ENVIRONMENTAL IMPACT STATEMENT (EIS) SUMMARY FOR THE PUBLIC
Davao City Expressway Project

1 Project Description

1.1 Project type, components and size

The proposed Davao City Expressway is classified as an Environmentally Critical Project (ECP) based on Department of Environment and Natural Resources – Environmental Management Bureau (DENR-EMB) Memorandum Circular No. 2014-005, to wit: "Bridges and viaducts including elevated roads, new construction ≥10km". ECPs are required to submit an Environmental Impact Statement (EIS) to EMB Central Office for the purpose of securing an Environmental Compliance Certificate (ECC) for the project.

The project components and length of each component are listed below:

Phase	Endpoint	Length (km)
Phase 1	Maa Interchange	6.774
Phase 2	Panacan Interchange	9.615
Phase 3	Dumoy Interchange	12.821
	Total Length	**29.21**

Other project details are provided below.

Total length	29.2 km	No. of Interchanges: 9 3 T-hub 1 partial cloverleaf 5 diamond interchanges Support structures Drainage (subgrade + rainwater collection system) Slope protection
Standard width	19.1 m	
ROW width	30 m	
No. of lanes	4	
No. of viaducts	34	

The details of the proposed interchanges are listed below.

No.	Interchange name	Crossing chainage	Spacing (km)	Interchange type	Intersection mode	Name and grade of crossed road
1	DAVAO-COTABATO RD. Interchange	AK1+560		Diamond interchange	Overpass on main alignment	DAVAO-COTABATO RD. Urban main road
2	GOLD ST. Interchange	AK4+100	2.54	Diamond interchange	Overpass on main alignment	GOLD ST. Urban secondary main road
3	PANACAN CROSSING Interchange	BK0+000	-	Type T interchange	Overpass below main alignment	DAVAO-AGUSAN NATIONAL HIGHWAY National main road
4	DAVAO AIRPORT Interchange	BK2+500	2.5	Diamond interchange	Overpass on main alignment	Airport linking road
5	MANDUG RD. Interchange	BK6+900	4.400	Diamond interchange	Overpass on main alignment	MANDUG RD. Local roads
6	MA-A Interchange	BK9+555	2.655	Type T interchange	Overpass below main	DAVAO EXPRESSWAY Urban main road

No.	Interchange name	Crossing chainage	Spacing (km)	Interchange type	Intersection mode	Name and grade of crossed road
					alignment	
7	CATALUNAN GRANDE Interchange	BK15+879	6.324	Diamond interchange	Overpass below main alignment	CATALUNAN GRANDE RD. Local roads
8	DAVAO-BUKIDNON RD. Interchange	BK18+150	2.271	Partial cloverleaf interchange	Overpass on main alignment	DAVAO-BUKIDNON National highway National main road
9	DUMOY Interchange	BK22+436.395	4.286	Type T interchange	Overpass on main alignment	DAVAO-COTABATO National highway National main road

1.2 Process/technology

The development strategy of the Davao City Expressway is stated below.

- Focus on building a fully enclosed, fully interchanged and access strictly controlled expressway throughout Davao City, taking into account the functions of the urban expressway.
- The project will be constructed to connect Davao International Airport, Davao City Coastal Road and island reclamation planning areas, provide necessary infrastructure for the long-term planning of Davao City, greatly improve the overall service level of tourism in Davao City, and promote the sustainable and healthy development of the economy of Davao City.
- The expressway will include entry and exit points to important roads in Davao City to quickly dissipate the medium and long-distance traffic in the urban area and alleviate the traffic pressure in the urban area.
- The expressway will be connected with the main road to and from the SASA Port to improve the cargo turnover capacity of the SASA Port.
- The expressway will be connected to Davao City and surrounding towns to promote the rapid development of surrounding towns and at the same time expand the development space of Davao City in the future.

Pollution control devices during the construction phase will consist of:

- Material recovery facilities in the camp sites to serve as segregation area for recyclable, reusable and hazardous wastes
- Coordination with host LGU for the management and disposal of construction wastes
- Provision of properly labeled garbage bins in construction camps, work areas and site offices
- Temporary drainage and silt management facilities in active construction areas to mitigate siltation
- Installation of noise barriers in areas with sensitive receptors such as schools, churches, hospitals and residential areas
- Replacement planting of removed trees in other areas near the road alignment

1.3 Resource utilization (water, energy, etc.)

Sand and gravel requirements for the road construction will be obtained from the Tigatto-Tamugan section of Davao River. The contractor will secure the necessary permits from the Davao City LGU. Additional sand and gravel requirements can be supplied by small and medium sized suppliers located along the project alignment.

Other resource requirements of the project are listed below:

- The subgrade backfill soil will be sourced from a borrow pit that is currently utilized by ongoing projects in Davao City.
- The water requirement during road construction will be sourced from the Davao, Matina and Talomo Rivers, which are all traversed by the project alignment.
- Cement will be sourced from existing cement plants in Davao City.
- Steel requirements of the project will be sourced from existing steel plants in Davao City and vicinity.
- Asphalt and commercial concrete will be sourced from existing local suppliers in Davao City
- Power requirements will be sourced from the local electric service cooperative
- Other accessory materials such as supports, expansion joints, guardrails and other accessories used for bridges will be imported from China or other countries

2 Proposed location with vicinity map

The proposed Davao City Expressway is located in Davao City in Southern Mindanao. The project will connect to Asian Highway 26 (AH26, locally known as Carlos P. Garcia National Highway or the Davao City Diversion Road), the Davao City Coastal Road, and other main roads in Davao City. The project will traverse 18 barangays located within four administrative districts of Davao City. The project location map is shown in **Figure 1**.

Phase	Endpoint	Barangay Location
Phase 1	Maa Interchange	1-A, 5-A, 8-A, 9-A, 40-D, Bucana, Ma-a
Phase 2	Panacan Interchange	Buhangin Proper, Cabantian, Communal, Sasa, Panacan
Phase 3	Dumoy Interchange	Bago Gallera, Catalunan Grande, Catalunan Pequeno, Dumoy, Langub, Matina Pangi
	Total Length	

The project alignment, particularly Phases 1 and 2 are within the heavily built up areas of Poblacion, Talomo, Buhangin and Bunawan Districts in Davao City and is therefore easily accessible by public transportation or private vehicle. A large section of Phase 3 will traverse undeveloped land mostly on the edge of residential areas of Barangays Matina Pangi, Catalunan Grande, Catalunan Pequeño, Bago Gallera and Dumoy. Barangay roads to these areas as well as the national and city roads intersecting the project will serve as access to Phase 3 of the proposed Davao Expressway Project.

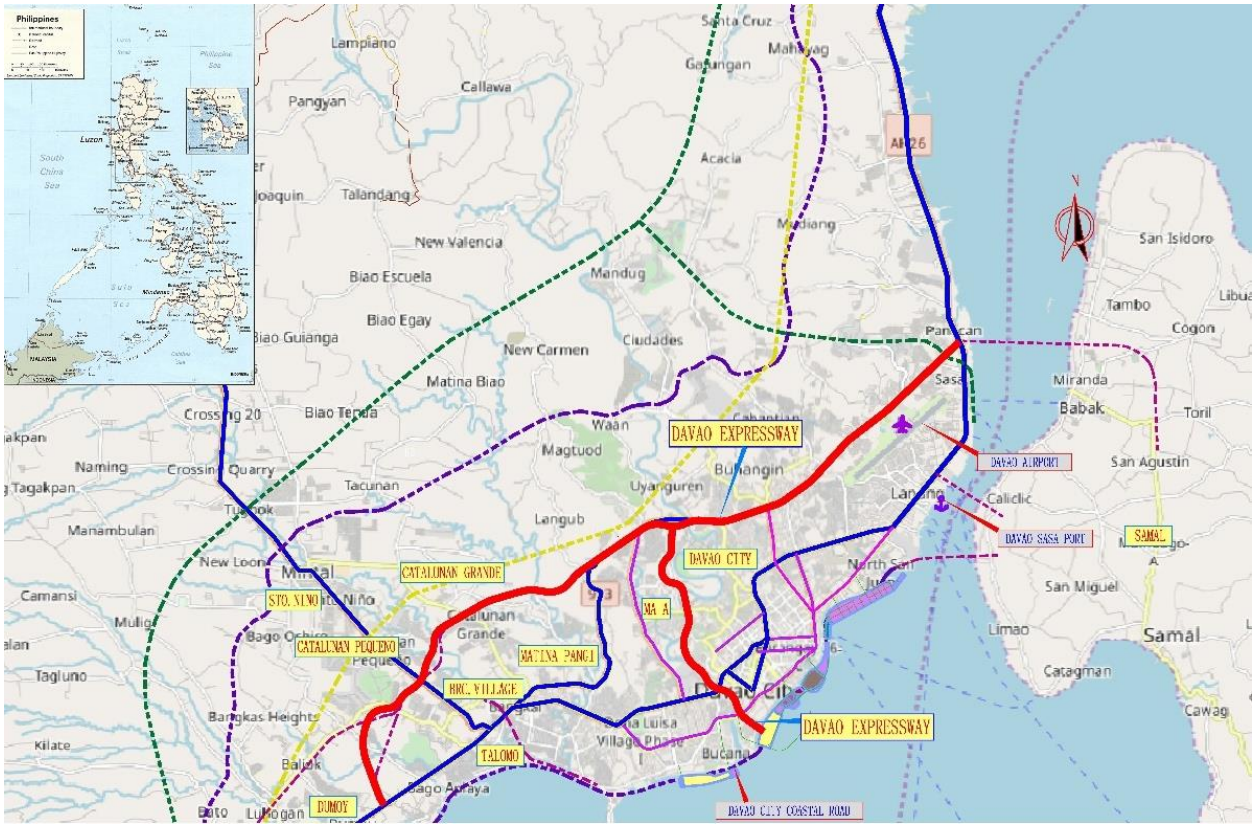

Figure 1. Location of the proposed alignment of the Davao City Expressway Project.

3 Project proponent

The project proponent is the Department of Public Works and Highways – Unified Project Management Office (DPWH-PMO). The authorized representative and contact details are provided below.

Engr. Virgilio C. Castillo
Project Director (Roads Management Cluster 1 – Bilateral)
DPWH Central Office
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4 Projected timeframe of project implementation

Pre-construction activities such as feasibility study, environmental impact assessment study, securing various permits and clearances from concerned local and national government offices, detailed engineering design, right of way acquisition, etc. will be conducted within 2-3 years before project construction.

Road construction will commence once the right of way of the project is acquired by DPWH and ready for turnover to the contractor. The construction schedule for Phases 1, 2 and 3 has not been determined at this time.

5 Concise integrated summary of the major impacts and residual effects after mitigation

The main project impacts include ROW acquisition along the project alignment, noise and dust generation during construction, and traffic congestion in active construction areas. The main project impact during the operation phase will be the overall improvement in traffic condition in downtown Davao City.

The summary of the main environmental impacts and the environmental management plan is presented below.

Environmental Component	Potential Impact	Mitigation/Enhancement Measure	Residual Impact
Construction phase			
Land use and classification	Potential conflict with other proposed infrastructure projects in Davao City	Coordinate with host LGU and barangays on final project alignment so it will be considered in the respective development plans	None
	Acquisition of ROW will be necessary in some sections	Minimize ROW acquisition as much as possible. ROW acquisition should be done according to local and international standards on ROW acquisition.	This is a residual project impact that can be mitigated through advanced warning to PAPs and provision of proper compensation and resettlement area, if necessary.
	Project will have visual impacts particularly in Phase 3	Less intrusive design should be implemented to retain the scenic view value of the area.	None
Geology	Project will be prone to liquefaction due to soft substrate	Results of geotechnical investigation should be used as bases in the final design of the structures	None
	Project will traverse a segment of Davao Fault than can seismic hazards that may affect the proposed elevated road	Implement proper engineering design and comply with National Building and Structure Code of the Philippines.	The risk if seismic hazards is present with or without the project
Soils	Soil erosion will occur during the construction phase	Cover stockpiles of construction materials with bund walls	None
Terrestrial ecology	Vegetation removal will be necessary in some sections	Complete tree inventory should be done prior to site clearing. Vegetation removal should be limited to that is necessary and endemic/threatened species must be avoided.	Replacement planting should be done in other areas identified by DENR CENRO
Water quality	Siltation from construction activities can affect nearby surface water bodies	Install silt traps and silt ponds in active construction areas	None
	Oil spills and leaks can affect surface and groundwater quality	Install oil sumps in active construction areas Proper handling and disposal of used oil	None
Air quality and noise	Dust will be generated during construction	Water down base areas and use bund walls to cover stockpiles of construction materials	None
	Gaseous emissions during	Proper maintenance of equipment,	None

Environmental Component	Potential Impact	Mitigation/Enhancement Measure	Residual Impact
	construction will affect air quality	vehicles and machinery	
	Noise levels will increase during construction	Use mufflers on noisy construction equipment Schedule noisy construction activities during daytime Use noise barriers	None
People	Project will displace some settlers	Proponent and LGU should come up with a functional LARAP to address impacts on affected properties. Relocation should be well planned and relocation site should be provided with basic services and facilities	This is a residual project impact and can be mitigated through the formulation and implementation of a functional LARAP
	In-migration can occur during the construction phase	Compliance with the requirement to hire 50% of skilled and unskilled workers from host community will address this impact	None
	Traffic impacts	Prepare a workable traffic management plan in consultation with city and barangay LGUs. Identify alternative routes and place visible signs. Communicate traffic management plan through various media.	None
Operation phase			
Land use and classification	Commercial and residential development will occur along the project alignment	Project alignment should be incorporated in city and barangay development plans	None
Air quality and noise	Increase and gaseous and particulate emissions from passing vehicles	Encourage motorists to use low sulphur fuel and bring car regularly for maintenance services	None
	Noise levels will increase due to passage of vehicles	Install noise barriers in densely built up residential areas	None

6 Identified stakeholders

The identified project stakeholders include the following:

- Davao City LGU – City Mayor, City Vice-Mayor, City Councillors, City Planning and Development Office, City Engineering Office, City Social Welfare and Development Office, City Agriculture Office, City Tourism Office
- Host Barangays – Barangay Officials, SK chairman, Senior Citizen president, Mandatory IP representative, Women, Barangay Health Workers
- Other stakeholders – homeowners associations of affected subdivisions and residential areas, business sector representative, concerned national government agencies (DPWH)

7 Project proponent's statement of commitment and capability to implement necessary measures to prevent adverse negative impacts

The DPWH Project Implementing Office is committing to implement the necessary mitigating measures through its project contractors to minimize the identified adverse negative impacts of the project during the construction and operation phases.

8 Information on where to get a copy of the EIS for further information

Copies of the EIS Summary for the Public in English and Filipino are available at the EMB website.