008	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	LG018	2. Project Title	Study on the hazardous goods transport needs and designation of dangerous goods transportation

3. Implementation Agency	MITRANS and National Revolutionary Police		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2023	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3	3.3.1, 3.3.2	3.3.1.1, 3.3.2.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To prepare a plan and systems to monitor and manage the transport of dangerous goods	● Reduced risks in transporting hazardous goods ● Avoid/reduce damages caused by accident
14. Project Description	**15. Social-environmental consideration**
Transport of hazardous goods (oils, gas, chemical products) must be carefully monitored and managed to avoid associated environmental and human risks or substances that can damage other materials and goods in traffic accidents, etc. ● Study other countries' systems to monitor and manage the transport of dangerous goods ● Demand forecast of dangerous goods transportation ● Inventory data of vehicles carrying dangerous goods ● Route identification for transporting dangerous goods ● Feasibility study on the installation of the hazardous goods monitoring system ● Regulatory framework to manage the transportation of dangerous goods	1) Social impacts – positive impacts are expected in the event of disasters, such as maintaining commodity supply to the communities 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
● The installation of the monitoring system will follow this study (LG019).				

1. Project Code	LG019	2. Project Title	Installation of a hazardous goods vehicle monitoring system

3. Implementation Agency	MITRANS and National Revolutionary Police		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2026	End	2028
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors		

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.3	3.3.1, 3.3.2	3.3.1.1, 3.3.2.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● To install a system to monitor and manage the transport of dangerous goods	● Reduced risks in transporting hazardous goods ● Avoid/reduce damages caused by accident
14. Project Description	**15. Social-environmental consideration**
Based on the study (LG018), a system to monitor and manage the transport of dangerous goods will be installed. ● Detailed design of the system ● Cost estimates ● Preparation of tender documents ● Installation of the system	1) Social impacts – positive impacts are expected in the event of disasters, such as maintaining commodity supply to the communities 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG018	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	LG020	2. Project Title	Study on the state-wide emergency/ambulance transport needs

3. Implementation Agency	Ministry of Public Health and MITRANS		4. Implementation period			
5. Project cost (budget)	37.5 million CUP (1.5 million USD)		Start	2024	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.4	3.4.1	3.4.1.1, 3.4.1.2
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study the need for emergency medical transport in the state ● Establish a plan to upgrade the existing emergency medical transport system	● Life of the people is saved
14. Project Description	**15. Social-environmental consideration**
Emergency medical transport services should be upgraded to provide world-class medical care for people in the unfortunate event of a serious, potentially life-threatening incident. In this regard, a comprehensive study of the needs for such services shall be carried out. ● Inventory data collection and analysis (hospitals, medical staff, level of medical services, emergency vehicles, helicopters, aircraft, and vessels) ● Gap analysis (emergency transport needs and the transport capacity/speed) ● Preparation of a plan to strengthen the nationwide emergency medical transport services, including a study on the establishment of ambulance service companies (with MITRANS)	1) Social impacts – positive impacts are expected: life-saving, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	LG021	2. Project Title	Upgraded emergency medical transport service unit (company)

3. Implementation Agency	Ministry of Public Health and MITRANS		4. Implementation period			
5. Project cost (budget)	5.0 billion CUP (200 million USD)		Start	2024	End	2025
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☐ Immediate (2022 – 2023) ☐ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.4	3.4.1	3.4.1.1, 3.4.1.2
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establish/upgrade the emergency medical transport service provision unit (company)	● Life of the people is saved
14. Project Description	**15. Social-environmental consideration**
Based on the study (LG020), a unit (or a state-owned company) to provide emergency medical transport services will be established. ● Procurement of transport means ● Medical transport staff training (drivers, pilots)	1) Social impacts – positive impacts are expected: life-saving, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG015, LG016, LG017, LG020,	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	LG022	2. Project Title	R&D on zero-carbon technologies in the logistics sector (CIMAB)

3. Implementation Agency	CIMAB, MITRANS		4. Implementation period			
5. Project cost (budget)	5.0 billion CUP (200 million USD)		Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security	3.5	3.5.1	3.5.1.1
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Continuous Research and Development (R&D) to achieve Zero Carbon emissions by 2050	● Zero carbon emissions will be achieved by 2050
14. Project Description	**15. Social-environmental consideration**
A scaling up of finance for continuous research and development is essential to achieve zero carbon emissions by 2050. In addition, the capacity (human resources, laboratory instruments, etc.) needs to be increased. Besides, research collaboration with international research organizations is required. ● Increase in human resources for R&D activities ● Collaboration with international research organizations/universities ● Procurement of laboratory instruments, etc. ● Continuous R&D activities	1) Social impacts – positive impacts are expected, such as increased qualified staff/scientists, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
●	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
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1. Project Code	LG023	2. Project Title	3PL logistics service provider development plan (study)

3. Implementation Agency	MITRANS, MINCIN, and other relevant ministries	4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)	Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.1	4.1.1.1, 4.1.1.2, 4.1.1.3
5. Transport pricing and resource allocation	5.2	5.2.1	5.2.1.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study the establishment of third-party logistics (3PL) service provider	● The efficiency of logistics services
14. Project Description	**15. Social-environmental consideration**
Study the establishment of third-party logistics (3PL) service providers by integrating the services of empressas under GEA. GEMAR, UFC, and CACSA. The services include goods inventory management, warehousing, and transportation. ● Study international benchmark (3PL services providers) ● Study capacity/capability of empressas under GEA, GEMAR, UFC, and CACSA ● Plan of a 3PL company ● Feasibility study on the 3PL business, including demand forecast, new pricing scheme, etc.	1) Social impacts – positive impacts are expected, such as increased qualified staff, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
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1. Project Code	LG024	2. Project Title	Establishment of a 3PL service provider by integrating transport services of empressas under GEA, GEMAR, UFC, and CACSA

3. Implementation Agency	MITRANS			4. Implementation period			
5. Project cost (budget)	250 million CUP (10 million USD)			Start	2025	End	2026
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.1	4.1.1	4.1.1.1, 4.1.1.2, 4.1.1.3
5. Transport pricing and resource allocation	5.2	5.2.1	5.2.1.1
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Establishment of a third-party logistics (3PL) service provider by integrating empressas under GEA. GEMAR, UFC, and CACSA.	● The efficiency of logistics services
14. Project Description	**15. Social-environmental consideration**
● A new business entity (3PL) to be established ● Transfer of assets (vehicles, etc.) to the new 3PL company ● Procurement of new vehicles, etc.	1) Social impacts – positive impacts are expected, such as increased qualified staff, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003, LG023	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
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1. Project Code	LG025	2. Project Title	Study on Non-state Micro, Small, and Medium-sized enterprises (MIPYMES)

3. Implementation Agency	MITRANS, MINCIN, and other relevant ministries		4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)		Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors			

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.2	4.2.1	4.2.1.1, 4.2.1.2
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study the possible involvement of non-state enterprises (micro, small, and medium-sized enterprises) in the logistics sector	● The efficiency of cargo transport is improved ● The capacity of cargo transport services is increased
14. Project Description	**15. Social-environmental consideration**
Non-state enterprises are expected to find business opportunities in the cargo transport sector. Therefore, the necessary legal framework, financial support program, and capacity development (human resources) to invite non-state enterprises are studied in this regard. ● Study legal and regulatory framework in inviting non-state enterprises to the cargo transport business ● Consultation with potential non-state enterprises (Cuban companies) ● Study financial support program ● Study possible involvement of the non-state enterprises in the BC system	1) Social impacts – positive impacts are expected, such as increased qualified staff, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
●				

1. Project Code	LG026	2. Project Title	Study on the provision of business opportunities to international companies

3. Implementation Agency	MITRANS, MINCEX	4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)	Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.3	4.3.1	4.3.1.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study possible involvement of international logistics companies in the logistics sector of Cuba	● The efficiency of cargo transport is improved ● The capacity of cargo transport services is increased
14. Project Description	**15. Social-environmental consideration**
More international transport/logistics companies can be invited to provide the services in Cuba. The necessary legal framework, administrative procedures, and possible locations for their business to invite international companies are studied in this regard. ● Study legal and regulatory framework in inviting international companies to the cargo transport business in Cuba ● Consultation with potential global companies ● Study possible involvement of the international cargo transport companies at the international gateways (ports, airports)	1) Social impacts – positive impacts are expected, such as increased qualified staff, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003, LG023, LG024, LG025	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
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1. Project Code	LG027	2. Project Title	Study on National Logistics Authority

3. Implementation Agency	MEP, MITRANS, MINCEX, MINCIN	4. Implementation period			
5. Project cost (budget)	25 million CUP (1 million USD)	Start	2023	End	2024
6. Source of finance	☒ State budget	☒ External financing agencies		☐ Foreign Investors	

7. Sector	☒ Transport Planning ☐ Road/Bridge ☐ Railway ☐ Aviation ☐ Port/Maritime	☒ Logistics/Cargo ☐ Bus passenger transport ☐ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project Priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☐ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development	4.3	4.3.1	4.3.1.1
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Study the possible establishment of a new authority responsible for logistics planning and administration	● Capacity and quality of cargo transport planning and administration are improved
14. Project Description	**15. Social-environmental consideration**
Various empressas provide the existing cargo transport services under different OSDEs. Besides, these OSDEs are under different ministries. This may lead to the inefficiency of cargo transportation in the country. In this regard, it is considered that a series of the proposed cargo transport sector development objectives and strategies need to be implemented effectively under a single authority. ● Feasibility study on establishing a single authority to plan, monitor, manage and regulate the logistics activities.	1) Social impacts – positive impacts are expected, such as increased qualified staff, etc. 2) Natural Environment – no significant impacts are expected 3) Pollution – no significant impacts are expected. 4) Environmental Impact Assessment (EIA) – no need
16. Relevant project(s)	
● LG001, LG002, LG003, LG025	

17. Project location	Province:	Nationwide	City:	
18. Notes (if any)				
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Appendix A7: Environment Sector

1. Project Code	ENV001	2. Project Title	Technical assistance for emission monitoring in transport sector (road, railway, maritime, and aviation sectors)

3. Implementation Agency	MITRANS/CITMA			4. Implementation period			
5. Project cost (budget)	Grant aid			Start	2023	End	2030
6. Source of finance	☒ State budget	☒ External financing agencies	☐ Foreign Investors				

7. Sector	☐ Transport Planning ☒ Road/Bridge ☒ Railway ☒ Aviation ☒ Port/Maritime	☒ Logistics/Cargo ☒ Bus passenger transport ☒ Environment ☐ Institution/Regulation ☐ Relevant business and others	8. Project priority	☒ Immediate (2022 – 2023) ☒ Short-term (2024 – 2026) ☒ Medium-term (2027 – 2030)

Key Areas	9. Objective (code)	10. Strategy (code)	11. Goal (code)
1. Planning and coordination			
2. Transport infrastructure development			
3. Environment, safety, and security			
4. Transport service and industry development			
5. Transport pricing and resource allocation			
6. Institutional and regulatory development			

12. Purpose of the project	13. Expected Benefits/Outcomes
● Currently, vehicle emission standards set in 2001 are being updated. However, there are no emission standards, measurement methods, and equipment for heavy vehicles, railway, maritime and aviation sectors. ● To monitor emissions from the transport sector, the following are required. ○ Set emission standards ○ Procure adequate measurement equipment ○ Establish emission measurement method.	● Current emissions can be estimated and it can encourage implementation of emission reduction measures. ● Potential emission reduction from transport sector and contribution to national targets on emission reduction can be estimated. ● Meet requirements of international agreements (MARPOL, etc.). ● Emission factors are calculated from real measurements. ● Establish methodologies for emission measurements. ● Create specific database
14. Project Description	**15. Social-environmental consideration**
● Update vehicle emission standards and set heavy vehicle emission standards ● Set emission standards and measurement methods for railway, maritime and aviation sectors ● Procure emission measuring equipment and train personnel for vehicle/emission inspection and monitoring. Stage 1: Updating and monitoring Stage 2: Analysis of results Stage 3: Establish methodologies for each transport sector.	1) Social impacts – N/A 2) Natural environment – N/A 3) Pollution – Positive impacts are expected by emission monitoring 4) Environmental Impact Assessment (EIA) – N/A
16. Relevant project(s)	
● N/A	

17. Project location	Province:	Nationwide	City:	N/A
18. Notes (if any)				