

DAVAO PEOPLE MOVER PROJECT

For

UDENNA CORPORATION

26th Floor, Fort Legend Tower, 3rd Avenue cor. 31st st., Bonifacio Global City, Taguig City

Submitted to



ENVIRONMENTAL COUNSELORS, INC.
Environmental Consultant

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Department of Environment and Natural Resources

Environmental Management Bureau (EMB) Central Office

DENR Compound, Visayas Avenue, Diliman, Quezon City

1.0 BASIC PROJECT INFORMATION

PROJECT NAME	:	Davao People Mover Project
PROJECT LOCATION	:	Davao City
PROPOSER NAME	:	Udenna Corporation
PROPOSER ADDRESS	:	26 th Floor, Fort Legend Tower, 3 rd Ave. cor. 31 st St., Bonifacio Global City, Taguig City
CHAIRMAN AND CEO	:	Dennis A. Uy
CONTACT PERSON	:	Engr. Manuel T. Jamonir Business Development Manager
CONTACT NUMBERS		
Telephone Number	:	(02) 403 – 4015 / (02) 403 – 4022
Mobile Number	:	09189366112
E-MAIL ADDRESS	:	jam.jamonir@udenna.ph
CONSULTANT	:	Environmental Counselor's Inc. (ECI)
CHAIRMAN	:	JOHN CARLO B. TRIA
PREPARED BY'S ADDRESS	:	Unit E, 9 th Flr., Strata 100 Bldg., F. Ortigas Rd., Ortigas Center, Pasig City
CONTACT NUMBERS	:	
Telephone Number	:	(02) 637 – 6626
Mobile Number	:	0920-905-9709
E-MAIL ADDRESS	:	ecisouth@gmail.com
PROJECT COMPONENTS	:	13 km Straddle-type Monorail Line 16 Stations 1 Depot

2.0 PROJECT DESCRIPTION

2.1 Project Location and Area

The proposed Davao People Mover Project will be located along Barangay Bangkal to Lanang (JP Laurel Avenue), Davao City in the Province of Davao del Sur. **Figure 2.1** below shows the project location of the proposed project. The project will be approximately 13 kilometers long and will be conveniently constructed within the city center of Davao.

Davao City has been considered as one of the fastest growing cities in the world by the City Mayors Foundation. The expansion of urban mass transport system in Davao attribute to the growth of the metro, reduce traffic congestion and provides accessibility and mobility options for the residents.

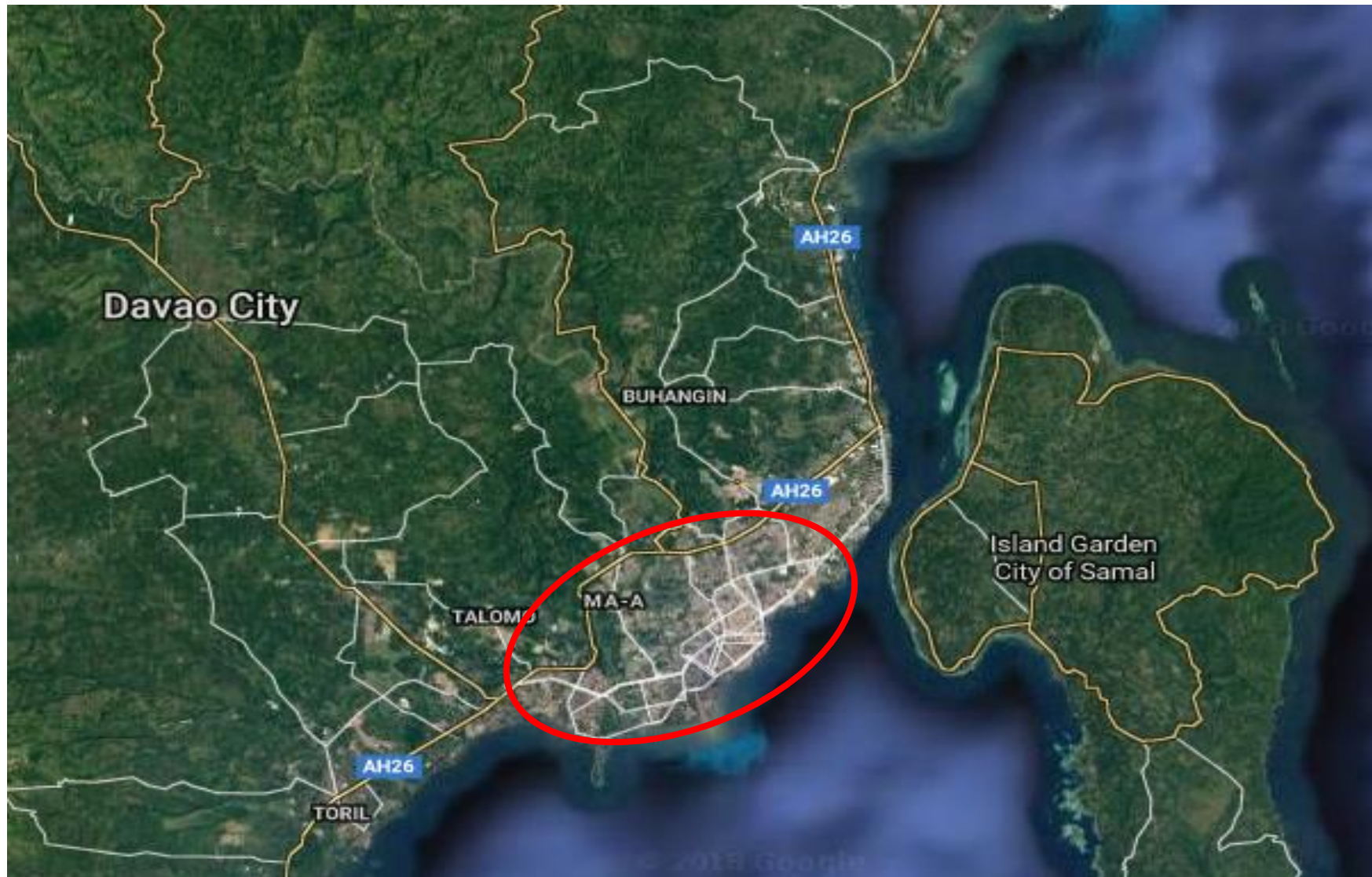


Figure 2.1: Project Location

2.2 Project Rationale

Ranking 87th among the world's fastest-growing cities according to the City Mayors Foundation, based in London and Germany, Davao City is one of the major financial hubs of the Philippines, particularly of Mindanao. The steady economic gains of Davao can be seen through its ever changing economic landscape as the number of new buildings being constructed steadily increase each year. Other industries such as tourism and agriculture also widened, offering new business activities and opportunities for the city as a whole.

With the city's rich culture, vibrant economy and abundant natural resources, Davao has become a conducive and livable city for its local residents as well as for the local and foreign tourists. The proposed monorail will provide ease of mobility and accessibility to the city center.

2.3 Project Components List

The proposed Davao People Mover Project will have a 13 kilometers straddle-type monorail line traversing from Bangkal to JP Laurel Avenue. It will also include 16 stations along the alignment and 1 depot with an approximately 4 hectares land area for maintenance and servicing activities.

Figure 2.2 shows the site development plan of the proposed project.

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2.4 Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures

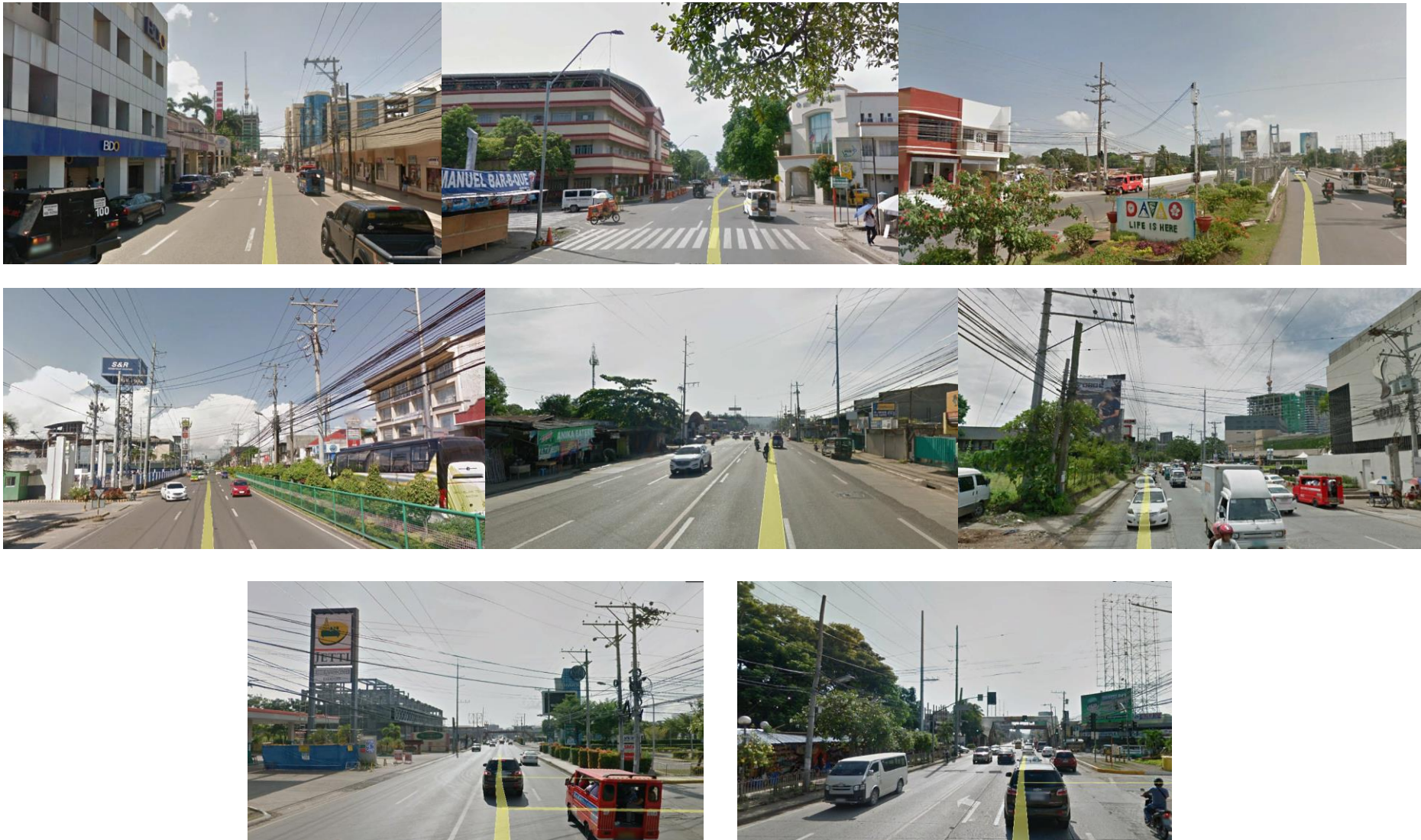
Table 2.2: Environmental Issues			
Key Environmental Aspects	Wastes	Issues	Built-In Measures
Project Phase: Construction			
Air/Noise	Fugitive dust, emissions from vehicles, and emission from generator set	From earth moving and transport vehicles	Watering of roads, ensure that vehicles are tested and passed for emission standards, installation of emission control measures such as proper venting and engine maintenance, wearing of earmuffs for the operators and installation of generator in a closed and isolated room
Water	Run-off from waste areas may contaminate nearby water bodies	Run-off from soil disposal areas and other developed areas will be directed toward nearby water bodies during storms	Ensure that run-off is minimized
Soil	Waste soil from drilling programs and from land clearing	Land clearing and Drilling programs will produce sub-soils that will be placed in designated areas	Land clearing will be minimized and efficient. Sub-soils from drilling will be placed in a designated area and will be used by the proponent, if applicable, for environmental projects
People/Socioeconomics	Solid waste from drilling programs/temporary offices.	Increase in solid waste	Solid Waste Management Program. Provide employment through the project or its trickle down employment such as recycling programs
Project Phase: Operation			
Water	Domestic waste from stations may contaminate nearby water body	Increase of Domestic Waste	Installation of Sewerage Treatment Facility
People/Socioeconomics	Solid waste from commuters/costumers	Increase in solid waste	Solid Waste Management Program.
Project Phase: Abandonment			
Water	Run-off from clearing operations.	Temporary run-off from clearing operations in the different facilities.	An environmental assessment will be done with the assistance of the Multipartite Monitoring Team to ensure that all water bodies will be safe from contamination once the operation has ceased.
Soil	Waste soil from/ the previous land clearing and drilling program	Waste soil / sub-soil will be the source of run-off	The Multipartite Monitoring Team to ensure that all soil / sub-soil that were disturbed will be completely used for environmental projects and will not be a source of run-off.
People/Socioeconomics	Solid waste from clearing/dismantling.	Dismantling and Clearing will be a source of solid waste for the area.	Solid wastes will be handled through the designed solid waste management program. A final assessment of the project site will be done by the MMT to ensure that all solid wastes are collected and properly disposed of.

2.5 Project Cost and Duration

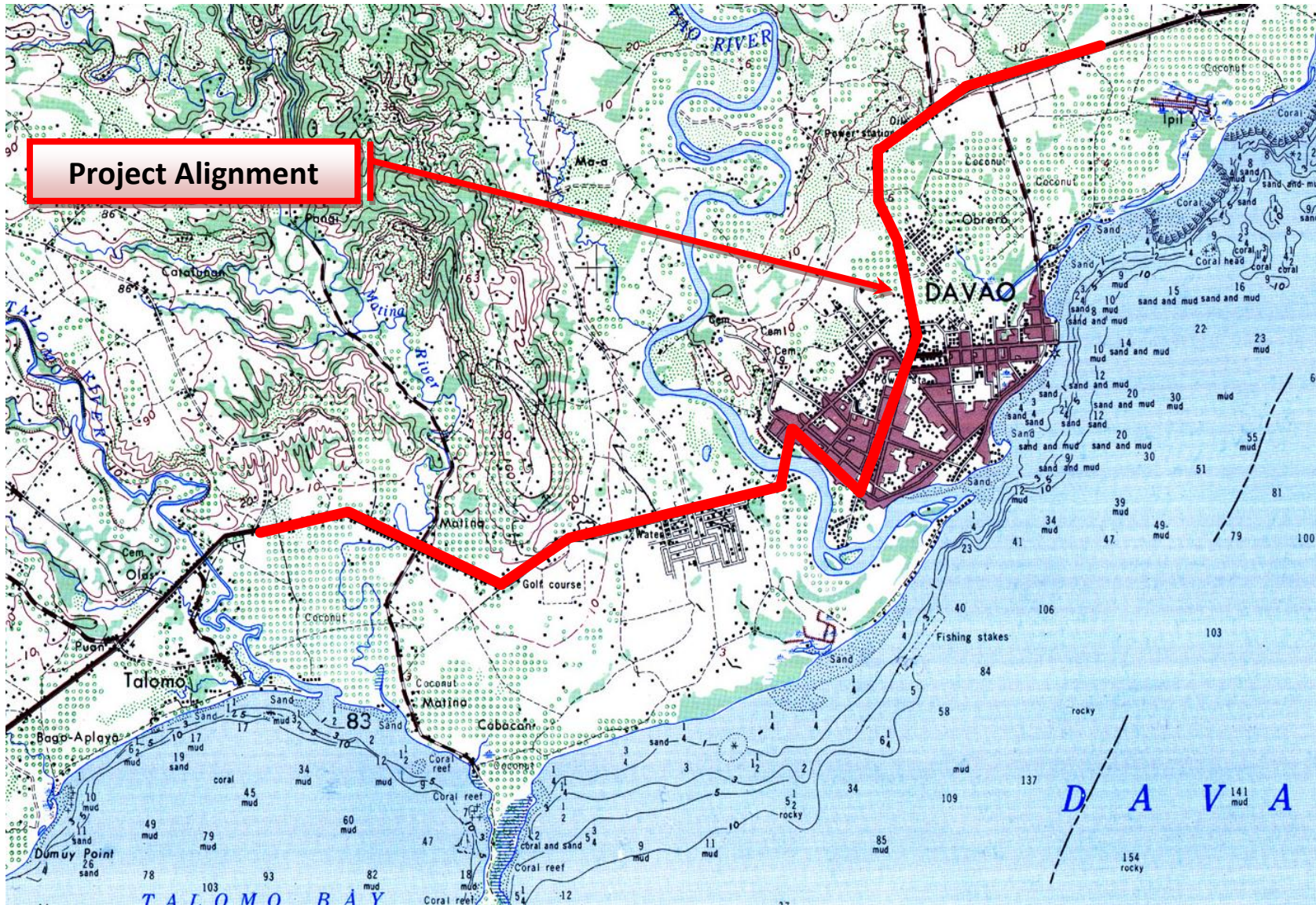
The estimated cost of the project at **Php25.4 Billion** includes civil and structural works, electro-mechanical works, and other related costs. Construction period is about 4 years inclusive of procurement, delivery and testing.

3.0 ANNEXES

3.1 Collage of photos or plates of proposed project site, and if possible - impact areas and affected areas and communities.



3.2 NAMRIA Topographic/Nautical Maps showing geopolitical location of the project site and topographic features of the project environs



4.0 Initial Perception Survey

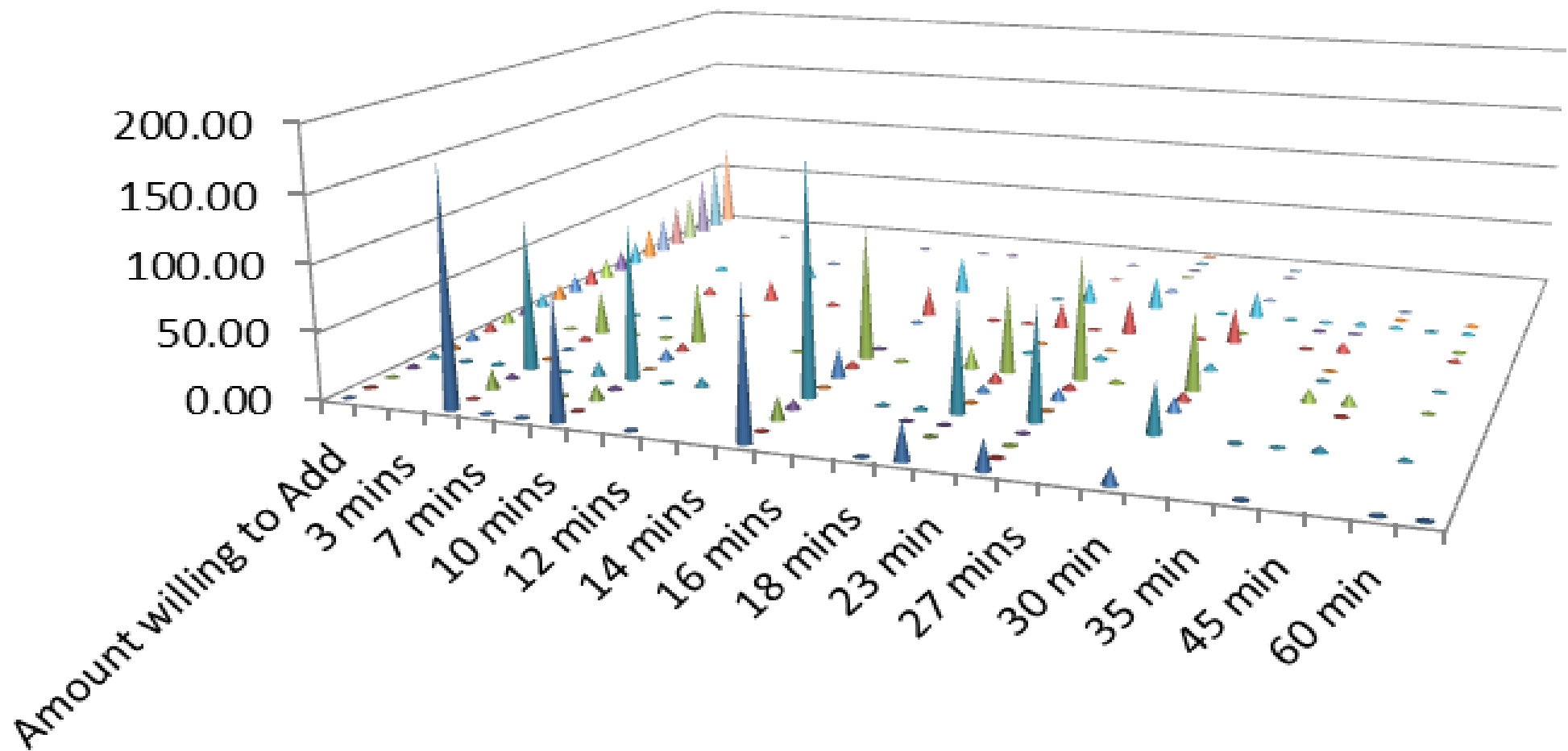
4.1 Initial Perception Questionnaire Sample

DTS STATED PREFERENCE SURVEY For Public Transport Users	
Interviewer: _____	Supervisor: _____
Date: _____	Time: <input type="text"/> : <input type="text"/>
Route: _____	Mode: <input type="checkbox"/> Reg. Jeepney <input type="checkbox"/> AC Jeepney
Direction: <input type="checkbox"/> Northbound <input type="checkbox"/> Southbound	<input type="checkbox"/> Long Multicab <input type="checkbox"/> Short Multicab
<input type="checkbox"/> Eastbound <input type="checkbox"/> Westbound	<input type="checkbox"/> Small Bus <input type="checkbox"/> Big Bus
Socio-economic Profile	
Age: _____	Income: (Personal Monthly Income)
Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	<input type="checkbox"/> No Income <input type="checkbox"/> Under 3,500
Occupation: <input type="checkbox"/> Student <input type="checkbox"/> Businessman/ Self Employed <input type="checkbox"/> Employed/Worker <input type="checkbox"/> Professional/ Executive <input type="checkbox"/> Unemployed <input type="checkbox"/> Others _____	<input type="checkbox"/> 3,500 – 4,999 <input type="checkbox"/> 5,000 – 8,999
	<input type="checkbox"/> 9,000 – 19,999 <input type="checkbox"/> 20,000 – 29,999
	<input type="checkbox"/> 30,000 – 49,999 <input type="checkbox"/> Above 50,000
Trip Details	
Boarding Location (B): _____	Trip Purpose:
Origin (O): _____ Brgy. Municipality/City	<input type="checkbox"/> To School <input type="checkbox"/> Personal
Main mode to Boarding (O-B): _____	<input type="checkbox"/> Work/Office <input type="checkbox"/> Home
	<input type="checkbox"/> Business <input type="checkbox"/> Leisure
	<input type="checkbox"/> Shopping <input type="checkbox"/> Others: _____
Alighting (A): _____	Mode Choice/Shift:
Destination (D): _____ Brgy. Municipality/City	If Monorail/LRT is available, would you use it instead of this mode you are using now?
Mode to Destination (A-D): _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Undecided (state why)
Fare Paid (This Trip-B&A): P_____	_____
Estimated Travel Time: _____	_____

Stated Preference/Willingness to Pay: New Mode vis-à-vis Other PT Mode Used*							
What is the minimum travel time reduction you want to use the New Mode?							
Travel Time Reduction (min)	Fare of New Mode (P)	New Mode Use		Travel Time Reduction (min)	Fare of New Mode (P)	New Mode Use	
		Yes	No			Yes	No
05	Same			10	Same		
	+5				+5		
	+10				+10		
	+15				+15		
	+20				+20		
15	Same			20	Same		
	+5				+5		
	+10				+10		
	+15				+15		
	+20				+20		
25	Same			Other enter minutes: _____	Same		
	+5				+5		
	+10				+10		
	+15				+15		
	+20				+20		

4.2 Initial Perception Survey Results

Amount willing to Add	2 mins	3 mins	5 mins	7 mins	8 mins	10 mins	11 min	12 mins	13 min	14 mins	15 mins	16 mins	17 mins	18 mins	20 mins	23 min	25 mins	27 mins	28 mins	30 min	32 min	35 min	40 min	45 min	50 min	60 min	75 min	TOTAL
0.00			180	2	2	95		1			113			1	29		23			13			1			1	1	462
1.00			2			1					2						1											6
2.00			15		2	12					18				1		2											50
3.00			4			3					7			1	1		2											18
5.00	1	3	117	2	11	118	1	7			179		3	3	85		85			40		1	2	5		3		666
6.00			1			1					2				1		1											6
7.00			2			9					23				6		10			11								61
8.00			4			6					6				8		5			7					1			37
10.00		1	34	2	2	48			1		103	2		18	68		96	3		60			10	9		1		458
11.00											1																	1
12.00			1	1											2		5			6			1			1		17
13.00						1									2		1					1						5
14.00											2																	2
15.00				7		17		3			24		1	2	19	1	27		2	28		1	8			3		143
16.00																				1						1		2
17.00																						1	1					2
20.00			4			13					30			1	20		27		1	22	1	2	4	3	1	3		132
25.00																								1		2		3
30.00						1														2				1				8
35.00															2													2
40.00																	1											1
50.00			1					1		1	2				2		1			1								9
60.00																	1			1								2
70.00																	1											1
TOTAL	1	4	365	14	17	325	1	12	1	1	512	2	4	26	246	1	293	3	3	192	1	5	28	20	1	15	1	2094



4.3 Additional Survey Questions

1. Are you aware of the proposed project?
2. What do you know about it?
3. What are your opinions? Are you in favor of the said project?
4. Given the project concept, do you think it is relevant to the public?
5. How would the project benefit you specifically?
6. What are the possible issues and concerns would you have about the project?
 - Environmental
 - Social
 - Technical
 - Others

Annex 3 Sample Invitation Letter & List of Invitees



Hon. Jovito Salazar
Barangay Chairman
Barangay Paciano Bangoy
Barangay Paciano Bangoy Barangay Hall,
Paciano Bangoy, Agdao, Davao City

Dear Ma'am:

Greetings!

We write in your good office this letter to ask for permission to conduct as well as to formally invite you to attend the Public Scoping Meeting regarding the Davao People Mover Project on the __day of February at __o'clock in the afternoon at Lispher Inn, Brgy. Matina, Davao City.

In accordance with Presidential Decree 1586 and DENR DAO 2017-15, this scoping meeting is the start of the Environmental Impact Assessment (EIA) process. This is meant to present the proposed project to community residents to identify possible environmental impacts and generate suggestions for improvements for the proposed project and suggestions to protect and sustain the local environment. Please see the attached list of stakeholders and invitees for the Public Consultation for your reference.

Should you require any information, please contact Mr. Janssen Calvelo with telephone number (+632) 637 – 6626 to 27 or mobile number 0917 143 2118.

Thank you very much.

A handwritten signature in blue ink, appearing to read 'Manuel T. Jamonir', is written over the printed name.

Manuel T. Jamonir
Business Development Manager

Preliminary List of Stakeholders and Partial List of Invitees to the Public Scoping

Preliminary List of Stakeholders: `

The proposed stakeholders for the proposed Davao People Mover Project will be from Barangay's Bangkal, 38-D, Paciano Bangoy, Wilfredo Aquino, 14-B, 19-B, Matina Crossing, Talomo, Matina Aplaya, 5-A, and the Local Government Unit of Davao City, Province of Davao del Sur.

Partial List of Invitees for the Public Scoping:

Name	Position	Agency/Company
Maria Dolores Bactotoy	OIC, Regional Director	DENR-EMB Region 11
Engr. Marivic Reyes	Acting Department Head	City Environment and Natural Resources Office, Davao City
Atty. Bernard Delima	-	Davao City Water District
Allan S. Borromeo	Regional Director	Department of Public Works and Highways (DPWH)

Name	Position	Agency/Company
Hon. Mila Arabis	Barangay Chairman	Brgy. 38-D, Davao City
Hon. Jovito Salazar	Barangay Chairman	Brgy. Paciano Bangoy, Davao City
Hon. Gregorio Obial Jr.	Barangay Chairman	Brgy. Wilfredo Aquino, Davao City
Hon. Genevieve G. Arcillas	Barangay Chairman	Brgy. 14-B, Davao City
Hon. Loreto Nicolas	Barangay Chairman	Brgy. 19-B, Davao City
Hon. Joel Santes	Barangay Chairman	Brgy. Matina Crossing, Davao City
Hon. Arturo Calamba	Barangay Chairman	Brgy. Talomo, Davao City
Hon. Nestor Aplaya	Barangay Chairman	Brgy. Matina, Davao City
Hon. Edgar Ibuyan Sr.	Barangay Chairman	Brgy. 5-A, Davao City
Hon. Sara Duterte-Carpio	City Mayor, Davao City	LGU, Davao City
Ivan C. Cortez	OIC, City Planning and	LGU, Davao City

	Development Office	
Engr. Joseph Dominic S. Felizarta	OIC, Office of the City Engineer	LGU, Davao City

Name	Position	Agency/Company
Walter Valencerina	Principal	Davao Chong Hua High School
Arturo Milan	President	Davao Chamber of Commerce and Industry, Inc. (DCCCI)
Pia P. Montano	President	Davao Association of Tours Operation
Susabel Reta	President	China Town Development Council
Gatchi Gatchalian	President	Davao Tourism Association
Roger Velasco	COO	Davao Light Power Company
Bishop George Rimando	Bishop	Archdiocese of Davao San Pablo Parish
Fr. Joel Tabora	President	Ateneo De Davao University
Dr. Guillermo Torres	President	University of Mindanao

Annex 4 IEC Report

Public Consultation of Davao People Mover Project

Date : October 23, 2018, 9:00 AM

Venue : Lispher Inn, Barangay Matina, Davao City

Facilitated by : Udenna Corporation
Environmental Counselors, Inc. (ECI)

Attendees : Please see attached Attendance Sheet

Minutes of Public Consultation

1. Registration/Attendance

2. Acknowledgement of Attendees

The Program officially started at 9:00 o'clock in the Morning. The consultation begins by a prayer. Then Mr. Tria acknowledges the presence of the attendees.

3. Introduction

Mr. Tria then let each attendees introduce themselves. Before the presentation started, Mr. Tria enlightens the attendees that after the presentation there will be an open forum where they can raise their issues and concerns towards the proponent.

4. Project Presentation

Mr. Tria then introduces Ms. Ma. Vilma Belches for the project presentation. She first presents the economy growth of Davao City and then focuses on the land transportation where the development is slow. Ms. Belches explained that the proposed project intended to address two of the ten priorities of the local government of Davao City which are the infrastructure development of transport planning and capital and making transportation more efficient.

She continue the presentation about the developer, Udenna Corporation, which is one of the fastest growing holding companies in the country and is known by its subsidiary companies which are Phoenix Petroleum, Chelsea Logistics, Transasia, Udevco, Clark Global City, and Enderun College.

Ms. Belches explained further that the study for the project started last 2016 and already did several traffic surveys within the city which then come up with the propose alignment for the monorail project.

She then added that the proposed alignment (showing and presenting the alignment) will be from Bangkal down to Matina then to J.P Laurel. And this alignment is already accepted and approved by the DOTr. Also she explicated that this project is not an independent solution where the Government also has several proposed projects such as the Mindanao Railway System and the By-pass Road.

Then she further explained about the monorail system which is a smaller version of LRT (showing several photos and a video of monorail). Its advantages is safe and reliable, modular, can handle relatively speed at sharp curves and fast installation.

She added that the fare will be economical for the commuters and time efficient compare in riding a jeepney. And since it has its own battery, it will not add any air pollution. The proposed start of construction is in 2020 and finishes in 2024. The project is proposed to connect in the proposed Mindanao Railway System.

After the project presentation, Mr. Tria then elucidate about the environmental impacts of the proposed project. Here he explains that all impacts will be included in the Environmental Impact Statement.

5. Open Forum

The table below summarizes the issues, concerns, and suggestions of the attendees and equal responses from the Project Proponent.

6. Closing Remarks

Mr. Tria informs the attendees if there are still more questions and concerns, it can be relay to the project proponent thru email and thank all the attendees in behalf of Udenna Corporation for the participation. The activity officially ended at 11:00 o'clock in the morning.

Davao People Mover Project

Public Scoping

Udenna Corporation

Open Forum

Date: October 23, 2018

Venue: Lispher Inn, Brgy. Matina, Davao City

Issues and Concerns	Raised By	Resolution/Decision/Agreement
<ul style="list-style-type: none">Is the design used in Japan/ there are concerns about capacity to handle earthquakes	Mr. Mustansir V. Manjoera (MGB)	<ul style="list-style-type: none">Geotechnical studies are being engaged and conservative studies done with more boreholes than usual to examine geohazards.
<ul style="list-style-type: none">Are you working with local engineers?Is there a link with the Mindanao Railway?	Ms. Marie Fe Y. Lausado (UM)	<ul style="list-style-type: none">Yes we are working with the Structural Engineers of Davao.The Bangkal Station will have a dedicated bus link to the Mintal Railway Station to allow commuters to travel to and from the two systems. This is possible in the future if and when the monorail's alignment intersects with the railway.
<ul style="list-style-type: none">Will construction start after the coastal road is completed? This road will help ease traffic since we had a bad experience trying to close the highway without the coastal road in place.	Esme Chinel Aparle (Brgy. Talomo)	<ul style="list-style-type: none">It is possible that when construction starts in 2020 the coastal road will be ready. There will be also a traffic impact study before the project starts.

Davao People Mover Project

Public Scoping

Udenna Corporation

Open Forum

Date: October 23, 2018

Venue: Lispher Inn, Brgy. Matina, Davao City

Issues and Concerns	Raised By	Resolution/Decision/Agreement
<ul style="list-style-type: none">• Can you not start the alignment in Puan so that construction of the terminal will not affect traffic in Ulas?	Dan C. Reponte (Brgy. Matina Aplaya)	<ul style="list-style-type: none">• We are open to that but this alignment is what has been approved.
<ul style="list-style-type: none">• Where will the station be along McArthur Highway?	Ms. Marie Fe Y. Lausado (UM)	<ul style="list-style-type: none">• Somewhere between UM Matina and Ateneo. There will be a distance of between 600-700 meters per station. A traffic management plan is currently being prepared. We will do a utilities relocation plan in coordination with Davao Light and the Davao City Water District. Construction activity will be done simultaneously to lessen the time for it. There will be traffic but for a limited period during construction.
<ul style="list-style-type: none">• How can you complement the work of other studies being done such as the one of the Asian Development bank and the DOTr?	Roumel Peroy (CTTMO)	<ul style="list-style-type: none">• There will be more discussions when we present to other bodies under the city government. We re coordinating with the project through them.

Davao People Mover Project

Public Scoping

Udenna Corporation

Open Forum

Date: October 23, 2018

Venue: Lispher Inn, Brgy. Matina, Davao City

Issues and Concerns	Raised By	Resolution/Decision/Agreement
<ul style="list-style-type: none">Suggest that this be presented to the Traffic Management board	Virgilio C. Jebone, Jr. (LTFRB)	<ul style="list-style-type: none">Yes, we will present.

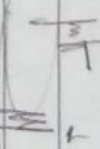
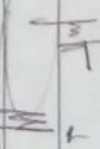


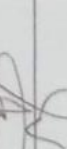

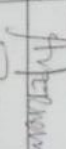
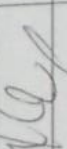




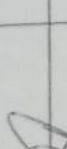
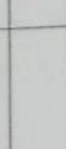

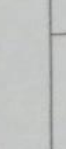
Photographs





Annex 5 IEC Attendance Sheet

Davao Monorail Project
UDENNA Infrastructure
 Date: October 23, 2018
 Venue: Lisper Inn, 13 Juna Ave., Juna Subdivision, Matina, Davao City

No.	Name	Agency/Company	Position	Contact Number	Signature
1	BELENDA C. NARIMB	PCWD benarimb@davao- ^{water-gov.ph}	SUPPLY/INL PHIL - A	0943 348 5019	
2	ANTHONY O. MIRANDA	PCWD	ON INGR	0929m@yahoo.com	
3	MUSTANSIK V. MANTOROSA	MCB-X1	SUPERVISOR DESIGN	0917.7450771	
4	Jeffrey B. Sueso	MCB-X1			
5	IGARWON DULAY	HUMB - SM	HUMB - II	09386394232 dalisbos@gmail.com 09177283002	
6	DEXTER BEN LISBOS	LTD-X1	TRO-1	09228991053 09016063105	
7	Marie Fe Y. Lanasub	UM-Engg.	Asst. Dean	09228991053 09016063105	
8	Analyn V. Fernandez	5-A / Liga ng mga Barangay	Consultant	09209059709	
9	Johanna Careo TRIA	UDENNA	"	09209059709	
10	Viciling C. Jebene Jr	ITFAB X1	TDO II	09207860607	
11	Carolina Angel	UDENNA/Roma-GRP	Consultant	09228491028	
12	ROMAEL PEREZ	CTFMD	CNLT TRUCK	2983602	
13	CHARLOTTE FARBA	.	CENTER CONTROL		
14	DAN C. REPONTE	BLEU MARTINA ACAPAS	REGY. KAGAWAN	09222238795	
15	SHANE OLIVER APARIS	Reg. TRO-1	Reg. TRO-1	09176927715	
16	JOSEPH ANANIS	Reg. TRO-1	Reg. TRO-1		
17					
18					
19					
20					