Proposed Cebu Multi-Modal Transport Terminal Complex

A Thesis Presented to the

Faculty of Architecture Department

De La Salle University – Dasmarinas

Dasmarinas, Cavite

Architect Junar Pakingan Tablan, uap

Adviser

In Partial Fulfillment of the Requirements in Architectural Design 9 and

Architectural Design 10 – Architectural Thesis (ARCH 511/L and ARCH 521/L) for the degree of

Bachelor of Science in Architecture

Presented by

Gusi, Ronielito Permejo

200703718

Abstract

On a recent article published by the Manila Bulletin, it is said that during the latter part of the year wealthy Russians opt to visit Cebu as their tropical destination especially when the weather in Russia gets extremely cold. The problem in the province is that it is rich in tourist destination but it lacks the facilities that would cater tourists for them to be able to enjoy such destinations. It is also stated that stakeholders have always wanted to promote Cebu in the global market for its potential as a prime tourist destination in the Philippines and one thing that would support their objective is to provide more world-class hotels and other entertainment and leisure facilities to lure more tourists and investors into Cebu City and the whole province. Thus the need for an international hospitality, entertainment and leisure facilities arise at the same way as the standards for these facilities round up.

".... we are not the only tropical country in Asia. We are competing with other Asian countries and that is why we must have a proper tourism frame-work to make sure that we're able to have an effective edge against our competitors in drawing in international tourists."

- Armi Lopez-Garcia, Honorary Russian Consul in Cebu

"Proposed Cebu Multi-Modal Transport Terminal Complex" anticipates a centralized transportation system, which will be a combination of three modes of transportation – sea, land, air, for Cebu City to be able to cater the growing number of tourist arrival. Cebu City is the second largest city in the Philippines but from the time being, it has been left behind by other cities in the Philippines. Consequently, Cebu tourism stakeholders asks to address the depleting status of the international airport as well as entertainment facilities to be able to lure, cater and take hold of the growing number of tourist arrival on the southern part of the Philippines. Furthermore, this proposal features a horizontal development of a world-class hotel and casino to appease local and international tourists' leisure and entertainment needs.

To be able to meet the publicized need of Cebu a descriptive type of research is needed to fully examine the necessities using qualitative and quantitative analysis of raw information gathered through survey, interview, research and observation. This proposal may fasten up the distribution of goods while promoting the country's potential along with the province, internationally.

	Table of Contents			Related Literature	12
Title Page Certificate of Originality Approval Sheet Abstract		i		Related Studies/Projects	17
			Chapter I.3	Research Methodology	23
				Research Design	23
		in in		Research Instruments	24
		IV	Chapter I.4	Summary of Findings and Analysis	25
			Chapter 1.5	Conclusion and Recommendation	37
Acknowledgem	ent	VIVENNU	Part II:	Research Focus	38
List of Tables	nts	VII	Chapter II.1	Rationale	39
List of Tables		IX	Chapter II.2	Principles and Relevance	40
List of Figures and Illustrations		x	Chapter II.3	Application to the Project	43
List of Appendi	List of Appendices		Part III:	Site Identification and Analysis	44
Part I:	Concerned Oversieurs		Chapter III.1	Site Selection Process	45
Chapter 1.1		2		Criteria for Site Selection	45
	Introduction	2		Site Option Description	49
	Background of the Study	2		Site Selection and Justification	53
	Statement of the Problem	3	ChapterIII.2	Site Evaluation and Analysis	57
	Project Goals, Objectives and Strategies	6	Dasmattas, Co	The Macro Setting	57
	Significance of the Study	8		The Micro Setting	60
	Scope and Limitation	9 Since 19		Laws and Ordinances Pertaining to the Site	61
	Assumptions	9	Chapter III 3	Site Development Ontions	62
	Conceptual Framework	10	Part IV:	Architectural Design Translation	64
	Definition of Terms	11	Chaptor IV 1	Dosign Program	65
	Acronyms 11		Chapter 1V.1		65
Chapter I.2	Review of Related Literature and Studies	12			00 4 F
				Design Objectives	CO

65	Chapter IV.2	Concept Development	103
66		Architectural Concept	103
67		Structural Concept	104
73		Utility Concept	107
79	Chapter IV.3	Synthesis	112
87	Chapter IV.4	Presentation Drawings	113
90	Appendices		xi
98	Bibliography		xlv
102	References		xlvii
	65 66 67 73 79 87 90 98 102	 65 Chapter IV.2 66 67 73 79 Chapter IV.3 87 Chapter IV.4 90 Appendices 98 Bibliography 102 References 	65Chapter IV.2Concept Development66Architectural Concept67Structural Concept73Utility Concept79Chapter IV.387Chapter IV.490Appendices98Bibliography102References

	List of Tables		Figure 5	Aerial View of Hong Kong International Airport	19
Table 1	Aircraft Movement in MCIA	4	Figure 6	Site Development Plan of Kanzai International Airport	21
Table 2	Land Transportation Travel Demand & Projection	6	Figure 7	Top 10 Populated Cities/Municipalities in Cebu Province	30
Table 3	Number of Passenger in MCIA	33	Figure 8	Site Location within Cebu	49
Table 4	Passenger Traffic in Cebu Ports	33	Figure 9	Site 1 Brief Profile	50
Table 5	Need Analysis in Relation to Identified Problem	34	Figure 10	Cordova Reclamation Site	50
Table 6	SWOT analysis of PEST	35	Figure 11	Site 2 Brief Profile	51
Table 7	Site Selection Criteria Description	45	Figure 12	Liloan Site	51
Table 8	Criteria for Site Selection	47	Figure 13	Site 3 Brief Profile	52
Table 9	Site Selection	54	Figure 14	Philippine Geographical Division	57
Table 10	SWOT Analysis of Site 1	56	Figure 15	Visayan Administrative Regions	57
Table 11	Monthly Passenger Data	67	Figure 16	Cebu Map	58
Table 12	Peak Month Data Analysis	68	Figure 17	Map of Northern Cebu	59
Table 13	Total Passenger Enplanement	68	Figure 18	Proposal Site Medellin,	60
Table 14	Annual Passenger Growth Projection	70	Figure 19	Site Development Scheme 1	62
Table 15	Flight Activity Data	70	Figure 20	Massing Scheme 1	62
Table 16	Flight Activity Projection	71	Figure 21	Site Development Scheme 2	63
Table 17	Total Passenger Enplanement	72	Figure 22	Massing Scheme 2	63
Table 18	Space Allocation	73	Figure 23	Design Concept	66
Table 19	User Analysis	79	Figure 24	Airport Domestic Passenger Flow – Departure and Arrival	87
	List of Figures & Illustrations		Figure 25	Seaport Passenger Flow – Departure and Arrival	88
Figure 1	Conceptual Framework	10	Figure 26	Bus Terminal Passenger Flow – Departure and Arrival	89
Figure 2	Mactan Cebu International Airport	17	Figure 27	Airport Adjacency Matrix Diagram	90
Figure 3	Cebu International Port	18	Figure 28	Seaport Adjacency Matrix Diagram	91
Figure 4	Cebu Port Network	18	Figure 29	Bus Terminal Matrix Diagram	91

Figure 30	Airport Inter-relationship Diagram	92	Figu
Figure 31	Seaport Inter-relationship Diagram	93	Figu
Figure 32	Bus terminal Inter-relationship Diagram	94	Figu
Figure 33	Airport Circulatory Diagram	95	Figu
Figure 34	Seaport Circulatory Diagram	96	Figu
Figure 35	Bus Terminal Circulatory Diagram	97	Figu
Figure 36	Airport Functional Zoning Diagram	98	Figu
Figure 37	Seaport Terminal Functional Zoning Diagram	99	Figu
Figure 38	Bus Terminal Functional Zoning Diagram	100	Figu
Figure 39	General Functional Zoning	101	Figu
Figure 40	Airport Zoning Diagram	101	Figu
Figure 41	Seaport Zoning Diagram	101	
Figure 42	Bus Terminal Zoning Diagram	101	
Figure 43	Airport Organizational Structure	102	
Figure 44	Seaport Organizational Structure	102	Appe
Figure 45	Bus Terminal Organizational Structure	102	Appe
Figure 46	Evolution of Form and General concept	103	Арре
Figure 47	Lattice Shell Illustration	104	

Figure 48	Pile Boring Method	105
Figure 49	Double Curved Net Structure	105
Figure 50	Steel Cable Bracing Application	106
Figure 51	Steel Cable Bracing Components	106
Figure 52	Walt Disney's Utilidor	107
Figure 53	Cellular Concrete Floor Raceway Detail	107
Figure 54	AIRR System/Facility	108
Figure 55	Siemens Energy Automation System Framework	111
Figure 56	Airport Baggage Handling System	111
Figure 57	Aircraft Boarding Bridge	112
Figure 58	Cruise Ship Boarding Bridge	112

List of Appendices

Appendix A: Airport Design Guide	xi
Appendix B: Inclusive Design	xxi
Appendix C: Deliberation Documents	xxxiii