

Proposed Multimodal Terminal

A Thesis Presented to the
Faculty of Architecture Department
De La Salle University – Dasmariñas
Dasmariñas City, Cavite

Architect Rosauro H. Jamandri, M. Arch
Adviser

In Partial Fulfillment of the Requirements in Architectural Design 9 and
Architectural Design 10 – Architectural Thesis (ARCH511/L and ARCH521/L) for the Degree of
Bachelor of Science in Architecture

Presented by
Sapad, Ronie Topase
200902940

May 2014

ABSTRACT

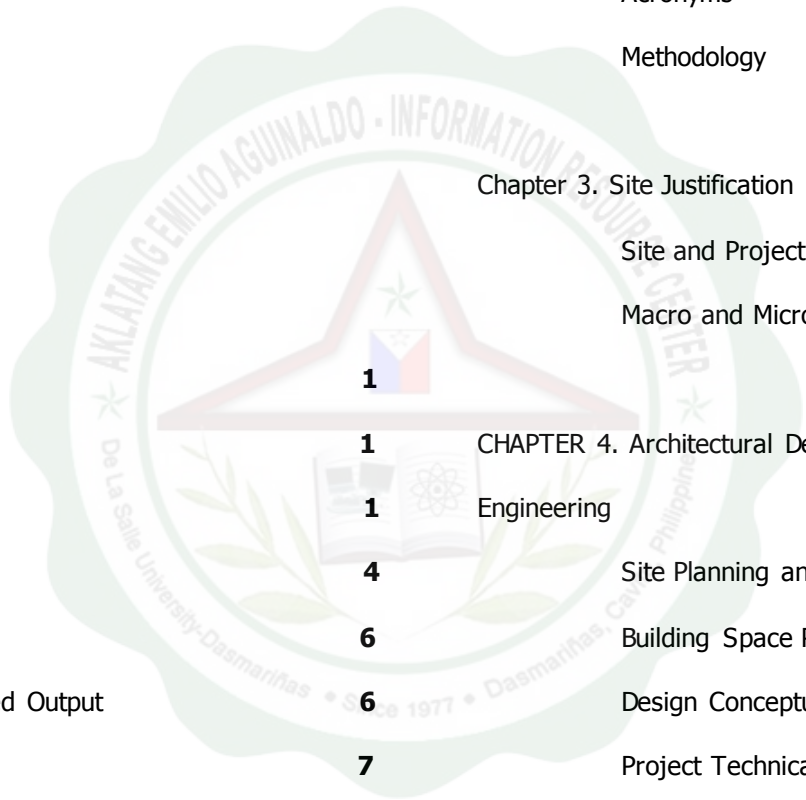
Metro Manila or the National Capital Region is the busiest area in the Philippines and has the highest number of vehicles that congest its roadways in a day to day basis, that composed of 139, 227 buses and 2, 200, 773 private vehicles during peak traffic.

This project proposal entitled Proposed Multimodal Terminal envisions to decrease the traffic congestion and provide new concept system for the existing transport terminals in reorganizing its system through proposing new concepts and systems. As President Benigno S. Aquino III and MMDA asserts the new system for the Metro Manila transportation systems for North Southwest and Southeast part which is the Integrated Transport System which is a centralized location of public transport terminals within the Metro Manila main gateways limiting the public utility buses to enter the Metro Manila area. The project proposal proposed multimodal terminal will serve multiple transit operators and modes, such as combined bus, jeepney and air-conditioned van terminals in a distinct location and facility. This proposed multimodal terminal would help the site location lessen the traffic congestion by reorganization of routes and modes of transportation through providing individual access and concession within the facility for a seamless transfer and continuous flow of commuters.

This architectural research and design translation also aims to provide new development opportunities in the area of Barangay Tambo, Paranaque City to utilize its potential growth to attract more commuters/users through providing a multimodal terminal associated with commercial amenities.

TABLE OF CONTENTS

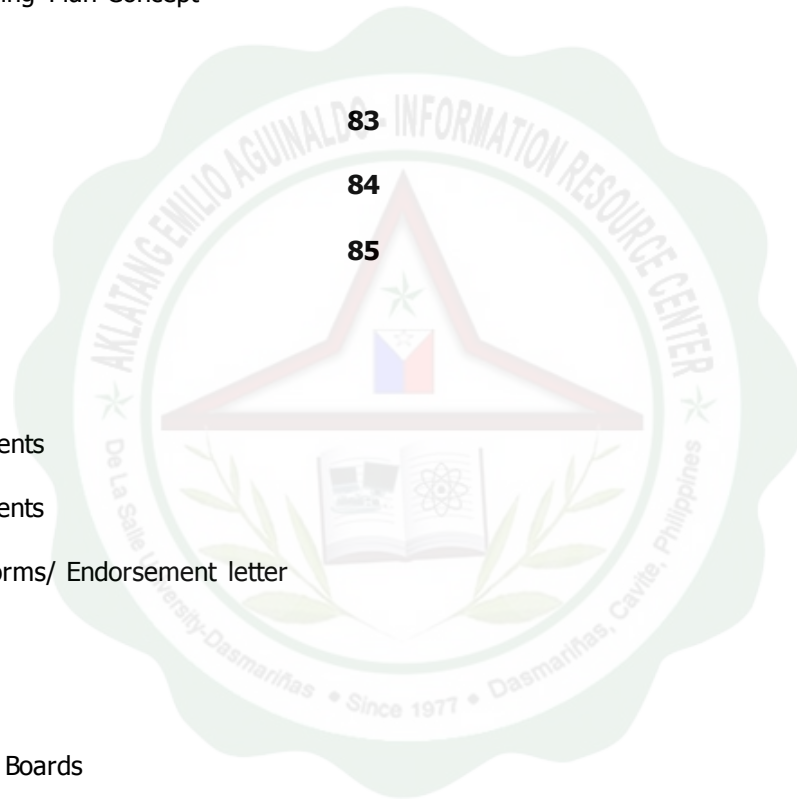
Abstract		Related Projects	11
Dedication		Conceptual Framework/Paradigm	14
Acknowledgement		Definition of Terms	15
Table of Contents		Acronyms	16
List of Appendices		Methodology	17
List of Tables		Chapter 3. Site Justification	26
List of Figures		Site and Project Development Criteria	26
Chapter 1. The Problem and Its Setting		Macro and Micro Site Analysis	34
Introduction	1	CHAPTER 4. Architectural Design Development and Architectural Engineering	62
Rationale of the Problem	1	Site Planning and Site Programming	62
Background of the Study	4	Building Space Program	62
Project Goals and Objectives	6	Design Conceptualization	72
Significance and the Expected Output	6	Project Technical Requirements	00
Scope and delimitation	7	CHAPTER 5. Architectural Design Translation	80
Chapter 2. Theoretical Framework	8	Project Title	80
Review of Related Literature	8		



Design Philosophy	80
Design Theories and Design Paradigm	80
Design Concept, Structural Concept, Material Concept, Site Concept, Building Plan Concept and Utility Concept	80
Design Objectives	83
Design Considerations	84
Presentation of Drawings	85

List of Appendices

- Appendix A: Related Documents
- Appendix B: Related Documents
- Appendix C: Consultation Forms/ Endorsement letter
- Appendix D: Site Documents
- Appendix E: Actual Photo
- Appendix F: Presentation of Boards



List of Figures

		Thousands of intercity bus passengers	14
Figure No.1. Araneta Center Bus Terminal during Long Holidays	2	Figure No.14. Conceptual Framework	15
Figure no.2. Current Traffic Condition along EDSA	2	Figure No.15. Photo during the Interview with the MMDA's Planning Officer, Mrs. Luisa Angangan	19
Figure No.3. The main cause and effect of Traffic congestion	3	Figure No.16. Comparison on the number of Buses and Private vehicles	21
Figure No.4. Daily average number of buses on EDSA	4	Figure No.17. Number of Buses from Southwest Region	22
Figure No.5. The capacity and the excessive number of vehicles that populates EDSA	9	Figure No.18. Number of Buses in consideration For the site selection	26
Figure No.6. Araneta Center Bus Terminal	11	Figure No.19. Map of the Philippines	34
Figure No.7. Araneta Center Bus terminal during holidays	11	Figure No.20. National Capital Region Map	35
Figure No.8. SM Megamall Bus loading bay	12	Figure No.21. Quezon City Map	35
Figure No.9. Aerial view of Kanazawa Bus Station	12	Figure No.22. Parañaque City Map	36
Figure No.10. Aerial view of Ankara Bus Terminal - Main Bus Terminal, Ankara Turkey	13	Figure No.23. Map of NCR, National Capital Region	39
Figure No.11. Aerial view of Ankara Intercity Bus Terminal emphasizing the circulation of buses	13	Figure No.24. Coastal Road Junction Cadastral Map	46
Figure No.12. Buses on the multi-level parking and Loading area	14	Figure No.25. Location of Site 1	46
Figure No.13. The lobby of Ankara that accommodates		Figure No.26. MRT and LRT Extension Project	47

Figure No.27. Actual Photo of Site 1; lot no. 1 at Coastal Road Junction from west orientation	48	Figure No.44. Site Circulation of the selected site	59
Figure No.28. Actual Photo of Site 1 from South	48	Figure No.45. Buildable section of the selected site	60
Figure No.29. Actual Photo of Site 1 from East orientation	48	Figure No.46. Site development of the selected site	60
Figure No.30. Site Analysis of Site1 situated along Coastal Road, Parañaque City	50	Figure No.47. Site development of the selected site	61
Figure No.32. Technical Description of Site 1	50	Figure No.48. Site development of the selected site	61
Figure No.33. Property Identification Map	50	Figure No.49. Site flow solution sketch	72
Figure No.34. Location map of Site 2	51	Figure No.50. Jeepney Terminal Matrix Diagram	67
Figure No.35. Actual photo of Site 2	51	Figure No.51. Bus Terminal Interrelationship Diagram	68
Figure No.36. Actual photo of site 2 from main road, EDSA	52	Figure No.52. Jeepney Terminal Interrelationship Matrix	68
Figure No.37. Site Analysis of Site2 Balintawak, Quezon City	54	Figure No.53. AUV Terminal Matrix Diagram	69
Figure No.38. Lot 11 Identification Map	54	Figure No. 54. AUV Terminal Interrelationship Diagram	70
Figure No.39. Site 3 Location Map	55	Figure No.55. Conventional Jeepney Dimensions	70
Figure No.40. Actual Photo of Site 2 from west view	55	Figure No.56. Sample Terminal layout	71
Figure No.41. Actual Photo of Site 2 from southeast view	56	Figure No.57. Site flow solution sketch	78
Figure No.42. Site Analysis of Site 3	57	Figure No.58. Design Concept	80
Figure No.43. Number of Buses by routes that passes Through Coastal Road (Southwest)	58	Figure No.59. Open Web Type Structural System	80
		Figure No.60. Aluminum Composite Panel	81
		Figure No.61. Brise Soleil Blade Profile	81
		Figure No.62. Effect of Brise Soleil Sunshade during Daytime	82
		Figure No.63. Cable Organizer	82
		Figure No.64. Waste Disposal System Diagram	83
		Figure No.65. Utility Diagram	83

List of Tables

Table No.1. Land Transportation Statistics 2008-2011	20
Table No.2. Total number of public transport with franchise to operate along the Metro Manila area	21
Table No.3. Volume of travelers by its Regional Location	23
Table No.4. Need Analysis	24
Table No.5. Site Criteria	27
Table No.6. Site Description	32
Table No.7. Site Criteria Evaluation	33
Table No.8. Site Inventory of Site 1 and Site 3	37
Table No.9. Site Inventory of Site 2	38
Table No.10. S W O T Analysis - SITE 1	40
Table No.11. S W O T Analysis of Site 2	42
Table No.12. S W O T Analysis of Site 3	44
Table No.13. Site Development Potential	59
Table No.14. Site Computation	62
Table No.15. Space Programming – Space sizing analysis	64
Table No.16. Furniture, Fixture and Equipment	69

