



# Vientiane Logistics Park (VLP) project in Lao PDR (PPP Infrastructure Project)

7th November, 2014





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#### 1. Location of VLP

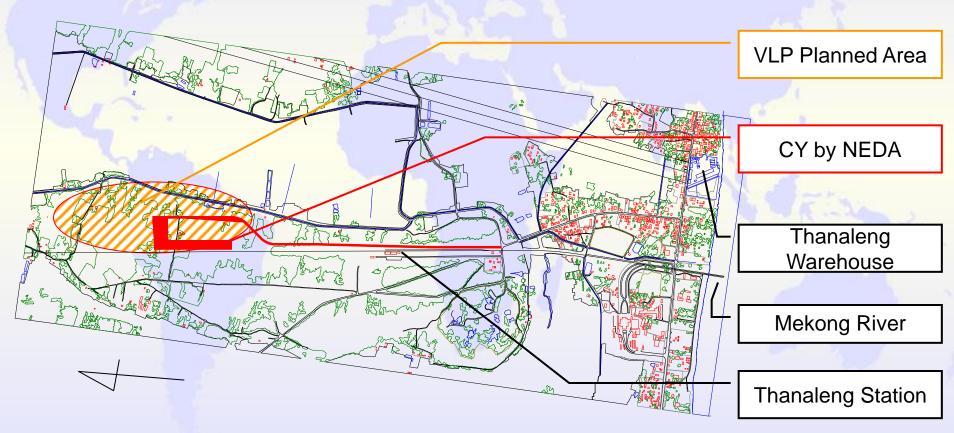






#### 1. Location of VLP

- The location of VLP is on the north side of Thanaleng Station in Dong Phosy Forest.
- A part of VLP planned area, container yard and siding rail, is being developed by NEDA.







# 2. Outline Design of VLP

- Service Items
- 2) Basic Data for Cargo Demand Analysis
- 3) Future Demand in Lao
- 4) Future Demand at VLP
- 5) Estimation of Warehouse Scale
- 6) Future Demand of Imported Vehicle Parking Lot
- 7) Estimation of Truck Parking Lot
- 8) Estimation of Worker
- 9) Cargo Handling Machine





### 1) Service Items of VLP

- (1) Public Warehouse for EX/IM
  - Import: General, Refrigerator-Freezer, Bulk and Car
  - Export: General Cargo
- (2) Domestic Delivery Business
  - Refrigerator-Freezer Cargo
- (3) Private Warehouse
- (4) CY business for Railway
- (5) Tenancy Business
- (6) Others
  - Customs-house business
  - Distributive Processing





### 2) Basic Data for Cargo Demand Analysis

JST makes use of the following data, 'Taxation' data in Customs Data from MOF, Transaction and Weight Data from TWSE for current demand analysis and basic data for future demand forecast.

A) Customs Data from General Department of Customs

- Category: Import (Tax-exempt, <u>Taxation</u>, Temporary, Re-export),

Export( Tax-exempt, <u>Taxation</u>, Temporary, Re-import)

-Time Span: Oct. 2010 – Sep. 2013

-Items: Declaration Date, Border Point, Declaration Number, Importing

Countries, Importer, Transportation Mode, HS code, Commodity

Name, Weight, Price

B) Transaction Data from TWSE (Inbound and Outbound)

-Time Span: Jan. 2011 – Dec. 2013

-Item: Inbound date, Importer name, Commodity name, Cargo volume

C) Weight Data from TWSE (Inbound and Outbound)

-Time Span: Jan. 2011 – Dec. 2013

-Items: Inbound date, Importer name, Commodity name, Cargo Weight,

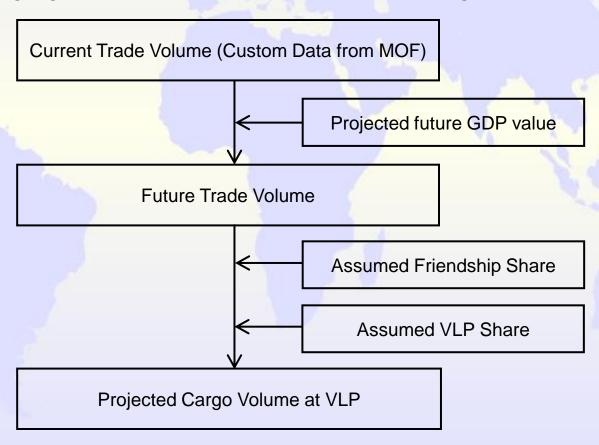
Truck weight





### 3) Projection of Future Cargo Demand at VLP

- JST estimated future cargo demand at VLP based on custom data, GDP growth in future, and the assumption of Friendship-bridge share.
- The following figure shows the forecast flow of cargo demand at VLP







### 4) Future Cargo Demand in Lao (Import)

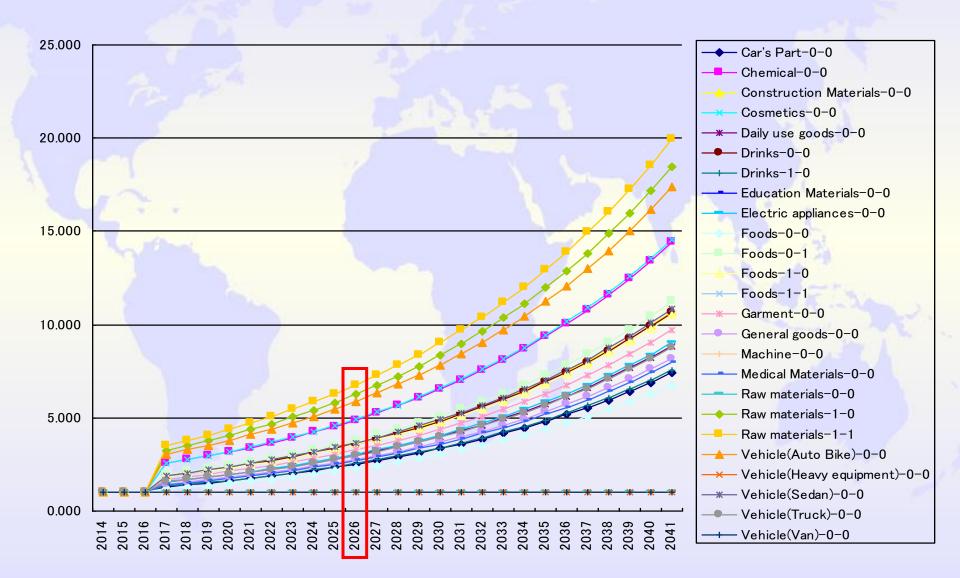
- At first, JST forecast export volume in national revel, and then JST estimate the volume through the friendship-bridge in Thaneleang, at last we subsequently estimate the volume through the existing Thanaleang Warehouse.
- JST use the value of elasticity, growth rate of GDP to increase and decrease rate of import value, as a method of forecasting future import volume.
- JST supposed the business operation start of VLP would be year 2017, and the layout plan
  of VLP would be based on cargo-handling capacity, future cargo volume in 2026, based on
  the demand forecast analyses.

Clos	sification	Refrigerator	Freezer	1	2	3	4	5	10	15	20	25
Cias	Silication	flag	flag	2017	2018	2019	2020	2021	2026	2031	2036	2041
1	Car's Part	0	0	1.30	1.40	1.51	1.62	1.74	2.50	3.59	5.16	7.40
2	Chemical	0	0	2.54	2.73	2.94	3.16	3.40	4.88	7.00	10.05	14.43
3	Construction Materials	0	0	1.89	2.03	2.18	2.34	2.52	3.61	5.19	7.45	10.69
5	Cosmetics	0	0	2.57	2.76	2.97	3.19	3.43	4.93	7.07	10.15	14.58
6	Daily use goods	0	0	1.56	1.68	1.80	1.94	2.08	2.99	4.29	6.16	8.84
7	Drinks	0	0	1.88	2.02	2.17	2.33	2.51	3.60	5.17	7.43	10.66
7	Drinks	1	0	1.33	1.43	1.53	1.65	1.77	2.55	3.66	5.25	7.53
8	Education Materials	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
9	Electric appliances	0	0	1.59	1.71	1.84	1.97	2.12	3.04	4.37	6.27	9.01
10	Foods	0	0	1.19	1.28	1.38	1.48	1.59	2.28	3.28	4.71	6.76
10	Foods	0	1	1.98	2.13	2.29	2.46	2.64	3.79	5.45	7.82	11.23
10	Foods	1	0	1.85	1.99	2.14	2.30	2.47	3.55	5.10	7.32	10.51
10	Foods	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
11	Garment	0	0	1.71	1.84	1.98	2.12	2.28	3.28	4.71	6.75	9.70
12	General goods	0	0	1.44	1.55	1.67	1.79	1.93	2.77	3.97	5.70	8.19
14	Machine	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	Medical Materials	0	0	1.40	1.51	1.62	1.74	1.87	2.69	3.86	5.55	7.96
17	Raw materials	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Raw materials	1	0	3.25	3.50	3.76	4.04	4.35	6.24	8.96	12.86	18.46
17	Raw materials	1	1	3.52	3.78	4.06	4.37	4.70	6.74	9.68	13.89	19.95
18	Vehicle (Auto Bike)	0	0	3.06	3.29	3.54	3.80	4.09	5.87	8.42	12.09	17.36
19	Vehicle (Heavy equipment)	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	Vehicle (Sedan)	0	0	1.91	2.05	2.21	2.37	2.55	3.66	5.26	7.55	10.84
21	Vehicle (Truck)	0	0	1.55	1.66	1.79	1.92	2.06	2.96	4.26	6.11	8.77
22	Vehicle (Van)	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Total			1.19	1.28	1.37	1.48	1.59	2.28	3.27	4.69	6.74





### 4) Future Cargo Demand in Lao (Import)







### 4) Future Cargo Demand in Lao (Export)

	and the state of	Refrigerator	Freezer	1	2	3	4	5	10	15	20	25
Cla	assification	flag	flag	0047			•	_	-	_		
<del>                                     </del>				2017	2018	2019	2020	2021	2026	2031	2036	2041
1	Car's Part	0	0	2.24	2.41	2.59	2.78	2.99	4.29	6.17	8.85	12.71
2	Chemical	0	0	2.67	2.87	3.09	3.32	3.57	5.12	7.35	10.56	15.15
3	Construction Materials	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
6	Daily use goods	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
6	Daily use goods	0	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
7	Drinks	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
8	Education Materials	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
9	Electric appliances	0	0	5.93	6.38	6.85	7.37	7.92	11.37	16.33	23.44	33.65
10	Foods	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	Foods	0	1	130.10	139.85	150.34	161.62	173.74	249.43	358.09	514.08	738.03
10	Foods	1	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	Foods	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
11	Garment	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	General goods	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14	Machine	0	0	95.79	102.98	110.70	119.00	127.93	183.65	263.66	378.52	543.41
17	Raw materials	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Raw materials	1	0	5.20	5.59	6.01	6.46	6.94	9.97	14.31	20.54	29.49
18	Vehicle(Auto Bike)	0	0	2.24	2.41	2.59	2.78	2.99	4.30	6.17	8.86	12.72
19	Vehicle(Heavy equipment)	0	0	1.34	1.44	1.54	1.66	1.78	2.56	3.68	5.28	7.58
21	Vehicle(Truck)	0	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Total				1.21	1.23	1.25	1.28	1.42	1.62	1.91	2.32





### 5) Future Cargo Demand at VLP

- VLP has exported facilities as well as import, and the export cargo volume share against import at the existing Thanaleng Warehouse is quite low currently, therefor we supposed exported cargo volume in future would be included as import cargo at VLP.
- We supposed the future handling capacity to be developed would be the level to be dealt with in 2026, after 10 years from the business operation start. We supposed the development area would be corresponded to the future cargo demand in 2026.







### 6) Estimation of Warehouse Scale

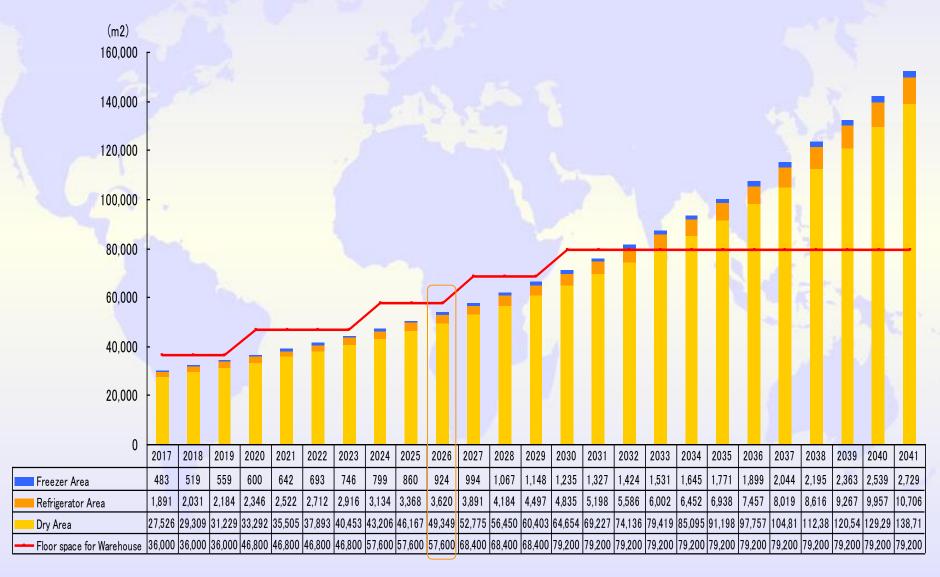
- The following table shows the development area of warehouse by cargo type based on the data analysis about inbound and outbound cargo at Thanaleng Warehouse.
- In regard to cargo handling way, JST supposed that one-day cargo would be put on the ground, and the cargo except one-day cargo would be put on the pallet rack.

Warehouse Area	1	2	3	4	5	10	15	20	25
Walehouse Alea	2017	2018	2019	2020	2021	2026	2031	2036	2041
Total	29,900	31,859	33,972	36,239	38,670	53,893	75,751	107,114	152,153
Dry Area	27,526	29,309	31,229	33,292	35,505	49,349	69,227	97,757	138,718
Refrigerator Area	1,891	2,031	2,184	2,346	2,522	3,620	5,198	7,457	10,706
Freezer Area	483	519	559	600	642	924	1,327	1,899	2,729





### 6) Estimation of Warehouse Scale







### 7) Future Demand of Imported Vehicle Storage

- In regard to the estimation of storage area of imported vehicle, JST estimated based on the deference between inbound and outbound on daily average.
- And JST estimated imported vehicle storage area based on the estimated number and needed area for each type of imported vehicle at the target year (2026).

#### Unit:m2

	_								
Imported Vehicle storage area	1	2	3	4	5	10	15	20	25
Imported Vehicle storage area	2017	2018	2019	2020	2021	2026	2031	2036	2041
Total storage area	47,462	49,973	52,686	55,571	58,650	78,044	105,923	145,893	203,324
Vehicle (Auto Bike) area	1,568	1,686	1,811	1,947	2,094	3,005	4,314	6,192	8,889
Vehicle (Heavy equipment) area	562	562	562	562	562	562	562	562	562
Vehicle (Sedan) area	25,521	27,440	29,487	31,697	34,088	48,922	70,222	100,814	144,737
Vehicle (Truck) area	6,284	6,757	7,297	7,838	8,378	12,027	17,297	24,797	35,608
Vehicle (Van) area	13,528	13,528	13,528	13,528	13,528	13,528	13,528	13,528	13,528





### 8) Estimation of Truck Parking Lot

 The following table shows the estimated parking lot at VLP based on estimated future cargo volume.

Unit: Number of Trucks

	Truck Do	rking lot	1	2	3	4	5	10	15	25
T .	Truck Parking lot		2017	2018	2019	2020	2021	2026	2031	2041
3/	Customs	Operating time	4	4	4	4	4	4	4	4
W	Clearance on	Processing time	3	3	3	3	3	2	2	2
Inbound	Chassis	Number of Parking lots	123	132	141	145	153	137	190	371
Truck	Truck	Operating time	4	4	4	4	4	4	4	4
	Inbound for Warehouse	Processing time	1	1	1	1	1	1	1	, 1
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Number of Parking lots	37	39	42	44	46	63	86	168
Outbound Truck for Warehouse		Operating time	8	8	8	8	8	8	8	8
		Processing time	1	1	1	1	1	1	1	1
		Number of Parking lots	32	34	36	38	41	56	78	154





### 9) Estimation of Worker and Cargo Handling Equipment

- The following table shows the estimated number of worker and cargo handling equipment based on the predicted future cargo volume by JST and the productivity index by cargo handling machine.

Unit: Number of Worker

The state of the s	Worker	1	2	3	4	5	10	15	20	25
and a	vvorker	2017	2018	2019	2020	2021	2026	2031	2036	2041
Inbound	Worker	139	150	161	173	186	267	383	550	789
Inbound	Forklift Operator	23	25	27	29	31	44	63	90	129
Outbound	Worker	125	135	145	155	167	240	344	493	708
Outbourid	Forklift Operator	23	25	27	29	31	44	63	90	129
Total	Worker	263	283	304	327	351	504	723	1038	1489
IUIAI	Forklift Operator	44	47	51	54	58	83	119	170	243

Unit: Number of Forklift Trucks

Llowdling Machine		1	2	3	4	5	10	15	20	25
	Handling Machine	2017	2018	2019	2020	2021	2026	2031	2036	2041
Inhound	Forklift (Counterbalanced)	6	7	7	8	8	12	17	24	34
Inbound	Forklift (Reach Type)	17	18	20	21	23	32	46	66	95
Outhound	Forklift (Counterbalanced)	6	7	7	8	8	12	17	24	34
Outbound	Forklift (Reach Type)	17	18	20	21	23	32	46	66	95
Total	Forklift (Counterbalanced)	11	12	13	14	15	21	30	43	61
Total	Forklift (Reach Type)	33	35	38	40	43	62	89	127	182





# 3. Layout Plan of VLP

- Basic Policy
- 2) Location Plan
- 3) Layout Plan
- 4) Development Area





### 1) Basic policy(1)

- VLP development harmonizes with CY and a part of access road developed by NEDA.
- Target year of cargo handling capacity of VLP for layout plan of VLP is assumed to be year 2026, after 10 years from business operation start, as first phase. Furthermore, the target year as second phase is assumed to be 2031, after 15 years from the start.
- The freezing and refrigeration storage for a cold-chain formulation will be installed as one of VLP facilities.
- In regard to imported vehicles handling, the existing bounded area operated by MOF (Thanaleng Warehouse) will be used due to the restriction of VLP development area.
- Two gate of VLP with vehicle registration system will be built as dedicated access roads, one is specialized for international transport vehicle, and another is specialized domestic distribution vehicle.





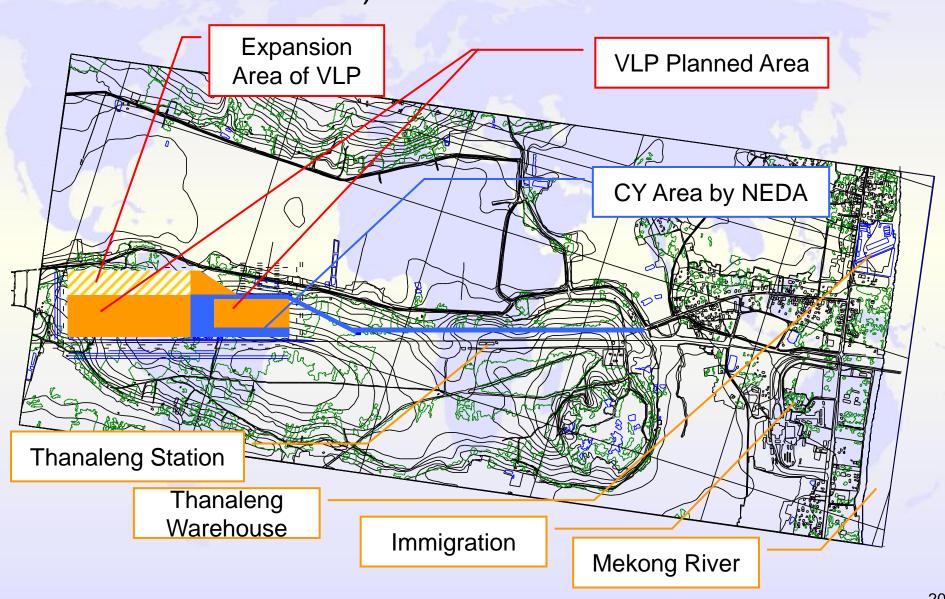
### 1) Basic policy (2)

- All imported cargos except customs clearance at site will pass through the VLP, therefor the location of customs clearance would be relocated from the Thanaleng Warehouse to the VLP.
- The layout plan of VLP includes a parking lot space for on-board customs clearance.
- The layout plan of VLP includes a plenty of parking lot space for improving traffic congestion for transport trucks from Thailand including on-board custom clearance.
- The apron in front of warehouse will be developed with the aim of banning driver's incursion into public warehouse.
- The turning radius of trailer would be considered for the areaway in front of warehouse apron.





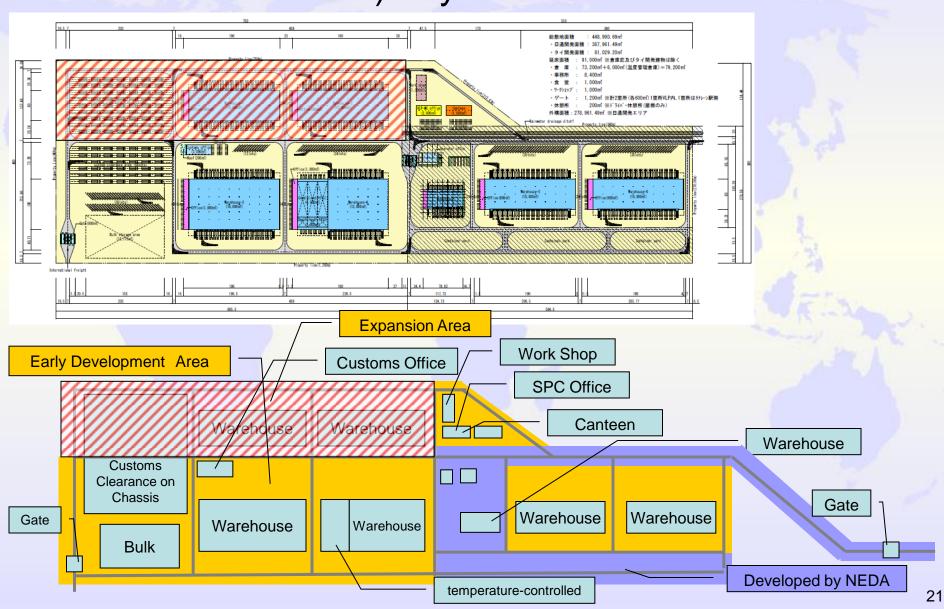
#### 2) Location Plan







### 3) Layout Plan







### 4) Development Area

		Area	Remarks
6	Total Development Area	350,991 m2	
	Development Area for VLP	269,961 m2	
	Development Area for NEDA	81,029 m2	
	Building Area	68,200 m2	Except warehouse's roof and NEDA's warehouse.
	∙Warehouse−1	18,000 m2	Single story.
	▪Warehouse-2	18,000 m2	Warehouse-2 includes refrigerator and freezer are 4,500m2, and scalable area is 1,500m2 after 2026.
	•Warehouse-3	10,800 m2	Single story.
Before 2026	▪Warehouse−4	10,800 m2	Single story.
	•SPC office	2,000 m2	Double-story, gloss floor area.
	•Customs office	2,000 m2	Double-story, gloss floor area.
	•Warehouse office	3,200 m2	Single story.
	•Work shop	1,000 m2	Single story.
	•Canteen	1,000 m2	Single story.
	• Gate	1,200 m2	Gate has two locations (each 600m2), one is in VLP, another one is near the north of Thanaleng.
	Rest house	200 m2	For truck driver, only roof.
	Exterior of Buildings	203,761 m2	
	<ul> <li>Customs Clearance on Chassis</li> </ul>	45,777 m2	
	Total Expansion Area	98,000 m2	
	Building Area	21,600 m2	
After 2026	•Warehouse-5	10,800 m2	Single story.
AILEI ZUZU	•Warehouse-6	10,800 m2	Single story.
	Exterior of Buildings	76,400 m2	
	Customs Clearance on Chassis	35,230 m2	





### 4. Cash Flow Analysis (Precondition)

The following table shows the case assumption of cash-flow analysis. This examination doesn't include expansion development of VLP

Items	Contents
Handling Capacity	10 years after VLP start
Development Cost	61 Million USD
Development Area	35.0 ha

The following table shows the financial plan for trial calculation of cash-flow analysis.

Iter	ns	Contents	
Financial Plan	Debt Loan	PSIF Loan (JICA)	
	Own Fund	Contribution from SPC	7





### 4. Cash Flow Analysis (Result of Trial Calculation)

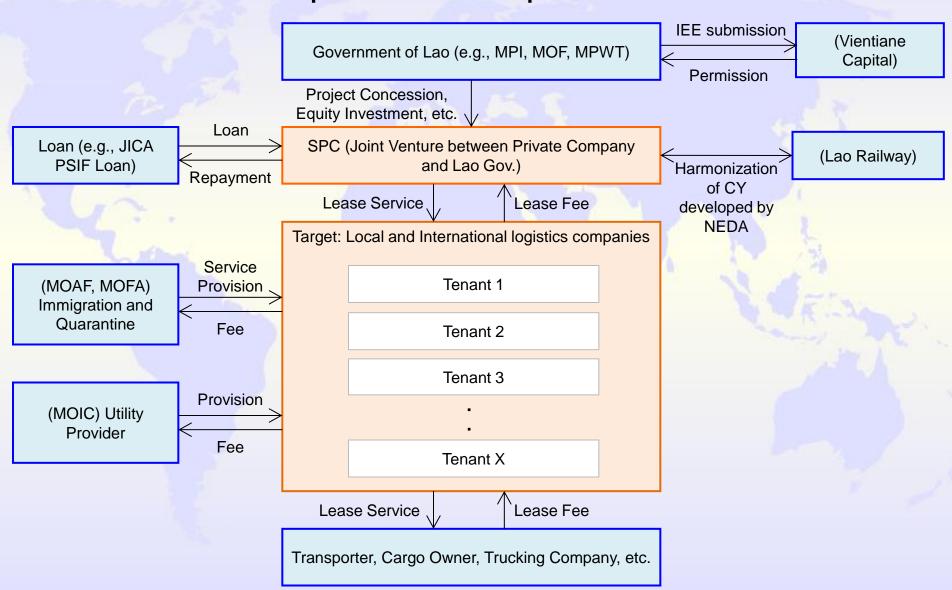
The following table shows the result of cash-flow analysis.

Items Index Value					
Profit Rate of Return	2017 2026				
	-3% +3%				
Year of Yearly Surplus	Year 2021 (5 years after start)				





#### 5. Development and Operation Scheme







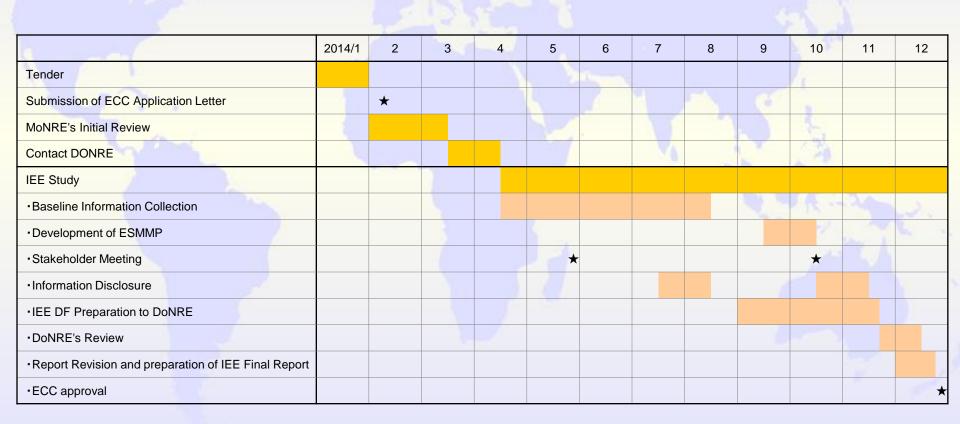
6. Social and Environmental Consideration





#### 6. Social and Environmental Consideration (1)

#### Entire IEE Study Schedule of VLP Project (as of Sep/14)







#### 6. Social and Environmental Consideration (2)

ECC Application Process (as of Sep/2014)

02/2014: MPWT Contact MoNRE to apply for ECC.

Prepared tender process to hire ECC Consultant

03/2014: MoNRE noticed VLP need IEE, and

DoNRE is supervising agency.

04/2014: Nareen selected for IEE study.

05/2014: IEE- ToR Discussion with DoNRE, and

IEE-related studies started.

May/30: 1st Stakeholder Meeting (50 people)

July-August: 1st Public Review (1 month)

#### Tasks to be remained.

- ✓ Development of EMP based on selected VLP layout.
- ✓2nd Stakeholder Meeting (Oct/14)
- ✓2nd Public Review (Oct/14 for 1 month)
- ✓ IEE DF Preparation and Submission to DoNRE
- ✓ Revising if IEE DF if there are comments from DoNRE
- ✓ Obtain ECC by Dec/14





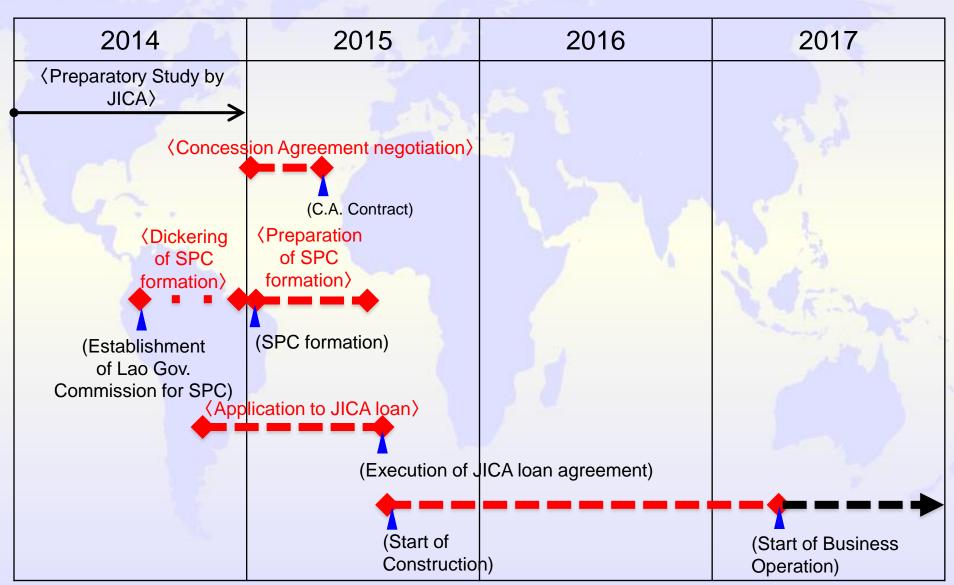
### 7. Planned Schedule

- 1) Schedule of PPP Study and Follwoing
- 2) Schedule to the Start of VLP Operation





### 1) Schedule of PPP Study and Following







### 2) Schedule to the Start of VLP Operation

Oct. 2014 - The holding of 2<sup>nd</sup> Steering Committee - SPC committee by Lao Gov. - Commencement of Loan Conditions Negotiation Nov. 2014 - Submission of Interim Report of the Study Dec. 2014 - The holding of 3<sup>rd</sup> Steering Committee - Submission of Draft Final Report - Commencement of SPC formation preparation Jan. 2015 - Commencement of review of loan agreement - Execution of MOU of SPC establishment Feb. 2015 - Approval of Final Report of VLP PPP Study Mar. 2015 - Execution of Concession Agreement (C/A) Apr. 2015 - Commencement of approval procedure of loan agreement Commencement of contractor selection Commencement of F/S on VLP dedicated access road Aug. 2015 - Formation of SPC - Execution of Loan Agreement - Selection of Contractor Nov. 2015 - Commencement of VLP construction Dec. 2015 - Commencement of VLP dedicated access road construction (as Supporting Project to VLP) Mar. 2017 - Commencement of Engineering Training for VLP officers and workers May. 2017 - VLP Partial Operation Start Jan, 2018 - VLP Full-Scale Operation Start





## 8. Future Issues

- 1) Establishment of SPC
- 2) Existing Public Warehouse
- 3) VLP Operation





### 1) Establishment of SPC

VLP would be developed and managed by SPC founded by Nippon Express Co., Ltd. and Lao Government.

- To Make a Decision Regarding Timing of SPC Establishment.
- To Make a Decision Regarding SPC Capital Contribution Ratio between Nippon Express Co., Ltd. and Lao Government.
- To Absolute Tax and Public Dues.
- VLP Construction Stage: International Procurement, e.g., construction material, cargo handling machine, etc.
- VLP Business Operation Stage: Business Tax, Income Tax, Profit Tax, etc.
- To append a Postscript of Exemption Article as a Specified Project under F/S (including VLP project) to PPP law under examination.





### 2) Existing Public Warehouse

SPC have to consider a management of existing warehouse, the State Enterprise Thanaleang Warehouse, after VLP operation start.

- To relocate from existing place to VLP.
- To integrate business operation of Thanaleng Warehouse into VLP after the start of VLP.
- To re-employ current office staff and worker in Thanaleng Warehouse.
- To reutilize exiting area of Thanaleng Warehouse for imported vehicle storage.





#### 3) VLP Operation

- Target Year of VLP Operation start: 2017 (Partial Open).
- In case of cargo volume shortage comparing the assumed, VLP could provide storage area for Governmental Cargo, e.g., infrastructure construction, educational material, postal matter, etc.
- Imported cargo except site custom clearance cargo will go through VLP.
- Exported cargo except raw and construction material will go through VLP and pass customs.
- In regard to imported vehicle, VLP will provide only verification check of imported cargo, and the existing Thanaleng Warehouse will check the inbound confirmation.
- Tariff System of VLP should be change based on price escalation of commodity and minimum wage, etc.





# 9. Supporting Project for VLP

- 1) Training Program for VLP Operation
- 2) Dedicated Access Road to VLP
- 3) Facilitating Customs Procedure Program





### 1) Training Program for VLP Operation

#### Objective:

- 1) Enhancement of Re-employment of existing staff and worker in Thanaleng Warehouse.
- 2) Establishment of Streamlined Process of VLP.
- 3) Build-up worker and staff skill up to International Standard.

#### **Project Summary:**

- 1) Target person: Existing Staff and Worker in Thanaleng Warehouse and New.
- 2) Training Term: About 6 months.
- 3) Project Menu:

Establishment of Training Program.

Production of Education Materials.

Implementation of Training Program.

Monitoring and Evaluation, Others.

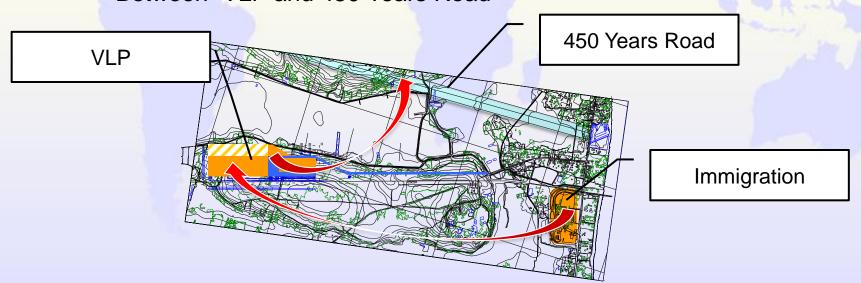




#### 2) Dedicated Access Road of VLP

#### Dedicated Access Road of VLP might contributed to

- 1) Improvement of VLP Operation and Management
- 2) Improvement of Border Facility for International Standard Level After AEC
- 3) Beneficial Change of Import Tax Revenue
- 4) Mitigation of Traffic Congestion in the City and others
- -Needed Access Roads-
  - ✓ Between VLP and Friendship Bridge
  - ✓ Between VLP and 450 Years Road







### 3) Facilitating Customs Procedure Program

#### **Purpose**

- : Facilitation on connecting Friendship bridge and VLP & improving customs procedure.
  - Establishment on smooth bonded transport procedure and data linkage among stakeholders (in particular, customs and VLP)

Current	High risk of duty unpaid/avoidance.
	Customs procedure still lagging behind global standard.
issues	<ul> <li>Potential for customs, road, bridge congestion in accordance with trade volume expansion.</li> </ul>
	Mixture of Thanaleng Warehouse cargo and direct delivery on border crossing point.
	<ul> <li>No exclusive road connecting friendship bridge and Thanaleng Warehouse.</li> </ul>
Cause	<ul> <li>Dependence on manual procedure/human negotiation to get bonded transport permission between Friendship bridge and Thanaleng Warehouse.</li> </ul>
Cause	<ul> <li>Lack of key information element which covers Thanaleng Warehouse and customs (both Friendship bridge and Thanaleng Warehouse office) ⇒ it is difficult to timely confirm whether all cargo loaded on one truck is cleared or not.</li> </ul>
	ASYCUDA system was installed but effect remains limited.
	Establish the bonded transport principal( mandatory to attach VLP or not).
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Establish the bonded transport procedure.
Actions	• Establish the device & format to prove the bonded transport permission (paper, stamp or smart card, etc).
	Establish the common information key which can connect VLP/Friend ship customs and VLP.

Output: Smooth cargo movement to VLP, Correct declaration/duty collection, Shorting customs examination time, reducing congestion/idle time.

⇒ To realize those goals, it is necessary to set up support program in order to adjust respective stakeholder's demand and ability.





# **End of Presentation**

Khop Jai