Environmental Impact Assessment (Final)

Project Number: 51274-001
October 2017

THA: Bangkok Mass Rapid Transit (Yellow Line) (Part 6 of 6)

Prepared by The Mass Rapid Transit Authority of Thailand.

Chapter 9
Public Participation

9.1 Introduction

Conducting of public hearing/participation under the "Reviewing study on the proper detail, design and biding documentation of the Yellow Line Mass Transit Project (Lat Phrao – Samrong section)" was in the process of preparation before construction of the project. The appropriate of the project and study and prepare a report on the environmental impact assessment (EIA), in the case of design improvement or changing in project details and /or environmental measures as indicate in EIA report of OTP. In order to provide the public and other stakeholders or the related parties have been fully and thoroughly informed on the project information and provided some information, comments, and suggestions. To be part of the consideration on reviewing of the proper project detail and preparation of the EIA report, in the case of a changed in project details, also included the public preparation before construction of the project. Receive the comments and suggestion of the public which will be useful for the consideration of MRT project operation. Then, it was necessary to conduct the public participation according to the Regulations of the Office of the Prime Minister on public hearing B.E. 2548 for the highest benefit of the development of the project.

9.2 Public Participation Objectives

The consultant will prepare a public participation work plan with activities details, target groups, technique, and methods, time period, expected results and methodology to utilize the comments.

1) The public stakeholders including agencies/public and private organizations that related to the development of the project and the interested public have been informed about project information and provide comments and suggestions which will be useful evolved in getting informed of the project The public stakeholders. Including agencies / organizations, public and private, involved in the development of the projects and interested public have been informed of the project information and provided some comments, suggestions and facts which will be useful for the consideration of MRT project operation.

2) Conducts the public participation in case of improving the design or changing in project details and/or environmental measures as indicate in and EIA report of OTP. The National Environmental Board has approved the EIA report of Dark and Light Yellow Line Mass Transit Project in the meeting 1/2012 conducted on January 16, 2012.

9.3 Target Areas

The public participation targeted areas under "Reviewing study on the proper detail, design and biding documentation of the Yellow Line Mass Transit Project (Lat Phrao – Samrong section)" focused on areas along the project route and nearby, which located in Chatuchak, Huay Khwang,

Wang Thonglang, Bangkapi, Suan Luang, Prawet and Bang Na, Bangkok and Muang Samut Prakan district, Samut Prakarn Province.

9.4 Target Groups

The target groups for public participation were focused on people who will be affected by the project, including government representatives, state enterprises, private sectors, executives of the local administrative organization, politicians in areas related to the development of the project, private organizations, media and the general public interested in the project.

9.5 Public Participation Working Plan

Public participation working plan of the project includes objectives, activities details, target groups, techniques and methods, time and periods, expected outcomes and utilization of the received comments. The details of the public participation implementation plan of the project have an overall timeframe for 8 months, consists of 3 major plans as shown in **Table 9-1**, summarized as follows.

1) Seminar planning: The project study will be conducted 2 seminars includes;

(1) The first public hearing symposium at the beginning of the project study.

(2) The second public hearing symposium conducted after reviewing study the appropriated details of the project and finished an EIA in all issues.

2) Planning on the meetings and hearing of the community leaders and officials involved in the project development in the areas: It was the process for information exchanged and listen to the opinions of community leaders and relevant authorities such as Bangkok Metropolitan Administration, District Director, Metropolitan Electricity Authority, Metropolitan Waterworks Authority (Thailand), Department of Highways, Samut Prakan Highway District etc.

3) Stakeholders focus group discussion planning: The focus group discussion was conducted 2 times, first was after the completion of the first meeting and second time before the conclusion of the project.

The planning details on public participation are summarized below.

Table 9-1 Operational Plans and Activities To Engage The Public

Table 9-1 Operational Plans and Activities To Engage The Public (cont'd.)

9.5.1 First Public Participation Meeting

1) Objectives

- To inform the participants about the reasons and necessity of the reviewing study on the proper detailed of the project included scope and project implementation plan.
- To cooperate the information, coordination and participate in opinions exchanged and provide comment thought out the project study
- To answer questions and receive comments and suggestions from attendees in all related issues which will be a benefit to the operations in the next step.

2) Targeted Areas

The target areas in action meetings will cover areas along the route of the Yellow Line Mass Transit Project (Lat Phrao – Samrong Section) and adjoining areas, located in 7 districts of Bangkok, Chatuchak, Huay Khawng, Wang Thong Lang, Bangkapi, Suan Luang, Prawet and Bang Na and the areas in Muang Samut Prakan district, Samut Prakarn Province.

3) Target Groups

The target group of the first public hearing meeting comprising of those affected by the project, organization representatives, and various related sectors, people and community leaders in the nearby project route, media as well as those interested in the project, approximately 300 attendees which are detailed below.

- Affected people by the project development, including people, Government organizations, Health centers, hospitals, religious places, education institutions and a nearby business.
- Government representatives from 7 districts of Bangkok and Muang Samut Prakan district including relevant government agencies such as the Office of Natural Resources and Environmental Policy and Planning, Department of Public Works and Town Planning, Office of Transport and Traffic Policy and Planning, Department of Public Work, Bangkok, Traffic Police Division and Public Relations Department, etc.
- Executives of local administrative offices such as Governor of Bangkok, Samut Prakan municipality mayor etc.
- State enterprises such as Expressway Authority of Thailand, Metropolitan Waterworks Authority (Thailand), Provincial Waterworks Authority, Metropolitan Electricity Authority, Provincial Electricity Authority, CAT Telecom PCL., TOT PCL., etc.
- Local politicians (Member of the Bangkok Council, a member of Bangkok district council, Member of Municipal Council, Member of the house of representatives, Senator) and community/opinion leaders in the area, including the community/village committees, corporate, the village headman, community chairman and religious leaders etc.
- The private sector, such as the Chamber of Commerce, The Federal of Thai Industries, Tourist Business Association, Housing Business Association, Thai Real Estate Organization, etc.
- Private Development Organizations, Academicians, and Environmental/Natural Resources Conservation Developers.
- Interested people
- Media

4) Venue

Maple Hotel, Srinagarindra Road, Bangna, Bangkok

5) **Responsible Person**

- Project Manager/Deputy Manager
- Project Engineers
- Project Architectures
- Environmental Experts
- Public Relations and Participation Experts

6) Expected Outcomes

- The target group has been informed of the project background including reasons and necessities of the reviewing study on the proper detailed of the project included scope and other related information and participation in comments and suggestions on the project implementation plan.
- Consultants received feedback and suggestion from the attendees on various related issues about the study and development of the project.

7) Utilization of the Results

Comments and recommendations from the 1st public participation meeting would be applied to the reviewing study on the proper detailed of the project. Besides, it has been used to determine the design and construction of the project for the appropriateness and compliance with environmental, engineering and economic conditions and acceptable to all sectors.

9.5.2 Second Public Participation Meeting

1) Objectives

To present and receive public opinions on the results of project studies on issues such as the project route, station's pattern and ascent and descent, other components of the project, environment impacts and prevention and mitigation measures, etc. Discussion on the appropriateness and adequacy of the measures to updated the report and projects details for more suitability.

2) Target Areas

The target areas for conducting a meeting covered the areas along the Yellow Line Mass Transit (Lat Phrao – Samrong section) and nearby as same as the first meeting.

3) Target Groups

The target groups of the 2nd public participation meeting consist of those affected by the development of the projects, agencies/organizations representatives and other stakeholders, including people and community leaders in the areas nearby the project route, media as well as those interested in the project with a total of 300 peoples.

4) Duration

Month 8 according to the project plan.

5) Venue

Maple Hotel, Srinagarindra Road, Bangna, Bangkok

6) Responsible Person

- Project Manager/Deputy Manager
- Project Engineers
- Environmental Experts
- Public Relations and Participation Experts

7) Expected Outcomes

- Target groups were informed the project details including environmental impacts and prevention and mitigation measures. As well as sharing opinions and suggestions especially on the detailed issues, EAI results and appropriate and adequate measures in various environmental fields.
- Consultants received feedback and suggestion from the attendees on various above issues which were useful to improve the project results for completely and appropriate and acceptable from all sectors.

8) Utilization of the Results

Comments and suggestions from the conclusion meeting would be used to improve the models and design the project details including various components as well as revision the additional of prevention and mitigation measures to a complete and adequate, and provide properly and fairly compensation to those affected.

9.5.3 Meeting and opinions hearing of community leaders and officials involved in the development of the projects in the area.

1) Objectives

(1) To collect additional information about the conditions of the project area. Including trends of the community opinions and related in case development of the project and /or project details changed.

(2) To inform the project information to community leaders, executives local administrative organizations and chief administrators in the study area.

(3) To exchange opinions and receive the recommendations about the development of the project and conduct the public participation include public relations program.

2) Target Areas

The target areas of the meeting and opinions hearing of community leaders and officials involved in development of the projects in the area, focused on nearby areas along the Yellow Line Mass Transit Project (Lat Phrao - Samrong section), located in Bangkok (Chatuchak, Huay Khawng, Wang Thong Lang, Bangkapi, Suan Luang, Prawet, Bang Na) and Muang Samut Prakan district, Samut Prakarn Province.

3) Target Groups

Meeting and opinions hearing of community leaders and officials involved in the development of the projects in the area could divide the target group into 2 major groups.

(1) Community leaders such as community chairman, the village headman, organization and other communities committee and local politicians ie. Senators, Member of the house of representatives, Member of the Bangkok Council, member of Bangkok district council and Member of Municipal Council etc

(2) Executive of relevant government agencies such as director of the Bangkok district office. Chief of the division of the Bangkok district office, Sheriff, Chief of the division in the district office, Mayor, Municipal Clerk and Chief of the central government in the project area, etc.

(3) Executive or representative of related agencies such as Metropolitan Waterworks Authority (Thailand), Metropolitan Electricity Authority, the Department of Highways, Samut Prakan Highway District, etc.

4) Duration

Met and conducted in-depth interviews according to the project implementation plan

5) Venue

Meeting room at the district office/municipal office, temple, school or the official's workplace for the convenience of the target groups.

6) Responsible Person

- Project Manager/Deputy Manager
- Project Engineers
- Project Architect
- Environmental Experts
- Public Relations and Participation Experts

7) Expected Outcomes

- Community leaders, involved executive government organizations, and executives or representative agencies have been informed of that correct information and also helps to promote the project to people in the area.
- The consultant has informed the facts about the condition of the study area including the comments and suggestions about the project development. The recommendations on the implementation of the public participation, which will be considered along with other information for the decision making of the study.

8) Utilization of the Results

The discussions and depth interviews results would be used to improve the profile of the project the public participation to be more appropriate.

9.5.4 Focus groups discussion with stakeholders

The focus group discussion with stakeholders planned for 2 times, in both time, focused on major target; the expropriation affected groups and groups affected by the changed of project details. The first meeting will be conducted after completed of the first public participation meeting and will perform again when finalized the project theme, completed an EIA and provide

prevention and mitigation measures. To listen to the opinions of those affected. The detailed plan for each focuses group discussion as follows.

1) First Focus Group Discussion

(1) Objectives

- To inform the project information, route, model and modifying the Railway Systems or another form of project,
- To receive comments and suggestions on the project and mass transit systems. Concerns over the impacts of the project, including suggestions and prevention and mitigation measures.

(2) Target Areas

The project area with modified details and land expropriation cause the direct impact the local people by the development of the project.

(3) Target Groups

- Direct impact from land expropriation and development of the project.
- Community leaders from various communities especially the area affected on changed of the projected pattern.

(4) Duration

After completion of the first public participation meeting.

(5) Venue

Consider the location with the most travel convenient for attendees.

(6) Responsible Person

- Project Manager/Deputy Manager
- Project Engineers
- Environmental Experts
- Project Architect
- Public Relations and Participation Experts

(7) Expected Outcomes

- The target groups were informed about the project information, route, model and details and model modification
- Consultants received opinions and suggestions from the target groups about the project and mass transit systems. Including concerning on the impact and suggested on the prevention and mitigation measures.

(8) Utilization of the Results

Comments and suggestions from the first focus group discussion will be used for the consideration of the study and details design including impact consideration and appropriate and more effective prevention and mitigation measure.

2) Second focus group discussion

(1) Objectives

- To present the study on detailed design, project route, project model and prevention and mitigation measures.

- To receive the opinions and suggestions of stakeholders on the study the project. And discuss the appropriateness and adequacy of prevention and mitigation measures.

(2) Target Areas

The area with directly affected by the development project and/or intensive impacts.

(3) Target Groups

- Direct impact from land expropriation and development of the project.
- Related communities' leaders.

(4) Duration

After completed the first focus group discussion according to the project implementation plan.

(5) Venue

Consider the location with the most travel convenient for attendees.

(6) Responsible Person

- Project Manager/Deputy Manager
- Project Engineers
- Project Architect
- Environmental Experts
- Public Relations and Participation Experts

(7) Expected Outcomes

- The target groups were informed about the project information, route, model and details and model modification.
- Consultants received opinions and suggestions from the target groups about the project studied and comments/suggestion on the prevention and mitigation measures.

(8) Utilization of the Results

Comments and suggestions from the second focus group discussion will be used for the consideration of the study and details design including improving/addition the prevention and impact mitigation measures for more adequately and completely.

9.6 Media Public Relation Plan

The Yellow Line Mass Transits Project (Lat Phrao – Samrong section) covers large area and affects many people. Therefore, public relation and a media project are extremely important to the development of the project. This is disseminate correctly direct information of the project to the people in the area. The consultants have prepared a media plan to the publicity the project.

1) Objectives

To present the project description, project alignment, and other important components. Including advantages and disadvantages to the people, also prevention and impact mitigation measures.

2) Approach and Implementation Methods

The project public relation plan, as shown in **Table 9 - 2.** The project PR in each time, the preparation of media releases were in accordance with the project PR plan.

- Preparation of 3 sets of publicity materials in the form of leaflets, approximately 3-folded A4 or another suitable format. The information both in Thai and English version to promote the program periodically, throughout the study period. Since the beginning until completed the detailed design. Totaling 100,000 copies for distribution to the general public, organizations and people interested in the project The details are as follows

Set 1 At the beginning period will publish a PR brochure with the study background, methodology included the route map to inform the local people along the route. Including using disseminated in the first public participation meeting and first focus group discussion of approximately 20,000 sheets, as shown in **Appendix 9E.1**.

Set 2 when set the changed initial configuration or major structural detailed design is completed. Publish a PR brochure with the project model included the location and route map to informed the local people along the route, including used in the second focus group discussion of approximately 20,000 sheets, as shown in **Appendix 9E.2**.

Set 3 when the detailed design project completed. Publish a PR brochure with the project model included the location map of the buildings and other components such as station, parking lot, depot and the project route for the general public and people lived in areas along the route. Also used in the 2nd public participation meeting of approximately 60,000 sheets, in order to further use for the project public relation of MRTA, as shown in **Appendix 9E.3**.

- Prepare media in DVD and VCD with project details, route, and components. Using 3D Animation and Visual Sound for about 50 plates. However, during the study will produce a media 3D Animation for its presentation in each of the public participation meetings as appropriate and produce the DVD and VCD for the project conclusion in the form of 3D Animation about 50 plates for dissemination and public relation of MRTA.
- During the process, the consultant will use both proactively and reactively strategic. And consideration of production the suitable project public relation, exhibitions set and stations model, electronics media to inform the public and people affected by the project periodically as appropriate.
- Consultants will create a Website to promote the project, show the study progress, map with shows the route, terminal building, park and ride buildings and an important component of the project. Also, the public can provide comment through the Website at any time during the study period. By linking this website to the main website of the Ministry of Transportation and MRTA.
- A survey of public awareness and understanding and people affected by the project. Consultants will conduct an interview sampling to inquire of understanding and information received about the Yellow Line Mass Transit Project (Lat Phrao – Samrong section), attitude, recommendation for the project. Especially people affected by the project. The consultant will conduct all interviews with a sample size of at least 1500 samples distributed along the project route and related areas.

3) Expected Outcomes

People received the news and media and understand more about the project and reduce the resistance of the masses who have been affected by the development of the project.

Table 9 - 2 Plan , and public relations activities

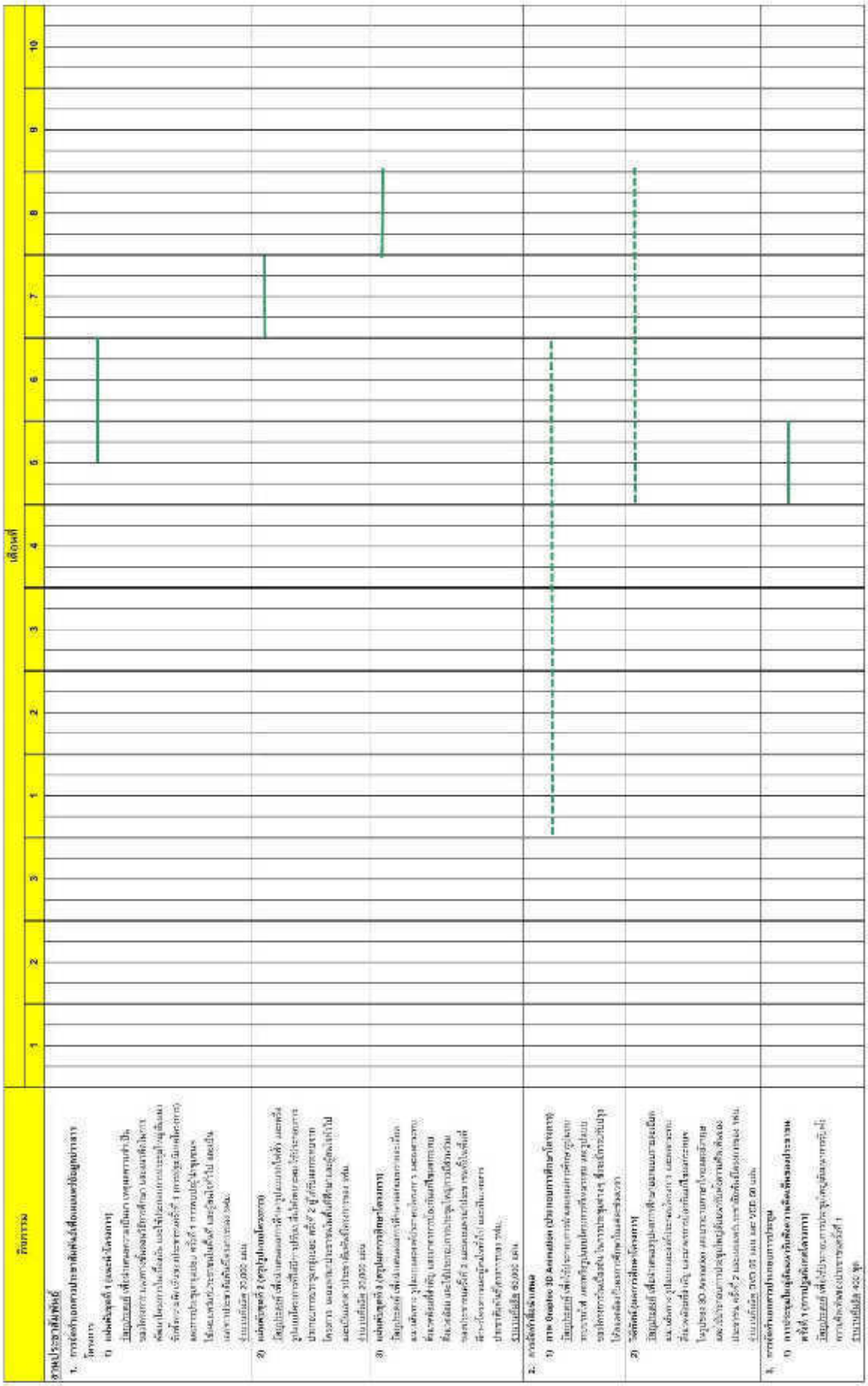


Table 9 - 2 Plan , and public relations activities (cont'd)

กิจกรรม	เดือนที่												
	1	2	3	1	2	3	4	5	6	7	8	9	10
2) การประชุมใหญ่การมีส่วนร่วมของประชาชนครั้งที่ 2 (สรุปผลการศึกษาโครงการ) วัตถุประสงค์ เพื่อให้ประชาชนการประชุมใหญ่เพื่อรับฟังความคิดเห็นของประชาชนครั้งที่ 2 จำนวนที่เชิญ 400 ชุด										———	———		
4. การจัดทำสื่ออิเล็กทรอนิกส์ วัตถุประสงค์ เพื่อใช้เผยแพร่ความก้าวหน้าและผลการศึกษาโครงการในระยะต่างๆ และใช้ประกอบการจัดกิจกรรมต่างๆ						- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
5. การจัดทำและเผยแพร่ข้อมูลโครงการผ่าน Website วัตถุประสงค์ เพื่อใช้เผยแพร่ความก้าวหน้าและผลการศึกษาโครงการในระยะต่างๆ และเปิดโอกาสให้แสดงความคิดเห็นผ่าน website หรือช่องทางที่ติดต่อให้ข้อมูล ข้อเสนอแนะต่อโครงการ						———	———	———	———	———	———	———	———
6. งานสื่อมวลชนสัมพันธ์ ติดต่อ ประสานงาน เชิญ สนับสนุนและอำนวยความสะดวกสื่อมวลชน ในการเผยแพร่ข้อมูลโครงการ ผ่านช่องทางต่างๆ ทั้งสื่อสิ่งพิมพ์ วิทยุ โทรทัศน์ ตามความเหมาะสม						- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
7. การติดตามและประเมินผลการดำเนินงานมวลชนสัมพันธ์และประชาสัมพันธ์ วัตถุประสงค์ เพื่อประเมินผลการดำเนินงานด้านมวลชนสัมพันธ์ประชาสัมพันธ์ตลอดระยะเวลาการศึกษาและนำมาปรับปรุงกลยุทธ์และวิธีการที่เหมาะสมในการดำเนินงานมวลชนสัมพันธ์และประชาสัมพันธ์ให้สอดคล้องกับสถานการณ์						- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
8. การสำรวจการรู้จักและความเข้าใจของประชาชนที่มีต่อโครงการ และผู้ได้รับผลกระทบโดยตรงจากโครงการ วัตถุประสงค์ เพื่อประเมินผลการดำเนินงานด้านมวลชนสัมพันธ์ประชาสัมพันธ์ตลอดระยะเวลาการศึกษา การรับรู้ และทัศนคติของประชาชนที่มีต่อโครงการ โดยเฉพาะกลุ่มผู้ได้รับผลกระทบโดยตรงจากการเวนคืนที่ดิน จำนวน โดยการสุ่มตัวอย่างใช้แบบสัมภาษณ์ประชาชนตลอดแนวเส้นทางและกลุ่มผู้ได้รับผลกระทบโดยตรงจากการเวนคืนทั้งหมด โดยให้ได้จำนวนตัวอย่างประมาณ 1,500 ตัวอย่าง								- - -		- - -			

9.7 Public Relation and Participation Results

9.7.1 First Public Participation Meeting

The first public participation seminar, review detailed study, the proper design and preparation of biding documents of the Yellow Line Mass Transit Project (Lat Phrao – Samrong section) was conducted on Friday, 23 August 2013, 09:30 AM. - 12.00 PM. at the ballroom 15th floors of Maple a Hotel, Srinagarindra Road, Bangna, Bangkok. The registration start from 9:00 AM. to 9:30 PM. approximately. And once the guest of honors (Mr. Chaisit Kururat, Deputy Governor of MRTA) arrived, Mr. Teeraphan Techasirinukoon, Assistant Governor of MRTA, reported, then the guest of honor give and opening speech with a 10-minute video presentation of the project after that. Continue with a presentation on project information and study concept by the consultant. After the presentation, it was time for questions and answers provide comments and suggestion to the project. And consultants answered questions until approximately 12:00 pm. It is time to closed meetings. The total duration of about 3 hours with a detailed schedule follows.

1st Public Hearing Participation Schedule
Yellow Line Mass Transit Project (Lat Phrao – Samrong section)

9.00 – 9.30 AM.	Registration/received documentation
9.30 – 9.35 AM.	Report on the 1st Public Participation Meeting By Mr. Teeraphan Techasirinukoon Assistant Governor of MRTA
9.35 – 9.45 AM.	Opening Speech for 1st Public Participation Meeting By Mr. Chaisit Kururat Deputy Governor of MRTA
9.45 – 10.00 AM.	VTR presentation
10.00 – 10.45 AM.	Project study presentation - Project background, scope of study and implementation Results By Dr. Chunchit Phiwnual, Project Deputy Manager - Reviewing the results of the feasibility study and the project alignment. By Mr. Thanakorn Chaithirapinyo, Engineer - Design Study By Mr. Asae Sukayoung, Architecture - Environmental Impact Assessment and Public Participation By Dr. Rattakorn Wongphiphatananon, Environmental Experts
10.45 – 11.50 AM.	Listen to opinions and suggestions and answer the questions By MRTA Representative and Consultants
11.50 AM. – 12.00 PM.	Conclusion and Lunch

1) Meeting Objectives

(1) To inform the attendees of the reasons and necessity of the review of the feasibility study of the project, scope and implementation plan.

(2) To gain the information, coordination and participation in the discussion and suggestion thought out the duration of the project.

(3) To answer questions and receive comments and suggestions from participants on issues related to the study and development projects which will benefit the operations in the next process.

2) Invited Target groups

Defining of stakeholders was followed the guidelines for public participation and social environmental impact assessment of Environmental Impact Evaluation Bureau, Office of Natural Resources and Environmental Policy and Planning, B.E. 2549 (2006). The stakeholder was defined into 7 groups, which comprised of people affected by the project, agencies responsible for preparing EIA report, the agency responsible for reviewing EIA report, government organization at any levels, environmental NGOs/organizations/institutions/independent scholars, media and general public. The invitation list of target groups as shown in **Appendix 9A** (in CD).

3) Meeting Attendants

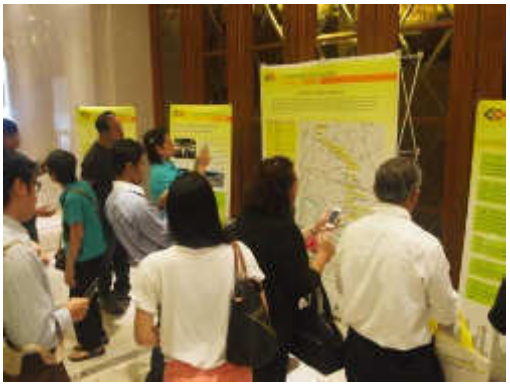
Participants are involved in the project include government agencies, local organizations, NGOs, private sector, people in the affected areas and general public interested in the project, a total of 383 people, including.

1)	Government agencies	34	officials
2)	State Enterprises	19	people
3)	Local administration	3	people
4)	Community leader	11	people
5)	Environmental NGOs	1	people
6)	Private sector	22	people
7)	Affected people/Educational Institute/Hospital	10	people
8)	Media	6	people
9)	People/private sector nearby project area Chatuchak	2	people
	Wang Thonglang	39	people
	Huai Khwang	18	people
	Bangkapi	29	people
	Suan Luang	18	people
	Prawet	27	people
	Samrong Nua subdistrict, Muang District, Samut Prakan Province	39	people
10)	Office of Natural Resources and Environmental Policy and Planning	2	people
11)	MRTA	80	people
12)	Consultant	23	people
	Total participants	**383**	**people**

The name list of participants as in **Appendix 9B (in CD),** the 1st public participation meeting photo, as shown in **Photo 9.7.1-1.**

Participants registered and received prooject document

Participants registered and received prooject document



Participants visited project document boards

Participants visited project document boards

Participants visited project document boards

Participants visited project document boards

Photo 9.7.1-1 showing some parts of the activities during the first public participation Meeting at Maple hotel on Friday 23 August 2013 during 9:30 AM. - 12:00 PM.

MR. Thiraphan Techasirinukun
Assistant to the Mass Rapid Transit Authority of Thailand speak the report

MR. Chaisit Khururat
Deputy Governor of the Mass Rapid Transit Authority of Thailand speak Opening the Meeting

Consultant presented project details

Consultant presented project details

Participants listened to project details

Participants listened to project details

Photo 9.7.1-1 showing some parts of the activities during the first public participation Meeting at Maple hotel on Friday 23 August 2013 during 9:30 AM. to 12:00 PM.

Participants listened to project details

Participants listened to project details

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Photo 9.7.1-1 showing some parts of the activities during the first public participation Meeting at Maple hotel on Friday 23 August 2013 during 9:30 AM. to 12:00 PM.

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Consultant answered questions and clarified project problems

Consultant answered questions and clarified project problems

Photo 9.7.1-1 showing some parts of the activities during the first public participation Meeting at Maple hotel on Friday 23 August 2013 during 9:30 AM. to 12:00 PM.

4) Conclusion of the 1st Public Participation Meeting

Conducting of the 1st Public participation Meeting, attendees have joined in questions/answers and comments in the meeting and provide opinions and feedback on the questionnaire as below.

(1) Commenting on the meeting

In the meeting provided the opportunity for attendants to ask questions/ comments and suggestions about the project. Which are summarized in **Table 9.1.7 - 1** and summary of questions, comments, and suggestions about the project by the station, as shown in **Table 9.1.7 – 2.**

Table 9.1.7-1 Questions, Comments and Suggestions about the project

Questions, comments, and suggestions	Clarification of Consultants
Engineering	
1. The piers foundations of the project must not big and poached into the traffic area, as some of the Vibhavadi Rangsit Road.	1. Consultants will consider the design to suit the area conditions which foundation piers were not poached into the road.
2. Reviewing on the number of Park and Ride in each station, which is not adequate.	2. According to the plan, The Yellow Line, Mass Transit Project will 4 Park and Rides, which is expected to be have sufficient service and complied with the service of a bus. But it can be joint venture if private business interesting.
3. What is the height of the Yellow Line Mass Transit? If very high it will be very prominent.	3. The Yellow Line Mass Transit Project have elevated structures average height of about 12 meters and 14 meters the station height of except for the cross of Chalongrat Expressway and the overpasses are raised higher for the height of the underpass of 5.5 meters. As considering the design, if raised too high, it will be wasteful and the train operation will be difficulty. Then have to design to suit the area conditions.
4. The construction of this Yellow Line Mass Transit has opposed the elevated construction since 2004, villagers on Lat Phrao Road prefer the subway train more elevated train. But today, consultants told it was a Monorail system, why not offer a subway or subway in Lat Phrao section and elevated in Srinagarindra section, which would be possible.	4. For consideration of subway or sky train has been studied thoroughly and systematically for a long time which has the detailed reasons why is the sky train in Monorail system.

Guest ions, Comments, and Suggestions	Clarification of Consultants
5. Is the Yellow Line Mass Transit Project planned to be connected to other transportation systems? And would it be a single ticket connection? How comfortable of the station to a station connected?	5. In connection with the other transit system, OTP was suggested to study the connections of the various systems that passed the 4 points and are designed to facilitate the connection. But the joint ticket issued need to be considered. The ticket price structure is on the consideration of several relevant organizations but it is going to happen.
6. In the construction of the Yellow Line Mass Transit project, the consultants presented that it had been considered either subway or sky train and debated the pros and cons of each option. Then the meeting would like to know the considered issues, results, the pros, and cons of each option. In many countries, the sky train system has canceled because is the visual pollution. If it is reasonable, it will acceptable	6. In connection with the other transit system, OTP was suggested to study the connections of the various systems that passed the 4 points and are designed to facilitate the connection. But the joint ticket issued need to be considered. The ticket price structure is on the consideration of several relevant organizations but it is going to happen.
	7. Results of a recent study of the OTP (April 2008), the methodology was divided into 2 steps. ***Step 1***: The preliminary selection of the 3 most appropriate options to decide on the appropriate network. The assessment of 3 factors, namely engineering and traffic, economic and investment and environmental Impact. The structures are three main alternatives. • Elevated thought out the route, • Lat Phrao – Phatthanakan section will be Metro with Diaphragm Wall Station and the rest is elevated, • Lat Phrao – Phatthanakan section will be Metro with Mined Station and the rest is elevated, **The results showed that** The 3rd option, Lat Phrao – Phatthanakan section will be Metro with Mined Station and the rest is elevated, had the highest score.

Guest ions, Comments, and Suggestions	Clarification of Consultants
	Step 2: Selection of the route network. In accordance with the citywide transit system of the Cabinet Resolution on March 18, 2008, found that the end section of the Yellow Line has the potential to further route expansion as the Middle Ring Road as the Cabinet Resolution on March 18, 2008. Selected a Phatthanakan - Samrong section to be part of the Outer Ring Road transit system (section 8A). The study found that the highest of passengers in the morning rush hour of the Yellow Line in the year 2046, about 20,000 to 23,000 people/hour/ direction. The capable transit system was Monorail, Light Rail Transit (LRT) and Heavy Rail (MRT). The study of the appropriate route above has been designated as the Metro 12.6 km and elevated of 17.1 km, thus, Monorail was cut out. Because there was no construction of Metro system more than 10 km, so the only consideration was LRT and MRT, when comparing the initial investment value found that the LRT is appropriate in terms of cost savings over the MRT. Later in August 2008, the Board Committee requested an updated report, which can be summarized as follows: 1) The construction of Metro LRT (Lat Phrao – Phatthanakan section) has very high investments valued. Then requested the consultant for an additional study on an elevated (LRT or Monorail) (investing value 81,358 million baht by EIRR = 12.44 - 13.5%, negative FIRR. Results showed that the Monorail has the initial investment and average expenses of 30 years lower than LRT. Including Monorail has a compact structure makes the building easier in the limited area, which reduction in land expropriation. The advantages are that the moderately of environmental impacts, fast construction, airy structure and quieter operation. Then proposed that the most appropriate is Monorail.

Guest ions, Comments, and Suggestions	Clarification of Consultants
	2) The Yellow Line (Phatthanakan - Samrong section) as part of an Outer Ring Road transit system, (total length 80 km.) section 8A, which will further expand to be the large ring road network in the future. 3) It was agreed to separate into 2 lines was Light and Dark Yellow Line. Results of a recent study of the OTP (September 2009) concluded that the Yellow Line should divide into 2 sections, namely. - Ratchada/Lat Phrao – Phatthanakan section: A Monorail system, elevated for the entries route, a total length of 12.6 km with 10 stations. - Phatthanakan – Samrong section: An HRT system, elevated for the entries route, distance of 17.8 km with 11 stations. Later MRTA has reviewed the results of the feasibility study and concluded that; **Lat Phrao – Phatthanakan section**: The old study design as Lat Phrao – Phatthanakan section was a Monorail system is appropriate anyway. So it is not necessary to review in detail for the following reasons. (1) Monorail system can accommodate the volume of passengers that are predictable and suitable to Lat Phrao Road with the confined physical condition. (2) The project EIA report, according to a preliminary study and design of the OTP, has been approved by the National Environmental Board. **Phatthanakan – Samrong section:** The study results on alternative systems comparison of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) was supported to modify the entries route as the Monorail systems. (1) Consistent with the Metro network,

Guest ions, Comments, and Suggestions	Clarification of Consultants
	(2) The highest passenger volume up to 23,886 people-trip/hour/direction (2049), the Monorail system can adequately accommodate. (3)The convenience of passengers, the passengers crossed the system at Phatthanakan station about 45,800 people-trip/day. (4)Project investment cost, save the construction cost of 10,000 million baht and have reduced the number of the depot. (5) Returns on economic and financial: valuable. (6) Environmental Impatcs : • Used tires, which cause less noise than steel wheels on the rail system. • Airy runway structure, cause less impact on air quality and the scenery. • Less expropriation impacts due to lower of the radius of the turn. • Although required to new report changes in environment impact, but it was a change for the better. (7) Action plan: At the same distance, Monorail system needs less construction phase than HRT. In case change to be Monorail the entire route is expected to reduce the overall duration for approximately 10 months.
7. In Japan has a Monorail train in a short distance and noisy indeed. Guarantee that people along Lat Phrao cloud not sleep, so it is proposed to make the metro in Lat Phrao Road section and elevated at Srinagarindra Road. So invest more and elegant.	7. About noise, the consultants will consider more in details.

Guest ions, Comments, and Suggestions	Clarification of Consultants
Economics	
1. Will the construction of the Yellow Line Mass Transit Project complete in 2019? Want it to finish quickly, because during the construction will affect the businesses, particularly businesses located along the project route.	1. According to government targets, The Yellow Line Mass Transit will operate in 2019, which during the construction will be affecting traffic certainly. The modern construction technology will be used to facilitate faster. And will try to improve traffic control accordingly.
2. On Lat Phrao Road, if construct the elevated train, Monorail system, all the commercial shop houses along the route will be closed since the construction till operation as Sukhumvit Road. The utility state enterprises should establish a fund to compensate this group of people. Proposed to set up the fund.	2. The idea to set up a fund to help people who affected by the project will be presented to MRTA for consideration.
3. The Yellow Line Mass Transit Project has a high return, but it affects many people. Would it worth investment?	3. Regarding this issue, the return on investment in various fields had been considered, while the principle on the public impacts has to be minimum.
4. Is 20 baht flat fares certainly?	4. The 20 baht fare is preliminary estimates. Depending on the policies of the MRTA now is under considered in detail.
5. Was the construction budget of the Yellow Line Mass Transit yellow, the same 2.2 trillion baht budget under the consideration of the House of Representatives? And why said that the Yellow Line will be the last line? Due to the reasons on budget or population please explain.	5. The construction budget was in the 2 trillion baht ACT, but if the House was not approved. It is conducted in partnership with the private sector. This issue has been studied (PPP). And the Yellow Line will be the last line according to MRTA 10 lines development plan which will be completed in 2019.
6. In the Brochure only the advantages of the project. So wanted to summarized the disadvantages of the Monorail system also.	6. Advantages/disadvantages of the Monorail system will be on the project website.
7. Monorail systems cannot accommodate many passengers. Due to the small size of the car and less cabinet like the Airport Rail Rink which a number of cars and cabinet was not sufficient to accommodate passengers. It's not worth the investment.	7. Metro Monorail system can accommodate 40,000 passengers per hour, and a sufficient number of vehicles. The frequency is between 4-5 minutes.
8. In a matter of convenience on passengers with disabilities, elderly and children passengers, including passengers with baggage, what's will they for than provide	8. The convenience of the disabled, elderly, all the stations has provided a lift to easily accommodate all passengers, elderly, disabled, children and people with luggage.

Guest ions, Comments, and Suggestions	Clarification of Consultants
Environment	
1. If built, the elevated Monorail system the scenery of Lat Phrao Road will be losing. Trees at the road median will replace with of the Monorail system. Recommends relocating the electric poles underground and planted on the pavement instead. Additionally, the Monorail systems train has fewer passengers capacity, please consider.	1. Agreed with the idea to underground the power lines and the MEA have a plan in this regard already. However, it will present the MRTA. To help coordinate this matter further. For the Monorail systems train capacity, confirmed that it can accommodate almost 40,000 passengers per hour.
2. Is it possible that the route will be in Samrong canal? This is because Thepharak Road currently heavy road traffic jams with unreasonable and has no chance to be better. Thus, if the Yellow Line is construction on Theparak Road, traffic crashes hard indeed. Propose to do in Klong Samrong.	2. The route has long been previously considered. There are several routes. In principle, to avoid expropriation, including some canal is a conservation canal. In addition, a pillar in a canal will have problems hindering drainage. The project has a comparative study on this subject for a long time. In terms of underground or elevated construction is the same. The principle is to surrender and avoid affecting the public to a minimum. During the construction, proposed to construct the connected bridge between Thepharak Road and Sukhumvit 113 Road to help out with traffic flow. The study on the route along the canal, the downside is the route away from the area of service buyer.
3. Representatives from PCD proposed to consider the more on noise and vibration impact. Because of the altitude and the route near buildings, shops and houses of the people. And has received a complaint in this regard.	3. These issue consultants will be considered in detail as proposed.
4. If has the Monorail, the scenery of Lat Phrao Road will change. Trees around the road median will be gone. Therefore, it should be grounded power poles and trees on either sidewalk. In addition, will it has space or sidewalk invader?	4. Agree with the move of power lines underground and tree replacement. Make good scenery and intrusion prevention a pedestrian area.
5. Support the construction of a non-polluting mass transit system. But want to focus on the environment and the impact on the public. Do not worry about expropriation, because the current is value.	5. This matter, consultants realized and seize to be design criteria for the Yellow Line Project already. Be assured.

Guest ions, Comments, and Suggestions	Clarification of Consultants
Public Participation 1. In conducting a public participation meeting, please keep in mind about the people who are working. Because this group has to work which unable to attend the meeting. Proposed to conduct a public participation meeting on Saturday - Sunday. 2. The meeting is to inform that what the project is going to do? It is not the public participation meeting. Meeting organizers need to focus on people rather than government organizations.	1. Consultants to consider this request. If the general meeting government organization may not be convenient to attend the meeting. The focus group will be held on Saturday - Sunday. 2. The meeting today is a public participation meeting according to the Regulation of the office of the Prime Minister B.E. 2548. Focused on all stakeholders.
Others 1. The construction is believed to have traffic problems, certainly. Therefore, propose that the contract will require the construction contract that the contractor will be responsible for the people who use the route. Due to traffic jam, added to the contract as well. 2. Is this consultant has any other project, please inform. The fact, Should study on why do not construct Subway in Lat Phrao Road?	1. Solving traffic problems during the construction phase is key to consider and a special focus, such as short cut suggestion or other opening lanes etc. As part of the contract for the public responsibility will be presented for the MRTA consideration again. 2. To consider as subway or sky train, this has been studied for a long time. The thorough reason and the impacts on the cost, environmental and expropriation which is very detailed. The consultants will explain the details on the project Website. As the work of the consultants, please check on the consultant's website.

Table 9.7.1-2 Questions, comments and suggestions on the project, as a station.

Station	Comments and Suggestions	Consultant Clarification
Chok chai 4 station	1. If have a Yellow Line Mass Transit will solve traffic problems. Where is the location of Chok Chai 4 station? Will it be land expropriation?	1. Chok Chai 4 station is still in the study phase both the distance and community. Especially the entrance is currently under study. This is expected to present the results of the study, location, and ascent – descent in the first focus group discussion which will be held soon.
Samrong station	2. Samrong station which is the station of the Yellow Line Mass Transit Project. Will it have the opportunity to connect to Rat Burana?	2. It has the idea to connect to Rat Burana in the future. Based on the Final government policies.
Bang kapi station	3. Would like to have clarity model of Bangkapi station? Would it expropriate the land in Makro area? What are the requirements of land use in front of Makro?	3. In Bangkapi station still have the issue of improving the Bangkapi overpass which needs to discuss for the conclusion with BMA, which will be presented in a focus group discussion.

(2) Comments from the questionnaires

In this first public participation meeting has collected the paritcipants opinions using a questionnaire. As shown in **Appendix 9C**. The respondents to the questionnaire were 239 of the total 383 attendees. Around 62.40%, as shown in the summary table in **Appendix 9D**. The process and analysis of data can be summarized as follows.

1) Sex

Most of the respondents were male, 50.21%. The remaining 49.79% are female.

2) Age

Respondents were aged between 51-60 years, most representing 27.20%. The second group is aged between 31-40 years, 20.92% and aged 41-50 years, 20.50%, respectively. The age of 30 years is the minimum amount of 14.64%.

3) Educational level

Most of the respondents completed a Bachelor degree as 45.61%. Follow by a group of graduate level as 27.62%. And a group of high school graduated, 19.67%, respectively. The group of diploma or equivalent with a minimum ratio of just 2.09%.

4) Participant Group/Organization

The majority of the respondents were individuals/business with the residents near the project 63.60%. The rest are representatives of government/state enterprises 23.85%. And community leader/representative of the local administration was 6.28%, respectively, representatives of NGOs was a minimum ratio of just 0.42%.

5) Perception on the Yellow Line Mass Transit Project's information

Most respondents, 88.28% had been informed about the Yellow Line Mass Transit Project. The rest had not been informed of the Yellow Line Mass Transit Project about 11.72%. 32.7% stated that listen to the news of the Yellow Line Mass Transit Project from television. 29.38% know from the newspapers and 26.54% aware of the billboard. Only 0.42% knows from the project's brochure/public relation documents.

6) Comments and concerns about the project during the construction phase.

Nearly all respondents are concerned about the problems of traffic jam from construction activities. And 79.08% worried about the trade/turnover decreased. The issues of the construction accident some people have expressed concern 41.84%. And there are concerns over the problem of lost of land/property from expropriation 40.59%.

7) Comments/suggestions on the meeting

(1) The consistency and objectives of the meeting.

55.65% of respondents agreed that the meeting was moderately consistent with the objectives. 38.91% thought that the meeting was high consistent with the objectives. The remaining 5.44% thought that it was less corresponds to the objectives of the meeting.

(2) The clarity of the project proposed to the meeting.

69.04% of the respondents thought that the project information proposed to the meeting was moderately clear. While 26.36% thought that the project information was highly clear. The rest thought that the project information proposed to the meeting today, have a low level of clarity of 4.06%.

(3) The clarity of the clarified and answer questions.

72.80% of the respondents thought that the clarified and answer questions were moderately clear. While 14.64% thought that the explanation of project information was highly clear. The rest thought that the clarified and answer questions have a low level of clarity of 12.55%.

(4) Understanding the presented project information

More than half of the respondents (69.46%) understood the presented project information in the moderately level. And 23.85% answered that understood the presented project information in the high level. The remaining answered, understanding the presented project information in the low level (6.69%).

(5) The appropriateness of the meeting documents.

More than half of the respondents, (60.67%) thought that the meeting documents were appropriate in moderate level. 23.43%, followed by, thought that meeting documents have a high level of appropriateness. The remaining 15.90% thought that the meeting documents were low appropriate level.

(6) The suitability of the venue

55.64% of the respondents, thought that the venue was moderately suitable. 33.47%, thought that the venue has a high level of suitability. The remaining 10.87% thought that the venue was low suitable level.

(7) The appropriateness of the duration of the meeting.

More than half of the respondents (59.83%) thought that the meeting duration was appropriate in moderate level. 22.18%, thought that meeting duration has a high level of appropriateness. 17.99% thought that the meeting duration was low appropriate level.

(8) Others Suggestions/Feedback

In the first public participation meeting of the Yellow Line Mass Transit Project (Lat Phrao – Samrong section), has others suggestions below.

Suggestions	Percentage
1. Lat Phrao Road is not suitable for the subway construction of the metro, due to the problem of traffic jams.	2.93
2. Should expedite the project for more concrete/construction scheduled to be completed soon.	3.35
3. Caring for whom directly affected or expropriates both during construction and operations phase/understanding or provide knowledge about the compensation right to affected people.	3.35
4. Should conduct a meeting in the holidays, Saturday - Sunday/if Monday - Friday should delay the opening time/ location should be near the bus station.	10.04
5. There should be more public information or news content, advantages and disadvantages of the project/extended the meeting time and Q & A section/ answer the questions to the point.	4.60
6. The project should be the subway, to connect the other lines and reduce the air pollution, nice vison, minimize the commercial impact.	1.67
7. Taking into account the relationship between the fare and the current economic conditions/fares should be affordable.	0.84
8. Should take into account the ascent – descent of the BTS monorail station to connect with other transit services. Not too close to the commercial/business due to the impact on trade.	0.42
9. The organizer should take into account the number of participants with a set of documents (Bags), break, seats should be enough to achieve equality for all people.	1.67
10. A fund for affected people set up the budget for affected people to be managed.	0.84
11. Project owner have to measure and enforce all the regulations strictly both during construction and operation phase.	0.84
12. Carry off the construction area periodically, station to station. And start services at the finished station. To give the good impression that the construction will be finished soon, not prolonged.	0.42

9.7.2 Planning on meetings and participation of the community leader and officers involved in the development of projects area

Consultants coordinated with government organizations, business owners, companies, Department Stores and related agencies located near the project construction, including;

1) Seacon Square Department Store
2) Thanya Shopping Park Srinagarindra
3) Lat Phrao Plaza.,Ltd.
4) Paradise Park Shopping Center
5) Siam Makro PCL.
6) Big C Super Center PCL.
7) Samut Prakan Highway District, Department of Highways
8) Executive of Ratchada Forest Project
9) Deputy Executive Director of Office of Summary Litigation Region 2
10) Office of Archaeology, The Fine Arts Department
11) Director of Prawet District Office
12) Prawet Community Board
13) Mayor of Samrong Nua Municipality
14) Director of Wang Thonglang District Office
15) Head of Civil Subdivision, Bang Na District Office
16) Director of Lat Phrao Hospital
17) Manager of Bangkok Bank, Lat Phrao 44 Branch
18) Managing Director of AEON (Thailand) Co.,Ltd.

The meeting results are summarized below.

1) Seacon Square Department Store

On Friday, May 10, 2013, at 10:30 AM. to 12:00 PM. The Consultants met with the executives of Seacon Development Co.,Ltd. at the company's meeting room. The meeting included Mr. Jate Maneewat, Mr. Charan Phuphat, Mr. Teeranun Chalaeiwiman. The meeting photos are shown in **Photo 9.7.2-1**, and The results of the discussions are summarized below.


Photo 9.7.2-1 The atmosphere in the meeting room on May 10, 2013 during 10:30 AM-12:00 PM.

Questions

- When the construction begins and when will be completed?
- Will consultant require meeting with the executive director of all Department Stores along the project route?
- The big construction projects abroad, if the project is a large shopping area. The project will facilitate. Will this project facilitate to the private sector? Or the private sector has to propose to the MRTA.
- The company has space at the back of the shopping center. In the future, if continue development, will it be possible to use the area for a station's location.
- If the company desired the station to facilitate the customers of the mall. What should be taken?
- The company concerned about the station's location, it located in the areas will cause the conflict to both the Department Stores with connected and close relationship. The two Department Stores will have the same desire about the station.
- Who is the decision maker on the location of the station?
- If a station location at Seacon Square Department Store, lest it a parking spot for people who use the train, not to Seacon Square.
- If the station is located at Seacon Square Department Store, Are there limits on the size and mass transit fares, within the framework of the law?
- Will it have a problem on a construction budgets, if the station is located in the area of Seacon Square.
- Agreed to the construction of the project route that cuts across the private or personal area.
- Will the project be launched in the year 2019?

Clarified of consultant's team

- Planned to be completed in 2019 or perhaps earlier than scheduled, depends on the design and discussions with the private sectors.

- The mass transit is a monorail system.

- The consultants' team has to meet every Department Store along the project route.

- In the negotiation, both public and private or responsible authority has to make a mutual agreement on benefit sharing or as agreed. MRTA. have come together to discuss the planning of station location and connection into the mall. As well as the facilities which the MRTA and the department will be mutually beneficial. As agreed in management or the division of functions in management.

- The MRTA will open to feedback and discussions of common interests with the private sector, within 10 months, according to the project plan.

- Favorable benefit both or call the department's agreement for the mutual benefit of both sides and find a solution together. As well as the benefits to people to achieve a fair settlement for both sides.

- Monorail train used tires. It does not sound like the Heavy Rail trains currently in use. It is small with streamlined travel; both depart and stop at every stations, all 20-24 stations.

- MRTA will consider the settlement and benefit-sharing.

- However, the entrepreneur must be discussed with the MRTA to find out the solution. Or the store has deals or comments for MRTA. MRTA fully open to suggestions from enterprises.

- The project is subject to the legal framework on the service used and safety.

2) Thanya Shopping Park Srinagarindra

On Thursday, May 17, 2013, at 15:00 to 16:00 PM. The consultants' team met the Director of Business division of Thanya Shopping Park Co.,Ltd., at the 8th Floor, MRTA meeting room. The results of the discussions are summarized below.

Suggestions

- The station should be in the north.

- There should be space for Taxi and van parking at least 60 - 70 cars

- ITF is required for parking shuttle bus.

- Safety considerations must have a fire escape and safety system

- Determine the proper location, which floor the station will be located and a clear ascent – descent. Fire safety evacuation plan.

- Consider the station model. It might be the general model at first and it have ITF, what will it be?

3) Lat Phrao Plaza Co.,Ltd.

On Wednesday, June 5, 2013, at 11:00 AM. to 12:00 PM. The consultants' team met with Executive Director, Sale Manager, Debt Collection Manager, Law Manager, Accounting Manager, Head of Engineering, Assistant Marketing Coordinator and Administration officials of building and space division, at Lat Phrao Plaza Co.,Ltd. 4B Floor meeting room. The atmosphere picture, as shown in **Photo 9.7.2 - 2** and The results of the discussions are summarized below.

Photo 9.7.2-2 The atmosphere in the meeting room on June 5, 2013 during 11:00 AM. -12:00 PM. At Lat Phrao Plaza Co.,Ltd. meeting room

Questions

- How to determine the location of the station? How many square meters approximately in the area for station construction and the train rail?
- When is the exact project construction phase?
- During the station construction phase, it might have the problem of traffic congestion. What is the solution?
- Why not build the station at Lat Phrao Plaza Co.,Ltd. , mostly it will build with large enterprises.

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project, but worry about the traffic problem which may occur during the project construction period. Expected to have much impact during construction.
- Should be informed of the timing of construction and completion.
- The Lat Phrao Plaza Co.,Ltd. is interested in parking building for mutual benefit with the MRTA. And wanted to discuss the design for aesthetics and cooperat development.
- The Lat Phrao Plaza Co.,Ltd. is willing to join in the public participation of the people again.

Clarified of consultant's team

- Criteria for the design of the station, try to determine the distance of each station about one kilometer or factors of the community and the number of users, the partnership, joint venture with MRTA and the private sector, and to minimize the impact of expropriation.

- The construction of monorail system is a small construction, airy and ease of construction. Estimated size of 20 × 30 square meters of station formats. The rail system has a width of about 2-3 meters. The height of the sky bridge, about 12 meters from the ground. Or changed the format according to the area or the form that the private sector with the MRTA joint developed. With regard to safety in the design.

- The construction planned to start in 2015 till completed and open in 2019.

- The train is a monorail system which is small. The construction is more convenient and easier than other systems. Affects less traffic than the construction of the other train system.

- In the study, if a station is built too close to it, will cost more construction budget.

- In the final EIA report, the station location already has a study and determined that it was appropriate station location and the distance between stations is set for support the Gray Line Mass Transit Projects in the future.

- When the project was officially approved by MRTA. The first public participation conference will be conducted to present the project information.

- The station is designed with safety concerns or joint investment with MRTA.

4) Paradise Park Shopping Center

On Monday, June 17, 2013, at 10:00 AM. to 12:00 PM The consultant's team met with the Managing Director, Deputy of Managing Director of Marketing and Customer Relations, at shopping malls meeting room on 4th floor, Paradise Park Shopping Centre. The meeting photo as shown in **Photo 9.7.2-3** and the results of the discussions are summarized below.

Photo 9.7.2-3 The atmosphere in the meeting room on June 17, 2013 during 10:00 AM-12:00 PM. at Paradise Park Shopping Center

Comments/Suggestions

- Want to have a station between Seacon Square and Paradise Park Mall and should be in a position of Suan Luang Ror. 9 to comply with the stations name Suan Luang Ror. 9.

- Ascent - descend of the station should be extended to Mall areas. The roof covers a long corridor to Suan Luang Ror. 9 to facilitate the public to walk up to Suan Luang Ror. 9

- Each department may have some space for a parking spot for passengers to use the service (ascent – descend) at Suan Luang Ror. 9.

- Want to have access to the Mall same as Center One at Victory Monument. If they design together with the patterns of the project construction and construction together. It will save more money over the later design. It should be concluded the discussion soon to operation at the same time.

5) Siam Makro PCL.

On Thursday, July 11, 2013, at 09:00 to 10:00 AM. The consultant's team met with Mr. Thamrongsak Wongurai, Manager of Law and Corporate Governance, at the meeting room Siam Makro Co.,Ltd., 6th Floor, Chit Utai Building. The meeting pictures as shown in **Photo 9.7.2-4**. The results of the discussions are summarized below.

Photo 9.7.2-4 The atmosphere in the meeting room at Siam Macro Co. on July 11, 2013 during 09:00 to 10:00 AM.

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project, but worry about the traffic jams which may occur during the project construction. Expected to be affected during construction, especially on Lat Phrao Road.

- Customer groups of Siam Makro PCL. are the entrepreneur, which will buy goods with a whole box or crate, not the shopping customer groups. Most customers will use a pick up or truck to transport goods. If a train station located in front of the mall, it does not benefit much to Siam Makro PCL. However, representatives of Siam Makro PCL. will present about the Yellow Line Mass Transit Project to Management Committee to consider the operation to achieve mutual benefits with MRTA.

6) Big C Super Center PCL.

On Wednesday, July 17, 2013, at 14:00 to 15:30 PM. The consultant's team met with Mrs. Balturn Wutosot, Branch Manager Big C Super Center PCL. Srinagarindra, Mr. Suriyun Ngankhamai, Loss Prevention Manager, at the meeting room, on the 2nd Floor, Big C Super Center PCL. Srinagarindra. The results of the discussions are summarized below and, as shown in **Photo 9.7.2-5.**

Photo 9.7.2-5 The atmosphere in the meeting room on July 17, 2013 during 14:00 to 15:30 PM. at the company's meeting room.

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project due to presently Srinagarindra Road has a traffic jam's problem. Because in the area, has only bus line 145 pass (Paknam - Mochit), and most people use private cars. This project will add a new option to the public and reduce the number of cars on Srinagarindra Road.
- Current areas of Big C Super Center PCL. Srinagarindra is 20 years rental contract and is improving all the store areas. In connection with the project, this could be a joint venture with MRTA. Represents of Big C Super Center PCL. Srinagarindra will present the Yellow Line Mass Transit Project to the Executive Committee for further consideration.

7) Samut Prakan Highway District, Department of Highways

Thursday, August 8, 2013, at 9:30 to 10:30 AM. The consultants met with Mr. Soontorn Kaewsrisai, Director of Samut Prakan Highway District at Paknam Meeting room, Samut Prakan Highway District, to present the information and development plan of the Yellow Line Mass Transit Project and feedback from Director of Samut Prakan Highway District, as shown in **Photo 9.7.2-6.** The suggestion and discussion results are summarized below.


Photo 9.7.2-6 The atmosphere in the meeting room on August 8, 2013 during 9:30 to 10:30 AM. at Pak Nam auditorium.

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project with the monorail system. Because it is a small system. Construction is more convenient and easier than other systems. And less affect on traffic that other train system.

- On the requested of using area of Samut Prakan Highway District for the construction of Depot and Park and Ride building. Samut Prakan Highway District agrees in principle. But have to coordinate with the Legal Department of Department of Highways and letter to the Director General of Department of Highways on request to use the land.

- If the operation of the Yellow Line Mass Transit project needs to expropriate the official residence building of Samut Prakan Highway District. Proposed to replace with new construction on the opposite side of the office and building the connection bridge also.

- The project route at the section of Srinagarindra Road and Thepharak Road was experiencing frequent flooding, so in designing the structure of the Yellow Line Mass Transit Project, it should take into account the impact of water drainage.

8) Executive of Ratchada Forest Project

On Tuesday, August 20, 2013, at 10:30 AM. to 12:00 PM. The consultant's team met with Mr. Wiroj Thungthong, CEO of Suan Lum Night Bazaar Ratchadaphisek at the meeting of construction areas of Ratchada Forest Project, which is location of Ratchada station to inform about the information and plans to develop the Yellow Line Mass Transit Project and receive comments from CEO of Suan Lum Night Bazaar Ratchadaphisek. The meeting photo as shown in **Photo 9.7.2-7.** The results are summarized as follows.


Photo 9.7.2-7 The atmosphere in the meeting room on Tuesday 20 August 2013, during 10:30 AM. -12:00 PM. at Project meeting room, Ratchada Forest Project.

Comments/Suggestions

- The route of Yellow Line Mass Transit Project passed the construction area of Ratchada forest Project. A concept idea that gives the Ratchada forest Project Building as a public building. By construct Ratchada station in the building as a joint venture with the private sector. But the problem is the construction phase which Ratchada Forest Project has a clear construction schedule which is to undertake construction projects to be completed under the lease contract. While the Yellow Line Mass Transit, Project has not set Cleary time.

- Concerning about Traffic jams may occur during the construction phase. Expected to have much impact during construction, especially Lat Phrao Road.

9) Deputy Executive Director of Office of Summary Litigation Region 2

On Tuesday, August 20, 2013, at 16:00 to 17:00 PM. The consultant's team met with Mr. Seri Satchapornthape, Deputy Executive Director of Office of Summary Litigation Region 2, land lord of the market near Samrong station at the prosecuting office Northern District Court room 2, 3rd floors, Prosecutor building, Office of Public Prosecution. To inform about information and plans to develop the Yellow Line Mass Transit Project and hearing from the Deputy Executive Director of Office of Summary Litigation Region 2. The meeting pictures as shown in **Photo 9.7.2-8.** The results are summarized below.


Photo 9.7.2-8 The atmosphere in meeting room on Tuesday 20, August 2013 during 16:00-17:00 PM. at the Attorney General Building

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project with the monorail system. Because It is a small system. Construction is more convenient and easier than other systems. And less affect on traffic than another train system.

- Agreed with the location of entrance of Samrong station of the Yellow Line Mass Transit Project which located in the empty space and old Bus Line 2 terminal at Thepharak Road. Because space is not utilized. And reduce the expropriation impact on the people, housing, and shops in Samrong market.

- At Thepharak Intersection, currently is the location of Samrong station of The Green Line Mass Transit Project and already expropriated area around Thepharak Junction. In the design of Samrong station of the Yellow Line Mass Transit Project, consultants should coordinate with an engineer of the Green Line Mass Transit Project. To join the design of entrance which minimizes the impacts of land expropriation.

10) Office of Archaeology, The Fine Arts Department

On Monday, September 2, 2013, at 10:00 to 11:00 AM. The consultant's team met with officers of Office of Archaeology, The Fine Arts Department to clarify the preliminary information details at the 3rd floor meeting room, Office of Archaeology. The results of the discussions are summarized below.

Comments/Suggestings

- Currently, Director-General of Fine Arts Department has appointed an Archaeological Conservation working group to provide feedbacks on the project or Skytrain in Bangkok. Both the Yellow Line and Orange Line Mass Transit Project.

- Details of the project route. To determine the preliminary archaeological building. According to the database of the Fine Arts Department at present.

- The advantages - disadvantages of Monorail Train System.

- How are the noise and vibration of Monorail Train?

- Informed the preliminary project information and will be present to the Committee on the Conservation of Historic Places in Bangkok to consider.

Clarified of the consultants

- Consultants were informed about the Committee on the Conservation of Historic Places in Bangkok, The Fine Arts Department. The consultant will report to MRTA. In the next working group meeting, consultants will present a project details for the working group's consideration.

- The consultant has provided a map showing the project route and data file to the staff Office of Archaeology, Fine Arts Department to investigate archaeological sites along the project route.

- The advantages of Monorail Train system is the airy structure and faster construction Heavy Rail Train. Less noise because using tires in the operation. Turn in a radius smaller than Heavy

Rail Train. Although the former Monorail Train has less capacity of passengers than Heavy Rail Train, but currently the Monorail Train capacity is almost as the Heavy Rail Train, which can accommodate passengers up to 30,000 - 40,000 people/hour/direction

11) Director of Prawet District Office

On Wednesday, September 18, 2013, at 09:00 to 10:00 AM. The consultant's team met with Mrs. Ajchara Haosombat, Director of Prawet District Office at the meeting room, 2nd floor, Prawet District Office to clarify information and development plans of the Yellow Line Mass Transit Project. And receive the feedbacks from the Director of Prawet District Office. The meeting photo as shown in **Photo 9.7.2-9**. The meetings results are summarized below.


Photo 9.7.2-9 The atmosphere on Wednesday 18, September 2013 during 09:00-10:00 AM. at the 2nd floor meeting room Prawet district.

Comments/Suggestions

- Agree on the Yellow Line Mass Transit Project with the monorail system. Because the system is small. Construction is more convenient and easier than other systems. And less traffic affect than the construction of another system.

- Proposed to relocate the Si Udom station to be in the area of Udomsuk intersection. And should design the entrance - exit on both sidewalks to reduce the land expropriation effects for the construction of the Yellow Line Mass Transit Project.

- During the project construction period, should have controlling measures on construction materials and equipment transportation. Have to the map of traffic network and indicate the route and transportation schedule in accordance with the relevant laws or ordinances. And avoid materials and equipment transporting in a rush-hour.

- In preparation of construction area, If need to obstruct the public or community route. Must coordinate with the responsible organization. And to prepare a proper diversion. The clear sign must be displayed to pedestrians approximately one month prior to implementation.

12) Prawet Community Board

On Thursday, September 19, 2013, at 14:00 to 15:00 PM. the constultant's team inserted agenda of Prawet Community Board, September monthly meeting, at 7th Floor Prawet

District Office to clarify information and publicity the development plan on the Yellow Line Mass Transit Project and receives the Community leader's feedback. The meeting photo, as shown in **Photo 9.7.2-10**. The results of the discussions are summarized below.


Photo 9.7.2-10 The atmosphere in the meeting room on Thursday 19, September 2013 during 14:00-15:00 PM. at 7th floor meeting room, Prawet district.

Comments/Suggestions

- When will the construction begin and completed?

Clarified of Consultants

- According to the plans, the construction will begin in late 2014 or early 2015 and operates within 2019.

13) Mayor of Samrong Nua Municipality

On Friday, September 20, 2013, at 10:00 to 11:00 AM. The consultant's team met with Mr. Luakrit Phetbodee, Mayor of Samrong Nua Municipality at the 9th floor meeting of Sumrong Nua Municipality to provide information and development plans of the Yellow Line Mass Transit Project. And receive comments from Mayor of Samrong Nua Municipality. The meeting pictures, as shown in **Photo 9.7.2-11**. The results of the discussions are summarized as follows:


Photo 9.7.2-11 The atmosphere in the meeting room on Friday 20, September 2013, during 10:00-11:00 AM. at 9th floor meeting room, Tambon Sam Rong Nua Municipality Office.

Comments/Suggestions

- In preparation of construction area, If need to obstruct the public or community route. Must coordinate with the responsible organization. And to prepare a proper diversion. The clear sign must be displayed to pedestrians approximately 3 months prior to implementation.

- There should be a temporary drainage system measure, to control water drainage from the project construction area, will not cause an affect on the area of Thepharak Road. Currently, Thepharak Road experiencing frequent flooding.

- Proposed to relocate the Si Dan station to Wat Dansamrong junction (Soi Sukhumvit 113) to accommodate the public traveling in Bangphli Industrial Estate and Sukhumvit Road.

- Extension of the Yellow Line Mass Transit Project should consider the route to connect with Bang Phli Industrial Estate, Wat Lung Pho Tao and King Kaew Road.

14) Director of Wang Thonglang District

On Friday, September 20, 2013, at 09:00 to 11:00 AM. The consultant's team met with Ms. Thanita Phaewanich, Director of Wang Thonglang District Office, at the meeting room of Wang Thonglang District Office for clarification information and development plan of the the Yellow Line Mass Transit Project. And receive feedbacks from Director of Wang Thonglang District Office. The meeting photo, as shown in **Photo 9.7.2-12.** The meeting results are summarized as follows.

Photo 9.7.2-12 The atmosphere in the meeting room on Friday 20 September 2013, during 09:00-10:00 AM. at Khet Wang Tong Lang's Auditorium.

Comments/Suggestions

- There are concerns during the project construction period, on the water supply system during the dismantling of the water supply pipes, which will suffer the people in Lat Phrao Road. And should have a good traffic management to alleviate traffic congestion during construction.

- During construction, there will be traffic jams. Should have a good traffic management to alleviate traffic congestion, which normally very awkward.

- What is the passenger capacity of each cabinet? And how many passengers in one train?

- How frequency of each train?

- Please take in to the consideration of the safety standard of Monorail System. Due to in our country, the safety comes last.

- Where in the part of 2 billion baht is the construction budget of the Yellow Line Mass Transit Project?

- Utility system relocation will take one and a half to two years when the project will begin and open?

- How much for the fare of the Yellow Line Train?

- In terms of noise and vibration, during the operation of a Yellow Line train, how will it affect to people.

Clarified of consultants

- In the area of traffic island of Lat Phrao Road, has a main water pipe measuring 1500 mm., service to the people in the area. As the policies of the Metropolitan Waterworks Authority (Thailand) would not consent to close the water supply, so it must use technology to cut converging pipes without stopping to supply water. This could be a pillar straddled the water pipe then set up a pole of the Yellow Line train. It is under designing of the engineering. But it must not affect the water supply of MWA.

- To solve the traffic problems, the solution has been prepared. When the actual construction, it must be coordinated with the responsible agencies in the areas such as police, district offices in the joint solution. Moreover, the construction will be spotty, and most likely it will not be implemented in time to affect the public.

- Passengers accommodation about 30,000 - 40,000 passenger/hour/direction. In one train can accommodate 700 passengers and about above 100 passengers in a cabinet. Besides, in a single train have 6 passenger cabinets.

- The minimum frequency of the Yellow Line Train is about 2 minutes, mean that during rush hour will be a train service every two minutes, which can transport as many passengers. When the transportation is convenient many people will turn to the Yellow Line train, which solve the traffic problem.

- The Monorail Train system took first place in Germany in 1903, later developed to be Straddle Type which first in Japan, 1960. And the Yellow Line train is the Straddle Type Monorail Train system which never had a fatal accident. In the safety standards, MRTA is paying the important in the operation.

- In two trillion baht budget under consideration in the House of Representatives now. The rail mass transit system will cost 80% of the total budget. The construction of the Yellow Line Mass Transit Project (Lat Phrao – Samrong section) is cost about 50,000 million baht.

- This Yellow Line Mass Transit Project Construction is expected to begin in early 2015 and parallel work with the issue the Expropriation Royal Decree, relocation of utilities. The construction is expected to be completed and open by 2019, as the government set plan.

- Fares are now considering the alternatives for a breakeven point. But absolutely not cost more than the BTS service. Originally OTP has studied 20 baht flat fare, but due to the current economic a lot of changes will need to carefully consider it again, which is expected to be at 20 baht.

- In terms of noise level, it will not exceed the legal limit. The Monorail Train system is the tires running on concrete beam. So it does not sound like the Heavy Rail Train system, which a steel wheel runs steel rail, which causes the friction noise. In addition, the vibration is not affected because it does run on the beam. No vibrate to the nearby area.

15) Head of Public Works Subdivision, Bang Na District Office

On Monday, October 7th, 2013 at 10:00 to 11:30 AM. The consultant's team met with Mr. Kittisak Autsakan, Public Works Engineer, Practitioner Level, and public works officials, Police Captain Yutha Yanothai, Public Works Architecture, Experience Level (Acting Head of Public Works Subdivision), Bang Na District Office at the 4th floor meeting room, Bang Na District Office to inform project information and development plan of the Yellow Line Mass Transit Project and receive the feedbacks from Line. The photo of the meeting showed in **Photo 9.7.2-13**. The meetings results are summarized below.

Photo 9.7.2-13 The atmosphere in the meeting room on Monday 7 th October 2013, during 10:00-11:30 AM. at the 4 th floor meeting room Bangna District office.

Comments/Suggestions

- Agree on The Yellow Line Mass Transit Project that uses the monorail system. The system are smaller, easier more convenient construction and have than other systems. About the train, using tires will cause less noise impact.

- Proposed design entrance – exit of the stations to be inside of each sidewalk or 15 meters SET BACK to minimize the expropriation impact on people in the area of Si La Salle station and Si Bearing station. Offer the relocation of Si Dan station to Wat Dan Samrong junction area (Sukhumvit 113) to accommodate the public traveling in Bangphli Industrial Estate and Sukhumvit road.

- In preparation of construction area, If need to obstruct the public or community route. Must coordinate with the responsible organization. And to prepare a proper diversion. The clear sign must be displayed to pedestrians prior the implementation.

- Should design an Emergency Walkway to evacuate passengers quickly enough in an emergency.

16) Director of Lat Phrao Hospital

On Friday, October 18, 2013, at 14:00 to 15:30 PM. The consultant's team meeting with Air Vice Marshal Doctor. Thanakrit Limrat, Director of Lat Phrao Hospital at 5th Floor meeting, Lat Phrao Hospital. to clarify project information and development plans of The Yellow Line Mass Transit Project and receive comments from Line. The meeting pictures showed in **Photo 9.7.2-14**

Photo 9.7.2-14 The atmosphere in the meeting room on Friday 18 th October 2013, During 14:00-15:30 PM. at the 5 th floor Audittitorium, Lat Phrao Hospital.

Comments/Suggestions

- The entrance – exit of Mahatthai station (Wang Thonglang) located in front of the Lat Phrao Hospital. That designs will close the entrance – exit of building 2, which is X-ray room Building of Lat Phrao Hospital. Proposed to Avoid the area in front of the Hospital, by move the entrance – exit to be in front of Techacharas Honda Automobile Co., Ltd., which is an open area. No structural obstacles which may be more appropriate.

- During the construction of the project, should have an environmental mitigation measures such as noise, vibration and air. And the transportation of materials and equipments should be in accordance with the relevant laws or ordinances. To minimize the impact on people who use the services of Lat Phrao Hospital.

- Request for station plan, Mahatthai station (Wang Thonglang), located in front of the Lat Phrao Hospital. To be presented to the executive of Lat Phrao Hospital to consider the implemented concept for benefit sharing with MRTA.

17) Manager of Bangkok Bank, Lat Phrao 44 Branch

On Monday, October 21, 2013, at 14:30 to 16:00 PM. The consultant's team met Ms. Juthaporn Tankaew, Manager of Bangkok Bank, Lat Phrao 44 Branch, at the meeting room of Bangkok Bank, Lat Phrao 44 Branch to clarify project information and develop a plan of The Yellow Line Mass Transit Project and receive comments from the Manager of Bangkok Bank, Lat Phrao 44 Branch. The meeting photo showed in **Photo 9.7.2-15**, meetings results are summarized below.

Photo 9.7.2-15 The atmosphere in the meeting room on Monday 21, October 2013 during 14:30-16:00 PM. at the auditorium, Bangkok Bank, Lad Praow 44 Branch

Comments/Suggestions

- The entrance – exit of Phawana station, located in the area of Bangkok Bank, Lat Phrao 44 Branch, causing relocated of Bangkok Bank, Lat Phrao 44 Branch, which will affect local customers and the bank also have safes.

- Bank request for a plan of entrance – exit of Phawana station in the area of Bangkok Bank, Soi Lat Phrao 44. To be presented to the executive of the Bank to consider the implemented concept for benefit sharing with MRTA.

- Proposed to be expropriated some of the banks areas that are required to make entrance – exit. And pay the compensation for land expropriation and the missing building. (No need to pay for building modifications).

- Proposed the expropriation of land, including banks buildings, then the bank will lease MRTA's to operate in the future.

- Proposed the bank to allow MRTA to used land, and MRTA will sign MOU and building entrance – exit.

- Propose to build entrance – exit into the bank so that customers can use the link into the bank directly.

18) Managing Director of AEON (Thailand) Co.,Ltd.

On Wednesday, November 6, 2013, at 14:00 to 15:30 PM. The consultant's team met with Mr. Somsak Sopsathian, Managing Director of AEON (Thailand) Co.,Ltd. to give details of information and development plans of The Yellow Line Mass Transit Project and receive comments from Managing Director of AEON (Thailand) Co.,Ltd., as shown in **Photo 9.7.2 – 16**. The results of the meetings have concluded below.

Photo 9.7.2 – 16 The atmosphere in the meeting room on Wednesday November 6, 2013 during 14:00-15:00 at 2 nd Floor meeting room, Max Value Pattanakarn

Comments/Suggestions

- AEON (Thailand) Co.,Ltd. has agreed with The Yellow Line Mass Transit Project on the development of Phatthanakan station. The development of Maxvalue Phatthanakan parking lot to be ascent – descent of the station and Park and Ride Building. And willing to co-development with MRTA.

- Currently, an area of AEON (Thailand) Co.,Ltd. is a lease with a contract for about 15 years and AEON has the policy to develop both supermarket and shopping mall. In a related project, this could be developed in collaboration with MRTA. Then the AEON (Thailand) Co.,Ltd. will present the Yellow Lines Mass Transit Project to the board of directors of AEON (Japan) Co.,Ltd. for consideration.

- Proposed to re-align the red line of the construction of entrance – exit of the station at the area of Maxvalue Phatthanakan to give an entrance – exit to McDonald's Max Value branch.

9.7.3 First focus group discussion

First focus group discussion, the appropriately detailed study review, design and preparation of biding documents of The Yellow Line Mass Transit Project (Lat Phrao - Samrong section) was conducted during 21 - 22 September 2013, as shown in **Photo 9.7.3-1** to **Photo 9.7.3-4**. Which have the objectives to present the information on the development projects, project model and modifying the system or another model of the projects? Receive comments and suggestions on

the project and mass transit systems and concerns over the project impacts, including suggestions and prevention and mitigation measures to target groups. Take into account the results of the study in accordance with local requirements. The attendees registered a total of 337 people. The 1st Focus group discussion has divided the operations into 4 groups, covering the local administration in Bangkok include Chatuchak, Huay Khawng, Wang Thonglang, Bangkapi, Suan Luang, Prawet and Bang Na and Muang Samut Prakan District, Samut Prakan Province.

- (1) Group 1: Target areas covering Bang Na and Muang Samut Prakan District Township include Si Iam Station, Si Lasal Station, Si Bearing Station, Si Dan Station, Si Thepha Station, Thipphawan Station and Samrong station.

- (2) Group 2: Target areas covered Suan Luang and Prawet Township consists of Si Udom Station, Suan Luang Ro 9 Station Srinagarindra 38 Station Si Nut Station Klong Kalantan Station and Phatthanakan Station.

- (3) Group 3: Target areas covered Bangkapi District included Si Kritha Station, Lam Sali Junction Station, Bang kapi station, and Lat Phrao 101 Station.

- (4) Group 4: Target areas covered Chatuchak, Huay Khawng, and Wang Thonglang Township include Ratchada Station, Phawana Station, Chok chai 4 station, Lat Phrao 71 Station, Lat Phrao 83 Station and Mahat thai Station.

The 1st Focus group discussion action plan was divided into 4 groups by groups and target areas with details of the discussion planned below.

The name list of Target groups invited to attend the meeting is as **Appendix 9A**.

1) Discussion Objectives

(1) To present information about the development projects, the project model, and modified train system or various form of projects.

(2) To receive comments and suggestions on the project and train system, as well as ask questions about any concerns on the impact and prevention and mitigation measures from the development of the project of participants in the issues related to study and development project.

2) Groups and Target areas

In the 1st focus group discussion would like to inform the one who has been affected by the development of project about the details of the project properly. Also, receive the comments, suggestions, concerns, worries of those affected by the development of the projects and giving the participants an opportunity to exchange comments thoroughly and a variety of perspectives. Target groups were divided into 4 groups, consisting of.

(1) The public/entrepreneurs that expropriated land or who affected by the project which living nearby areas of station entrance – exit or location of the station.

(2) Community leader as Community Chairman, Community Committee along the project route, etc.

(3) Agencies affected by the development of projects, including government agencies/ hospitals / religious places / Educational Institute and so on.

(4) Government organizations involved in the project development include District Offices and Municipalities and so on.

This is to travel facilitation of attendees and does not affect the careers and businesses of attendees. In particular, the public, enterprises and commercial stores along the project route those affected. The implementation was divided into 4 groups as classified by administrative district and community location and the location of the station.

Group 1: Classified by administrative district, including Bang Na, Bangkok and Muang Samut Prakan District, Samut Prakarn Province

Classified by the station of 7 stations, including Samrong station, Thipphawan Station, Si Thepha Station, Si Dan Station, Si Bearing Station, Si Lasal Station and Si Iam Station.

Group 2: Classified by administrative district, including Suan Luang and Prawet, Bangkok.

Classified by the station of 6 stations, including Si Udom Station, Suan Luang Ro 9 Station, Srinagarindra 38 Station, Si Nut Station, Kalantan Station and Phatthanakan Station.

Group 3: Classified by administrative district, including Bangkapi, Bangkok.

Classified by the station of 4 stations, including Si Kritha Station, Lam Sali Junction Station, Bangkapi station and Lat Phrao 101 Station.

Group 4: Classified by administrative district, including Wang Thonglang, Huay Khawng, Chatuchak, Bangkok.

Classified by the station of 6 stations, including Mahatthai Station, Chalong Rat Station, Lat Phrao 71 Station, Lat Phrao 83 Station, Chok chai 4 station, Phawana Station and Ratchada Station.

3) Participants

First focus group discussion attended by 337 people, representing 95.73% of target groups invited to the discussion. Details are as follows.

Group 1: The number of people attending the meeting included 74 people.

- People in Muang Samut Prakan District, Samut Prakan Province 51 people
- People in Bang Na, Bangkok 7 people
- Educational Institute 1 people
- Government Organization 1 people
- Consultant 11 people

- RMTA 3 people

Group 2: The number of people attending the meeting included 80 people.

- People in Suan Luang District 32 people
- People in Prawet District 32 people
- Private company 2 people
- Consultant 11 people
- RMTA 3 people

Group 3: The number of people attending the meeting included 91 people.

- People in Bangkapi District 75 people
- Consultant 9 people
- RMTA 7 people

Group 4: The number of people attending the meeting included 92 people.

- People in Huai Khwang District 14 people
- People in Wang Thonglang District 54 people
- People in Chatuchak District 11 people
- Government Organiztion 1 people
- Consultant 7 people
- MRTA 5 people

Total attendees 337 people

For the name list of attendees of the 1st focus group discussion, as shown in **Appendix 9B.** The pictures of the 1st focus group discussion, as shown in **Photo 9.7.3-1 to 9.7.3-4.**

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.3-1 The atmosphere of the first focus group meeting (Group 1) on Saturday September 21 .2013, 3rd Floor, Bay Hotel Srinakarin.

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.3-2 The atmosphere of the first focus group meeting (group 2) on Saturday, September 21 . 2013 King Park Avenue Hotel.

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.3-3 The atmosphere of the first focus group meeting (Group 3) on Sunday September 22, 2013 2nd Floor Metro Point Bangkok Hotel

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.3-4 The atmosphere of the first focus group meeting (group 4) .
On Sunday, 22 September 2016 at the Conference Room , 2nd floor .
The Connections Cuisine Limited .

4) Conclusion of the 1st Focus Group Discussion

The implementation of the 1st Focus group discussion attendees participate in asking questions, provide comments and feedback and give suggestion in a questionnaire after the meeting. The details are as follows:

(1) Comments in the discussion

In the 1st Focus group discussion after the consultant has presented details of the project and study methodology. Provide an opportunity for those attending to ask questions/ provide comments and suggestions about the project, as shown in **Table 9.7.3-1.** The question issues, comments and suggestion about the project by the station, as shown in **Table 9.7.3-2.**

Table 9.7.3-1 Questions, comments and suggestions about the project

Questions / Comments / Suggestions	Clarification of Consultants
<u>Group 1</u> <u>Engineering</u> 1. How many meters of the spacing between the pillars of the Yellow Line Monorail Train? And how wide of the pillar?	1. The spacing of the pole about 29 meters and width of 1.80 meters. For the height of the pillar is based on local conditions, as the section that crosses the Chalong Rat Expressway, or lowering to pass under Buraphavithi Expressway. The height of the pole will be different.
2. Is the height of all poles equal? And in the area crossing Buraphavithi Expressway, at Bang Na, will it be elevated or underpasses?	2. The area of Buraphavithi Expressway at Bang Na, the yellow line train is on the second level. By passing Bangna - Trad Road, a ground level and the yellow line train pass under the Buraphavithi Expressway. So the height of the pole to the yellow line train is not the same height in the entries route.
<u>Public Participation</u> 1. Is this presented information on the project website? And is the position of the station exactly?	1. The location for the station was exact. But the ascent – descent location was not yet concluded. This may change. Consultants will be presented to MRTA for consideration. If you have been the consequences and do not agree, can provide comments because in this Focus group discussion is to ask for comments and suggestions on the development

Questions / Comments / Suggestions	Clarification of Consultants
<u>Other</u> 1. Thoughout Srinagarindra Road will have the poles of the yellow line train in the middle of the road every 29 meters long, this will obstruct the view of businesses, retail shops located on Srinagarindra road. How MRTA policy to help those affected? Proposed that business along the road that affected can use the pole for advertisement.	1. Srinagarindra Road is very wide and 1.80 meters wide pole spacing of 29 meters, is expected to have no effect on visibility. However the proposal to use the pole for advertisement of business along the roadside and affected, consultants will propose to MRTA for further consideration.
2. What is the travelling cost for the Yellow Line Train?	2. Now is considering the cost of the yellow line train. There are several concepts used as in the following. - Separate collection by stations distance. - Another is 20 baht flat fare as studed by OTP. - MRTA added a case study to a consultant to study focusing on the relationship of the passenger volume factor and the fare. It is expected that the fare will lower. The maximum price is 20 baht flat fare as the study of OTP.
<u>Group 2</u> <u>Engineering</u> 1. Position preference of stations ascent – descent of the Yellow Line Train should be the Set Back area of Bangkok to avoid a negative impact on the public along the route.	1. The consultant will inform MRTA to discuss with Bangkok again.
2. OTP have been conducted the hearing, but if there are those who disagree with the position of ascent – descent, can it be corrected.	2. The station location is determined and approved by MRTA. While the ascent – descent can also be adjusted. If you feel that the ascent – descent inappropriate or affect. It can also be modified to suit the public and impact to a minimum. Sending propose to MRTA or make comments on today meeting.
3. If there is an entrance-exit of the house or a residential building in the area of the pier of ascent – descent of the yellow line train. What to do?	3. In principle, the consideration of laing poles or pillars will not be in the way, but if necessary. The project will build the new way instead.

Questions / Comments / Suggestions	Clarification of Consultants
<u>Other</u> 1. If the area was expropriated for the project, but also the remaining land. Will the project expropriate the whole plot?	1. By law, if the remaining land could not use, the project have to expropriate the whole. But if the remaining land still can use and the land lord want to sell to MRTA, this can be discussed or propose to MRTA to consider to buy. Which MRTA tend to do so for ITF development.
2. In surveying the area for building ascent – descent. Consultants mostly asked to input from tenants. Owners of land or buildings do not know any stories and information about the project. While renters can not decide, request a consultant to inform landowners or building owner.	2. Consultant accepts to consider and improve the implementation for the better.
<u>Group 3</u> <u>Engineering</u> 1. Is the conclusion as Monorail Train system? Most people want a subway.	1. The construction of the Yellow Line Trian has been studied since 1997 for 4 times and this is the fourth times. From the study indicated that subway does not have more advantages than Skytrain. It must have ventilation system every 800 meters, so if we want to design to suit Lat Phrao Road for up to 200,000 people per day. Monorail Train system is the best choice. The government must choose the right choice and worth the investment. In the Skytrain system caused minimal impact would be Monorail.
2. Why is the project selected a Monorail train in spite of the OTP studies that Lat Phrao section will be subway system and will be skytrain at Lam Sali intersection?	2. MRTA select Yellow Line Train as Monorail system because they have studied many times. Best suited for Lat Phrao Road is Monorail system. MRTA commissioned a consultant to study on this.
3. How to lay the pillars for the construction of Monorail system in the middle of the road? Because the middle of Lat Pharo Road has large water pipes. Utility relocation will take one and a half years. What to do with the	3. The utilities that are needed to be dismantling, especially water pipelines which are necessary. MWA has taken measures to cut water pipes to the relocation with will not stop the water

Questions / Comments / Suggestions	Clarification of Consultants
suffered of Lat Phrao people?	supply. The current has the technology to cut the water pipes without stoping supply water. It does not affect the use of the water supply in the area.
4. Is the construction of the train take the elderly and disabled into account? Do you have any measures to support the aging society?	4. In supporting aging society and disabled, the measures was set for users of The Yellow Line Train to facilitate in all kind. Every station will have the Lift and Escalator at least one at each side on either side of the road. Depending on the area. This will help facilitate the elderly and the disabled.
Environment 1. Cutting down the road median tree for building Monorail Train System. Would like to replant to return the good environment back to Lat Phrao Raod.	1. The project has the idea to underground the electricity poles and planting trees to replace it. This issue was considered with MEA.
Group 4 **Engineering** 1. Why Monorail Train System, why not be the subway?	1. It has been studied for 3 times. This was the 4th and the reason is simply because Monorail train system is uniquely qualified. • Shorter construction period only spends 3 to 3.5 years to completed. • Monorail system can turn in a narrow band which suits to Lat Phrao Road. The streets are narrow • Monorail train system uses tries, cause no noise. • Less land expropriation and less impact to people. • Monorail train systems are more developed, can even add cabinets which can accommodate more passengers as well. • Safety system equal with subway or other skytrain systems.

Questions / Comments / Suggestions	Clarification of Consultants
2. Constitutional stated that to receive the comments of affected people. We met and agreed that people in Chok Chai 4 Saphan Song need the subway. Lat Phrao Road has large water pipes. Must take one-half years to move and how long construction will take. We support the train but want it to be a subway. The business area along the route has to close a lot due to the train. Why the Orange Line Train from Ramkhamhaeng can be subway then elevated at Sammakorn Village. Then be a Skytrain. We want prosperity, but it is not followed by a subsequent visual and noise pollution. Elegance on Lat Phrao Road will disappear if it is a Monorail Train System. Also, why the other line can be a subway and close to Lat Phrao Road, as well as The Orange Line etc.	2. Today is the Focus group discussion to point out the results of the study design, the position of the station and its entrance-exit of the yellow line train, what is the impact and who is affected and on hearing some comment and suggestion of attendees. The consultant will gather information and requests presented to MRTA for futher consideration. The meeting today is a process of public participation as required by the Constitution. Originally in the the first phase of the study, the yellow line train will be a subway. Later, MRTA conducted more study and modified 2 systems train which is Lat Phrao – Lam Sali section will be a subway and then elevated. Afterward, MRTA studied and modified again as a Monorail train for the entires route from Lat Phrao to Samrong. The reason is it is proper to Lat Phrao Road and construction is faster. The construction period of not more than 3 to 3.5 years, construction costs cheaper. The impact on land expropriated less than subway, which requires the expropriation area for ventilation chimneies along the route. Also in the construction of the train, MRTA is coordinated with the MEA. In order to remove the electric poles underground and use the pavement, the area planted the trees for Lat Phrao Road scenery. On the Orange Line is underground, because the resolution of the National Environmental Board defined the the construction of the train in the area Rattanakosin Island have to be subway only. It is the enforcement of the law. Therefore, it is necessary that the Orange Line much be underground. As well as other lines such as Blue Line, etc. which pass through the Rattanakosin Island area much only be a subway.

Questions / Comments / Suggestions	Clarification of Consultants
3. Is this the final layout of the station and clear of ascent – descent?	3. The location of the station and ascent – descent almost certain about 80% - 90%, but if disagree, you can give the comments. If it is reasonable and has a possibility it could be modifiable.
4. In the last meeting, has been proposed to set up a remedy fund for people who affected by the construction of the Yellow Line Train. Especially, the consequences of the occupation, want to know the progress.	4. In this regard, MRTA was not a failure to address the problems, it has been discussed. By the academic way, still do not know the severe consequences. How is it impact? How does that impact damage? Also in this study. We are preparing to impose remedial measures to prevent and mitigate the impact caused by the project. The form of the fund stil not concluded. From the study of consultants found the impact caused by the project in 2-3 issues but still can not determine the Social Cost of the impact and the impact must occur and people are affected. The people who are affected can propose but it must be proved to be a real impact and accuracy.
5. The consultant said that the Yellow Line Project is the last line 10. What does it means and when will resume operation actually?	5. The Yellow Line Project is the last line in the master plan of the construction of mass transit system by MRTA according to the government's urgent policies which will be open in 2019 or earlier.
6. How to relocate the large water pipe in the middle of Lat Phrao Road for the construction of the yellow line train?	6. There are many technologies to make modifications to water pipes such as Pipe Jacking, extension pipe to the same standards and the use of other technologies which MWA has determined that cutting off the pipe must not stop the water supply at all. Which this can be done using modern technology.
<u>Environmental</u> 1. In the environmental impact assessment, why not set up an air monitor in the area of each?	1. To monitor the air quality for environmental impact assessment will have to do in the sensitive areas to be a representative of the areas that include schools, hospitals,

Questions / Comments / Suggestions	Clarification of Consultants
	religious places, temples, mosques and churches of Christianity, as well as the large communities etc. And will be analyzed every hour and the monitors required power for the duration of 24 hours over a period of five days. If set up the monitoring station in the household area is not easy to monitor and using of electricity. In addition, the previous EIA reported have monitoring results, then monitoring at the same stations to compare the results to be used in an EIA.
2. About noise pollution in the area of Chok Chai 4 station. How many meters height of Chok Chai 4 station? Will it obstruct the scenery, sun light, and wind on the people in the area of Chok Chai 4 station? What is the mitigation measure?	2. The noise level will be less than BTS because it is the tires running on concrete beam. The noise level does not exceed the standard. There may be some vibration, but can not be felt. Because the Monorail runs on a beam that supports structure. In EIA, it will have preventive measures, if it exceeds the legal limit, must be installed a sound barrier. During the monitoring, using the monitoring tools and read the results clearly. The height of Chok Chai 4 station is 14 meters above an average sea level. As the set up the height of the station, we do not want more. Due to the consideration of escalators. The route structure is airy, not shading the light. Except for the station to have some opacity. If you are living in the station area and inconvenience to residents, it can negotiate a sale to MRTA or joint develop an ITF.

Table 9.7.3-2 Questions, comments and suggestions about the project by Station.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
<u>Group 1</u> Samrong station	1. How to link the intersection of Samrong station of the Yellow Line Mass Transit Project and the Green Line Mass Transit Project?	1. The end of the Yellow Line Mass Transit Project is located at Samrong station where the station is located at the Sukhumvit Road on Thepharak Road. But the route of the train will cross over the intersection into space through Wongwaiwit Factory. For use as a parking for the train to run on the first train in the morning. Also as the connetion point to Poochaosamingprai Road in the future. The connection of the Yellow Line Train and Green Line are linked by a Sky Walk.
	2. How high of the Samrong station? And how to connect with the Green Line Mass Transit Project?	2. Samrong station with a height of 21 meters, the connection of the Yellow Line Train with the Green Line Train is linked by a Sky Walk from Sukhumvit Road to Thepharak Raod.
	3. The running route of the yellow line trains to be parking and extended in the future. It is passing through the building of Wongwaiwit factory. This will be expropriated. Will it have a chance to adjust to not pass the factory?	3. The consultant will re-consider the request again. This point is a point of connection to the Thonburi side in the future.
Thipphawan Station	1. Will Thipphawan Station be located in front of Thipphawan village? Where is the area of ascent – descent?	1. Thipphawan station is located in front of the Thipphawan village. All entrance - exit will be in the wilderness area with no building. At the side of Thipphawan Village, the first entrance - exit is located on the empty space in fornt of the Soi to enter the village while the other entrance - exit is on the empty space before Chularat Hospital. The 3rd entrance - exit on the opposite side of the village is located on the empty space over Cho Cher Restaurant. The 4th

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Thipphawan Station (Cont'd)		ascent – descent is on the empty space opposite with Chularat Hospital before Soi Rongwet.
	2. Where is the entrance - exit at Chularat Hospital? Will it affect buildings nearby Chularat Hospital?	2. The entrance - exit at Chularat Hospital located at the empty space before Chularat Hospital and no impact on neighboring buildings of Chularat Hospital.
Si Thepha Station	1. Where is the location of Si Thepha station? What is the entrance - exit look like? And how the height of the station?	1. The position of Si Thepha station is on Thepharak Road between Soi Rawat 1 to Soi Ruamchit Pattana. Si Thepha station high 14 meters, wide approximately 20-22 meters, the station long about 110 meters. The entrance - exit of Soi Rawat 1, will be on the empth space next to the 7-11 convenience store which can develop into ITF (Inter-modal Transfer Facility). The opposite side is located at Natthaphon Car Accessories, which can develop into ITF. At the entrance - exit close to Soi Ruamchit Pattana is at the parking area next to the food booths. This area can be developed as ITF. At the opposite side is located in the housing area and can be developed into ITF as well.
Si Dan Station	1. From the pictures presented by a consultant of Si Dan station? Where is the entrance - exit with the red dotted lines? What are the red dotted lines in parallel means?	1. Si Dan station is located on Soi Si Dan 1 and Soi Si Dan 2 (opposite). At Si Dan station, the east ascent – descent of Srinagarindra Road is in an old pond, while the other side is on the old driving range close to the spirit house. For West of Srinagarindra Road, the entrance - exit is on the four floors building of around 3-4 rooms. On the other side of the West is close Soi Si Dan 1. This area has four floors building close to the wood shop, about four rooms. This area could be developed as ITF and also outside

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si Dan Station (Cont'd)		the set back area. The parallel red dotted lines are the line that shows the set back, as determined by Bangkok, which prohibits to any construction of permanent structures.
	2. At Si Dan Station, which commercial buildings are being expropriated?	2. Still can not be determined clearly and absolutely that which building would have to be used as an entrance - exit of Si Dan Station. Because will be information and suggestion of those affected to consider the suitability and present in the next 2nd Focus group discussion.
Si Bearing Station	1. From the image that consultants showed, the entrance - exit on the east of Srinagarindra Road is close to Sammirt Motor Ltd. and at the Esso pump, the building is constructed. It is affected a lot on both. Therefore, I propose to move Si Bearing Station away or modify proper entrance - exit on the east side Srinagarindra Road.	1. The position of Si Bearing Station located on Srinagarindra Road. Between Soi Si Dan 16 and Soi Si Dan 18. The ascent – descent on the east side of the Road is located on Soi Si Dan 16 near Bangkok Bank, where the building is located and can develop as an ITF. On the other side, the ascent is in the area of used can tents next to SONY shop and Sammitr motors shop. For West of Srinagarindra Road, the ascent – descent is located next to Soi Si Dan 11, a storage facility. On the other side, the ascent – descent is located before Soi Bearing, between Krung Thai Bank and Caltex gas station.
	2. Will the area of gas station expropriation? And how is the compensation?	2. May be some, due to the area to be used as entrance - exit of Si Bearing station is approximately 25 x 18 meters close to Krung Thai Bank at the front of Soi Bearing. It will be used as entrance - exit, which is subject to expropriation. The expropriation will follow the law, which will be an issue the Royal Decree

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si Bearing Station (Cont'd)		on expropriation or may be developed as the ITF which cooperates between the landowner and MRTA. In order to develop business together.
	3. The distance of the station, as stated in the presentation of the consultants is about 1 km. Therefore, Si Bearing station and Si Lasal station, a distance of about 600 meters, so it is not appropriate to build Si Bearing station. Then, proposed to cancle Si Bearing station will be better.	3. The distance of Si Bearing station and Si Lasal station is approximately 1,492 meters and this is station which has been studied by OTP. If people do not want, will be presented to MRTA for futher consideration.
Si La salle Station	1. What is the dimension (W x L x H) of Si La salle Station? Where is the spot of the 4 a entrance - exit?	1. The position of Si Lasalle Station is located on Srinagarindra Road before La Sal junction 50 meters, the length of the station about 110-120 meters, wide about 23 meters, covered the middle of Srinagarindra Road. The entrance - exit on the East of Srinagarindra Road is on an empty space close to used car tent. The other side is located along Soi Lasalle which is a parking area. For the west side of Srinagarindra Road, the entrance - exit of Si Lasal Station is located next to Soi Lasal, which is a used car tent and a triangular junction to Soi Lasalle. On the other side, the ascent – descent to be located on the building area near the Spirit House outside the set back area of Bangkok, which is a commercial building, can develop as ITF. The height of Si Lasal station is about 24.5 meters.
	2. The west of Srinagarindra Road, the entrance - exit is next to Soi Lasal at the row building, which is the Vet shop, right? And which	2. The location of entrance - exit is in the area of a commercial building from the bank to electric lamp shop by about 4-5 rooms to be expropriated.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si La salle Station (Cont'd)	commercial buildings would have to be expropriated?	
	3. Will the area of Fish's Head Hot Pot be expropriated? Why the stations of the yellow line train use so much space?	3. At the area of Fish's Head Hot Pot is currently no need for expropriation. If modified, it may be expropriated. Using a lot of spaces due to the station will the same size of the area, which a width of 22 meters and a length of about 110-150 meters depend on area conditions. But it looks like use much space, due to problems that cannot take the entrance - exit on the sidewalk. Because the regulation of ONEP that the area on the sidewalk, must not be any construction. For Sukhumvit road, it was built before the regulation. This project comes later. In addition, it is designed to facilitate the travel of passengers and can accommodate a lot of passenger numbers. The pedestrian area is less with the potential to impact on the sidewalk. It must be made more convenient with the pavement.
	4. The La Salle junction overpass there are traffic jams. Especially the exit in front of Makro would like to ask for 2 issues. 1) The construction of the pier will affect the traffic, especially during the u-turn under the overpass. 2) To have 2 Park & Ride Buildings will increase the number of the vehicle which affects to the traffic. Would like to give this matter as well.	4. For the traffic problems in the area of La Salle junction during the construction will be considered in details again. But during the operation of the Yellow Line Mass Transit Project, the pillar is in between of the traffic lanes of La Sal junction overpass. It will not affect traffic on the overpass at all. In term of Park & Ride will be discussed with the MRTA again.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si La salle Station (Cont'd)	5. What is the construction budget for the entrance - exit of Si Lasal Station on the East?	5. The budget for the construction is still under consideration. If the landowner of the entrance - exit area wishes to develop a joint ITF, could be negotiations with MRTA.
Si Iam Station	1. At Si Iam station concerned about traffic, due to the area in front of Wat Si Iam is a large Loop for u-turn of 3 routes, namely the route from Bang Na to Si Iam Temple and from Si Iam to Srinagarindra and the U-turn at Maple Hotel. During the construction of a train with the station and including a large Park & Ride Building will affect traffic greatly. In addition, how the vehicle comes from Bang Na – Trat to Park & Ride Building?	1. The consultant is considering the traffic system. The ramp may be made to go to Park & Ride Building. Besides, in the area of Si Iam station also is a big connection point which is a public car parking, such as those traveling from the East can be used as an access point to different places as of the vehicle to a parking spot as a bus stop, vans, motorcycle, taxis, etc.
	2. Several months ago has the public participation meeting about the Mass Transit project of Bangkok. How can it be linked to this project?	2. Bangkok has a Light Rail Train project, which is running on traffic island of Sukhumvit Road from Bang Na to Suvanabhumi Airport. At this point, is under the coordination with Bangkok to connect the Light Rail Train with the yellow line train at Si Iam station.
	3. The area of Si Iam station is very wide, where is the ascent – descent?	3. East of Srinagarindra Road, the entrance - exit will be at the Park & Ride area on both sides. On the West will be in front of both sides of Wat Si Iam. On the north is on the same side with the temple, while the southern is on the opposite side of the temple. (In front of Wat Si Iam a road barrier) opposite the used car tent.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si Iam Station (Cont.)	4. Would like to have one more station between Si Iam station and Lasal station because of the far distance and the journey from Bangna - Trad Road to the yellow line train much difficult, a lot of vehicles, seemed very much more dangerous.	4. This area already has the Bangkok Train project from Bang Na to Suvarnabhumi Airport and will have the connection to Si Iam Station which can be reached using the yellow line train easily.
Group 2 Si Udom Station	1. Will Si Udom station be at the showing location certainly?	1. Si Udom Station is located in the area from Sukhumvit Soi 58 to Udomsuk intersection. It will be slightly vertically from the tunnel of Bangkok, which is in the middle of the road to the east side of Srinagarindra Road. The entrance - exit on the east will be in the wilderness area with no building. On the West of Srinagarindra Road will be on an empty space next to Honda company and the other side is behind the spirit house next to Soi Srinagarindra 58, which is outside the set back area of Bangkok. The area on the east side, which is in the set back area of Bangkok, will all be expropriated.
Suan Luang Ro 9 Station	1. Where are the location of Suan Luang Ro 9 Station and the entrance - exit? Which areas are to be expropriated?	1. Suan Luang Ro 9 Station is located on Srinagarindra Road between Soi Srinagarindra 53 to yeak Srinagarindra 51 Road. The station will have 5 ascents – descents. The east side of Srinagarindra Road, one side of the ascent – descent is next to Soi Srinagarindra 53 outside the set back area of Bangkok. The other side is next to Soi Srinagarindra 51 at the pool. The entrance - exit on the other side is cross Srinagarindra 51 Road into the Car Boutique Building outside the set back area of Bangkok. These 3 areas can be developed as ITF. The West of Srinagarindra Road, one of

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Suan Luang Ro 9 Station (Cont.)		the entrance - exit is located on Seven-eleven convenience store while the other side is at an empty pace near World Car used car tent.
Srinagarindra 38 Station	1. Where is Srinagarindra 38 Station? What is the entrance - exit look like?	1. Srinagarindra 38 Station will be on Srinagarindra Road. The entrance - exit on the east of Srinagarindra Road is located in the area of Autocar building next to Soi Srinagarindra 45 while the other side is placed on the area of Maporn Used Car close to Soi Srinagarindra 43. The West of Srinagarindra Road will be at the back of goods sheds next ot Soi Srinagarindra 38, the other side will be in front of the Majestic home.
	2. In a document written that Srinagarindra 38 Station is a future station. Is it means that not construction right now? Please provide the reason for this additional station	2. This station is to be built on this project for sure. This is written as a station in the future, because in addition to the study of OTP. Also in Soi Srinagarindra 38 and the vicinity, there are people living in densely. Therefore, considers that should construct additional station to lighten the burden on the traveling of public.
Si Nut Station	1. Would like to know the location of the Si Nut station because of the image in Slide show it is located in the entrance - exit of Si Nut station. Please be clear on this matter and, is it possible, to adjust the entrance - exit?	1. Si Nut station is located on Srinagarindra Road before the intersection of Srinagarindra Road and Soi On Nut about 100 meters. The entrance - exit on the east of Srinagarindra Road, one side is at a gas station (Siam Gas), another side is the area of a four-storey commercial building 7-8 booths at exiting bus stop. The West of Srinagarindra Road, the entrance - exit one side is on an empty space rim Soi On Nut 60, which is the short cut to Sukhumvit 77 (outside the set back area of Bangkok), the other side is in the area of commercial building,

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Si Nut Station (Cont'd)		which this 4 points can be developed as ITF.
	2. How big is the size of Si Nut station? If Si Nut obscure the view of commercial buildings. Will it have compensation?	2. The size of the Si Nut station is not very big, about 20 meters wide, long 110 meters, high about 16 meters almost the fourth storey building. The pier is about 1.83 meters wide and will not shade the buildings. The design of the station is airy, not opaque.
	3. Is the ascent – descent of station will be outside of the Set back areas of Bangkok?	3. All of the entrance - exit of the Yellow Line Train will be outside of the Set Back area of Bangkok.
	4. What is the red dotted line of Si Nut Station in the Slide? And what is the area in the green dotted line?	4. The red dotted lines represent a Set back area of Bangkok, which means that in this area, Bangkok does not allow the land owner to construct any permanent structures. The area in the frame of green dotted lines means that MRTA used the area for the entrance - exit of the train station, which can be developed as an area to facilitate the train service users. The composition of the station, every station will have three parts: the station, the entrance - exit and facilitation areas, which MRTA wishes to develop cooperation with landowners or MRTA developed own commercial.
	5. What is the connection walk way which will be an ITF look like?	5. The connection will be a Sky walk which will not shade the scenic of the commercial building.
	6. The land underneath the entrance - exit still is the ownership of the original land owners.	6. Due to the location of the entrance - exit has been expropriated. Or sign a consent to joint develops ITF. MRTA would reserve the right not to allow landowners to develop. Because it's not easy to make any additional.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Kalantan Station (Cont.)	1. Where is the location of Kalantan Station? And what is the entrance - exit look like?	1. Kalantan Station is a new station, added from the study of OTP. The location of the station, located on Srinagarindra Road between Tanya Shopping Park and Klong Ban Ma. The entrance - exit on the east of Srinagarindra Road, one side is cross Klong Ban Ma to the empty space at Klong Kalantan, which is the subcanal of Klong Ban Ma outside the set back area of Bangkok. The other side is the area of Tanya Shopping Park, which can be joint develop the ITF. The West, the entrance - exit, one side is in the area between the wood shop and Suan Bua Restaurant. The other side is at the area rim Ban Ma Canal outside the Set back area of Bangkok. Originally, Bangkok will use this Station area for a horseshoe bridge U-Turn to a U-turn at Kalantan Canal. MRTA will develop all the area of entrance - exit of this staion for ITF.
Phatthanakan Station	1. Where is the location of Phatthanakan Station? And what is the entrance - exit look like?	1. Phatthanakan Station is located on Srinagarindra Road between Soi Srinagarindra 16 to Soi Srinagarindra 12, the entrance - exit on the east of Srinagarindra Road is located at the parking close to McDonald's, the other side is at the vacant area of the shed. The West, one side is located close to Soi Srinagarindra 12, which is the entrance to the construction office of Italian-Thai PCL. On the other side is located on an empty space which is the parking lot next to Srinagarindra 16 Road.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Phatthanakan Station (Cont'd)	2. Will McDonald's, parking lot, commercial building, and Swensen's shop are expropriations?	2. The area of McDonald's will not be expropriated. However, commercial buildings and Swensen's will be expropriated to make the entrance - exit of Phatthanakan Station, which can develop as ITF in all four points. In the development of ITF, the major objective is for the convenience of the passengers using the sevice of the yellow line train, non-commercial primarily. The meaning of ITF (Inter-modal Transfer Facility) is to serve the convenience for the passengers to connect with trains, such as a pick up and drop off spot. If asked what it will contain, it depends on each station to operate like Phatthanakan Station is having Park and Ride, so it has a parking lot for both private and public vehicles and so on.
	3. At the area of Phatthanakan intersection, BMA has a project to build a tunnel through Phatthanakan intersection. If BMA does it, will the station have to move down to an empty space close to PSI Co.,Ltd.?	3. This matter is currently under negotiations with BMA. Presently, the design construction of Phatthanakan Station will be in the middle of Srinagarindra Road, if BMA constructs the tunnel, we will be positioned at the station to either side. This is a concept to solve the problem of building a tunnel of BMA, which depends on the negotiations of the MRTA and BMA. It also can not be answered now.
	4. Originally OTP. has studied Phatthanakan Station is located next to the train rail. Why they move the station across the railroad tracks to the current position?	4. Consultants conducted a detailed review of the appropriateness of OTP's study and have the opinion that the position of Phatthanakan Station as demonstrates is more convenient than the original study. It can connect to the airport rail link more convenient and helpful, and then adjusted to the current position and MRTA was approved.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Phatthanakan Station (Cont'd)	5. How the Monorial connect to the Airport Rail Link?	5. The connection to the Airport Rail Link will be the Sky Walk, which is not currently designed.
	6. The entrance - exit on the east of Srinagarindra Road at the area of McDonald's in the old line state that pizza restaurants and Swensen, The area will be expropriated to build the entrance - exit. Can it move to the right side?	6. Consultants took into consideration and be discussed with the landowners. Since there is more appropriate than the original and is beneficial to all parties.
	7. In the case that landlord of an empty area near the entrance - exit in the green frame, which can be developed to be ITF. If develop to be the station of a motorcycle taxi. Will it count to be ITF in collaboration with MRTA?	7. MRTA welcome to the operator of the motorcycle service to be as close to the station, which can be done. But will it happen, have to discuss with MRTA again in the future.
	8. In case that I'm a tenant No. 2 (sublease) with Max Value Department Store. Will sublease get the compensation from MRTA?	8. The project will not pay compensation to the sublease. If the owner of the land specified in the contract that Max Value can be sublet. The lease will be compensated for business damages by law. However, most will be able to negotiate a deal. Depend on the dialogue between the business and MRTA.
Group 3 Si Kritha Station	1. Hass the position of Si Kritha station clear? Has the fouth of entrance - exit clear? What is the size of the station?	1. Si Kritha station located on Srinagarindra Road before interchange. The entrance - exit on the east of Srinagarindra Road, one side is at the area adjacent to Nich Car Co.,Ltd. outside the set back of BMA and the entrance - exit on the other side will be in the areas of K Quartz building, which is the Car Care & Restaurant. On the west of Srinagarindra Road, one side is locating at the public

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Group 3 Si Kritha Station (Cont'd)		park. One side will be in the wilderness area before the curve to the entrance to the park. The area in four points of the entrance - exit can develop the ITF. Si Krithastation has dimensions of 22 meters wide, about 110 meters long and 16 meters high.
	2. At the intersection, why MRTA does not request the area of BMA (already expropriated to build an interchange) to be the location of Si Krithastation, without the expropriation of public spaces. Because that area will be a public park and across the street is a row building where cars crash frequently.	2. Thank you for the information about the land which BMA expropriated but not yet implemented the construction. For Si Krithastation this clarity station quite evident about 80% - 90%, but we will take the information and propose to inform MRTA for considering on the coordination with BMA.
	3. In the area of the entrance - exit to be expropriated. How MRTA provides the compensation?	3. In land expropriation, MRTA has the committee to valuate the price of land, building, and property that can not be relocated. Including the opportunity cost of doing business. Initially, It can be said that the compensation will be based on the market price, not the valuation price of the Department of Land Develpment.
Lam Sali Station	1. Have the location of Lam Sali station and the entrance - exit clear? Which commercial building would be expropriated?	1. Lam Sali station is located in the middle of Srinagarindra Road near Lam Sali intersection. The entrance - exit on the eastern side of Srinagarindra Road is in the area of the commercial building adjacent to C.J. Shutter Co.,Ltd., the other side, is at Lam Sali intersection with Ramkhamhaeng Road. Next to Soi Ramkhamhaeng 56, which is adjacent to Krung Thai Bank would have to be expropriated for use as the entrance - exit. The West of Srinagarindra Road, one side of the entrance - exit is next

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Lam Sali Station (Cont'd)		to Washer and screw shop outside the Set back of BMA, which is a four-storey commercial building on Srinagarindra Road. The other side of the entrance - exit is at the garden area is turning curve into Ramkhamhaeng Road.
	2. Will the four storeys commercial building be expropriated? If yes how many room?	2. The row buildings in the area of Lam Sali intersection in the Yellow Line Mass Transit Project will not be expropriated. It may be expropriated in the Orange Line.
	3. Is the station at Lam Sali Station will roof for the entires station?	3. Lam Sali station is roofed thoughtout the station. But it is not opaque, airy, the light can pass through the below area.
	4. What is the dimension of the entrance - exit of Lam Sali station?	4. The entrance - exit of Lam Sali Junction station is about 18 x 25 meters and has space for lateral of 1-3 meters fot the safe distance in the construction.
Bang Kapi Station	1. ITF is solved the train service using. It does not solve the traffic problem.	1. In fact, the ITF does not solve traffic problems directly. But to reduce traffic congestion. By the train users come to the train station, it eases to park the car and then take the train. Or travel by train and then connected to other systems, such as traveling by van, motorcycle taxi. The boat taxi service along the canals. This helps lessen Lat Phrao Road traffic. Also at the ITF, it is an area for the passenger in other services, such as convenience stores, restaurants, and other services, which facilitate to the train service users.
	2. How are the location of the station and the entrance - exit? What is the impact to travelers?	2. Bangkapi station, the station will be on Lat Phrao Road. The entrance - exit to the north is in the area of the abandoned building before Soi Lat

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Bang Kapi Station (Cont'd)		Phrao 115 and the other side is between Soi Lat Phrao 113 and Klong Yai Phean. The opposite side of the South of Lat Phrao Road where the entrance - exit is in the courtyard of Makro, on the other side is between Soi Ladprao 142 and Tawanna City 2 Department store. So all 4 of the entrance - exit had no effect on the road travellers because BMA has prohibited construction on the sidewalk.
	3. The length of the station about 100-150 meters, is it enough for the passengers? and How many cabinets in a train?	3. It can accommodate the passengers certainly. This Monorail Train System, Yellow Line (Lat Phrao – Samrong section) in one train will be six cabinets, in one cabinet can accommodate over 100 passengers, which in one train can accommodate about 700 people, The frequency of each train during rush hour is 2 minutes. Then in each station can certainly accommodate the passengers.
	4. If the train through that area. Means that the area will be red in the Town Planning. Later on, Lat Phrao Road would become a construction area of high-rise buildings and condominium.	4. In terms of Town Planning, that will turn red. It is only the opinion of the Department of City Planning. In fact, the reason of the area is like to un lock to be able to proceed with the construction of buildings along the Train route only.
	5. In front of Santi Niwet Village, there is a lot of green space. Will the station straddle the entrance to the village? And how to develop the ITF?	5. The location of Bangkapi station is located in front of the entrance of Santi Niwet Village, so the development of ITF is a high possibility, depending on the consederation of MRTA and landowners. The land use in the form of ITF will be the beginning of the development use of land suitable for train used. This creates convenience and utility to all parties. MRTA brought the land management system into the ascent – descent and station area for maximum

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Bang Kapi station (Cont'd)		benefit. It leads us to develop ITF (Inter-modal Transfer Facility) called commercial development plan), which will further develop the Transit Orientation Development: TOD.
	6. Is it been summarized that the pole will be constructing on which side of Bangkapi intersection overpass?	6. Yellow Line pillar at the area of Bangkapi intersection Overpass, already discussed with BMA. The pole will be in the middle of the bridge. The consultant is designed the bridge to separated with the space in the middle for the poles. BMTA will be responsible for all construction budgets. Bangkapi intersection Overpass is the first bridge that BMA built. It was a long time ago, time to be improved. Currently under consideration by MRTA. If this patterns it will be no expropriation impact.
	7. Will the transportation of passengers with Monorail Train system reduce pollution from cars? Because it can accommodate 200,000 passengers per day, will it reduce traffic congestion?	7. A study by a consultant found that the yellow line train will assist the public travel along the yellow line train. It is anticipated that there will be more users, due to cheap fare, many connection points to the other systems and can be connected to the main point to travel to the East, Northeast and North (at Mochit) by user subway at Ratchada. It will help in public transportation. As a result, traffic on Lat Phro Road decreases and result to a reduction of pollution due to less used cars.
Lat Phrao 101 Station	1. The Lat Phrao 101 Station has to park on both sides of the ascent – descent in the station area because there are a lot of people in this area. Would like to have a parking for 2 row bus, motorcycle taxi with tidy.	1. The consultant will be considering in the study.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Lat Phrao 101 Station (Cont'd)	2. Will the area of the entrance - exit of Lat Phrao 101 Station be expropriated? Will the area in front of Soi 101/1 be expropriated? Where is the station location? And what is the the entrance - exit look like?	2. The station of Lat Phrao 101 Station will be on Lat Phrao Road between Soi Lat Phrao Soi 101/1 to 101. The ascent – descent in the north Is located at the entrance of Soi Lat Phrao 101/1 at the aluminum store. The other side is located at the entrance of Soi Lat Phrao 101 at a pawnshop. Before the entrance to Lat Phrao bazaar KM. 8 Nakornthai. At the south, it is located at the entrance of Soi Lat Phrao 128/3, the other side is at the entrance of Soi Lat Phrao 128/1.
	3. Can the location of Lat Phrao 101 Station be moved?	3. Today we are coming to hear the public comments. Would like the public to propose that the position or the entrance - exit that presented. Are the people objected? Or if propose to move where it should be. Let proposed, so the consultants will be offered to MRTA for consideration.
	4. Is the row building in front of the police fort is expropriated only the front row?	4. The consultants try to design to use only the front building area.
	5. The commercial building at the entrance of Soi Lat Phrao 101/1 was expropriated for construction the ascent – descent of The Yellow Line Train station. How MRTA compensate the expropriation of land and the lost of business opportunities?	5. Expropriation of land, MRTA will set up a working group to consider the cost of land and hire an appraiser to assess the land price. By using the land valuation price of the government, market price and taxed, by the actual selling price into consideration. Consider including the loss of business opportunity. Which is approximately 30% of the land and buildings will be adapted to valuation. Before pain compensation for expropriated land. If the owner of the expropriated land was not satisfied, can appeal and if the appeal was not enough, can be filed with the Court and other judicial decisions are final. There is

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Lat Phrao 101 Station (Cont'd)		also the option to develop the ITF together with MRTA. Depending on the owner's land negotiations with MRTA.
	6. At the bazaar In front of the entrance of Soi Lat Phrao 101, how many room will be expropriated and what to do from now on?	6. All will be expropriated and no need to do anything, spend a normal life until The Expropriation Royal Decree is issued, which will take about one year, from now on. If want to develop ITF or the business together with MRTA, can contact with MRTA from now onwards.
	7. For those trading at the entrance of Soi Lat Phrao 101 at the pedestrian area next to the building was expropriated during the 17:00 am onwards. When the construction begins still can continue the business.	7. This would also be the same. It is sold as sidewalks. Depending on BMA this is not the power of MRTA.
	8. For those who have building pass after the aluminum store at the entrance of Soi Lat Phrao 101/1 for about 4 rooms. Will it be expropriated?	8. It also can not assume for 100% was it expropriated? Because the entrance - exit is subject to change. It is not clear on this matter, expected that in next focus group discussion will get the exact results.
	9. Opposite of the entrance of Soi Lat Phrao 101, a green triangle here. Is this a point to expropriate?	9. Yes, the area of an old building will be expropriated to used as the ascent – descent of Lat Phrao 101 station.
	10. For entrepreneurs who are selling food in the market. There are a lot of fresh food Food entrepreneurs must be responsible for more than 500 persons per day and a morning market runs from 3:00 am. to 21:00 pm. daily. When the construction of the Yellow Line Train begins will affect a lot to businesses. How MRTA helps	10. The impact of development projects from the construction of the business and trade in the bazaar. It is dust. The ease of getting into the market. The subjects an EIA study has set the prevention and mitigation measures already as Spraing water to reduce dust during construction and the construction will be at a point when the Lat Phrao 101 is finished, it will move to another point. This point would be in a normal state as usual. The compensation

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Lat Phrao Station (Cont'd)	compensate?	to entrepreneurs during construction will propose to MRTA. To consider seeking help.
	11. In the construction of the rail will take up a traffic lane of Lat Phro Road, how many lanes and how to manage the traffic?	11. Because Lat Phrao does not have the same traffic lanes the entries road, some section with the traffic the island. Some no island or a small island. The construction of certain conditions with heavy traffic. May have to switch lanes. Or the path of the vehicle. This will be discussed with the relevant authorities, such as local traffic policeman, Office of Transport and Traffic Policy and Planning, District Office in the construction area, and to consider the traffic impact is minimal.
<u>Group 4</u> Mahat Thai Station	1. Where is Mahat Thai station located? And how is the entrance - exit look like?	1. Mahat Thai station located between the Lat Phrao hospital at the entrance of Soi Lat Phrao 95. The station's entrance - exit on the north of Lat Phrao Road, one side is located in front of Lat Phrao Hospital, the other side is at the parking lot of Foodland. The south is located on an empty area as parking spaces of Volvo Service Center; another side will locate between Mitsubishi Service Center and Cockpit shop, which close to the shop. It is an empty area, can be developed ITF. The location of a station and the rarely affects people.
Lat Phrao 83 Station	1. Where is the location of Lat Phrao 83 station? And is the entrance - exit clear?	1. Lat Phrao 83 station is located on Lat Phrao Road between Soi Lat Phrao 102 to Soi Lat Phrao 98/1. The entrance - exit on the north of Lat Phrao Road, one side is in front of Apple Network (Thailand) Co., Ltd. , another side is located in the parking lot of restaurant at the entrance of Soi Ladprao 83. The entrance - exit on the south of Lat

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Lat Phrao 83 Station (Cont'd)		Phrao Road, one side is located in the building next to Krung Sri Ayuttaya bank. Another side will be in the old building at the entrance of Soi Lat Phrao 98/1. These 4 areas can be developed as ITF together, depending on the negotiations with MRTA. For the station's location is certainlly.
Lat Phrao 71 Station	1. The site of Lat Phrao 71 Station, which originally was Lat Phrao 65 Station, then moved to Lat Phrao 71 Station is this the exact location? And how the entrance - exit look like?	1. The position of the Lat Phrao 71 Station is a new position and a further addition of the study of OTP. It was originally located at the entrance of Soi Ladprao 65. It is a connecting station with a gray line in the future. The location of the station is located before Chalong Rat Expressway on Lat Phrao Road (Soi Lat Phrao 71 to Soi Lat Phrao 80/3 section). The entrance - exit on the north of Lat Phrao Road is around the curve to turn in to Praditmanutham Road, which is the construction materials store. On the other side, it is on an empty space at the entrance of Soi Ladprao 69.
	2. In the section of Lat Phrao 71 and the road near the road along the expressway. Both of the roads are very wide. Is the project has facilitation measures to assist the public traveling using the yellow line train? Because of the traffic congestion along the road, the width of the road, this is inconvenient and unsafe to walk along the sidewalk.	2. In the matter of the sidewalk, it has been studied the patterns of travelers using the train in every station such as the forms, exit, and entrance to the station, area conditions of each station, the travel direction of the train service users. So, how to traveling train and travelling by foot will certainly study. At Lat Phrao 71 Station will have a connecting road in the future with an already designed the Sky walk.
Chok Chai 4 Station	1. The entrance - exit of Chok Chai 4 station at the entrance of Soi Chok Chai, can the construction of the entrance - exit, across to ,	1. This is the concept of consultants already, would like participants to provide comments and propose today.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Chok Chai 4 Station (Cont'd)	Chok Chai 4 police station at the other side?	
	2. From the site of Chok Chai 4 station, have the house under the station. If construct the staion, the house will be very dark, no air flows, the noise from the cars coming in and out the station and dusty. Is MRTA has the remedial measures for those affected. If would like to sell to MRTA, is it possible?	2. If those under Chok Chai 4 station did not want to stay can negotiate to sell to MRTA to develop as ITF to facilitate the passengers. Depending on negotiations between those affected with the MRTA. It also has the options that many house owners get together and negotiations with MRTA to sell or joint business venture with MRTA. It is an alternative.
	3. The area at the entrance of Soi Chok Chai 4 on the opposite side, which is Soi Ladprao 56, the entrance - exit of Chok Chai 4 station has a wider area. MRTA should develope as a parking to serve a car in Soi Chok Chai 4 to take the yellow line.	3. The consultant will get this good idea to present to MRTA for future.
	4. What is the bounderies of the expropriated area to build the parking Building? Will the fourth floors building be affected?	4. This parking area will be expropriated is the area of single story building. The four-storey building was not expropriated for the construction of the entrance - exit.
	5. If the owners of the row building in the area Chok Chai 4 station get together and sell to the MRTA. How much for the expropriation rate?	5. In the area of Chok Chai 4 station, the residents can get together and proposed to MRTA to buy the land and buildings. For the price is based on the valuation of MRTA. MRTA will set up a valuation committee by using the government price, actual selling price and market price to consider. Find out the average price. The committee will consider the appropriation again. Once approved, it will be used for a project in this area, depending on negotiations between the affected MRTA.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
	6. Can Chok Chai 4 station move to Saphan 2?	6. The Chok Chai 4 station site has been approved and can not be moved to Saphan 2.
	7. Is the area in the Red dotted line opposite to the pawnshop be expropriated for the entrance - exit?	7. Yes, and the entrance - exit will be at a 7-11 convenience store, which deep into the area most up to 30 meters. And try not to reach the back room. However, if the owners of the front building get together and sell to MRTA. The model of the entrance - exit of the station, could be changed.
	8. How will know that the area certainly will be expropriated?	8. Believed that in the next focus group discussion will know certainly that, where will be expropriated.
	9. Will the site of Chok Chai 4 station be moved to the intersection?	9. The consultant had this concept also. It has been studied and found many problems such as the problem of the car come out of the alley and inappropriate distance of the pole which potentially dangerous. In addition to connection problems. It can not be positioned the Chok Chai 4 station at the intersection.
	10. Most of the commercial building in the area of Chok Chai 4 station, lease by a period of 20-30 years, so when it was expropriated. How to get the money?	10. MRTA will divide the money into two parts, one for the building owner. Another part is to the leaser. Based on the contract details. And how the contract is carried out, so do not worry at all about this.
Phawana Station	1. Where are the 4 areas of the entrance - exit of Phawana Station?	1. Phawana Station is located on Lat Phrao Road between Soi Lat Phrao 41/1 to the entrance of Soi Phawana (Lat Phrao 41). The entrance - exit on the north of Lat Phrao Road is located in the area of the commercial building in front of Soi Lat Phrao 41/1. Another side is located at the entrance of Soi Phawana, which is a triangle building in the area of Police Fort at the entrance of Soi Phawana.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Phawana Station (Cont.)		The south of Lat Phrao Road, one side is at the area of Honda Co., Ltd. close to a drug treatment clinic 2 Lat Phrao. The other entrance - exit is at Bangkok Bank at the entrance of Soi Lat Phrao 44.
	2. Will the Motorcycle shop near Bangkok Bank at the entrance of Soi Ladprao 44 be expropriated?	2. Motorcycle shop at the entrance of Soi Ladprao 44 was used to make the entrance - exit of Phawana Station. Originally, this area will be made the ascent – descent but it was moved to the bank.
	3. At the entrance of Soi Phawana, will the commercial area be expropriated? If yes how many room? And what is the dimension of the station?	3. Commercial Building area at the entrance of Soi Phawana will be expropriated to make the entrance - exit about two consulting rooms, which the consultant have tried to avoid impact. The dimension of the station, about 120 meters long, 22 meters wide and 14 meters tall.
	4. What is the mitigation measure on dust, noise, because the house is the location of Phawana Station and do not want to sell to MRTA to develop the ITF?	4. The mitigation measures on dust and noise of the resident living under Phawana station was set as. ● Install ventilation fans which allow air circulation under the station. ● Install water sprays system to catch the dust from the station. ● Installing soundproof walls, which are the new technology, lightweight and easy to install. Therefore, please be sure in the mitigation measures, which MRTA pay attention to it.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Ratchada Station	1. Where is the site of Ratchada Station? And why the entrance - exit of the Ratchada station have to close with the Lat Phrao area?	1. Ratchada station will be located on the buildings of subway parking of MRTA and located on Ratchadaphisek Road. The total entrance - exit of this station is 5 spots. East of Ratchadapisek Road is located in the empty space of the MRTA at the central of the Ramp entrance to the MRTA parking lot. The other side is located in the area of shop building on Ratchadapisek Road, which this area can be joint develop as ITF, connected to Soi Lat Phrao 23. The west side of Ratchadapisek Road is located in the area of MRTA and connected to parking building of subway both entrance - exit. Also, another connected way along Ratchadapisek Road to Lat Phrao Road to build the entrance - exit Rim Lat Phrao Road.
	2. During construction activities, please consider about water drainange, because in the area of Ratchada station is flooded every time it rains. Drainage is very slow. If added the construction activities of the train, it will cause inconvenience to travelers.	2. The consultant will take this into consideration. The drainage system during construction phase will coordinate with the relevant authorities and set up the prevention and mitigation measures.
	3. About noise impact, since the Ratchada station has a curve turn into Lat Phrao Road, please install noise barriers in the curve area.	3. About noise impact, the project is taking action to avoid noise impact which already designed the prevention in the curev area of Ratchada Station.
	4. The beauty of the electric lines especially the high-voltage lines. Please take into account about the scenery and safety. Would like to request the cooperation with MEA in this regard, especially at Ratchada Station is the beginning of the yellow line	4. Consultants have been coordinated with MEA, which MEA has plans to underground the pole and power lines along Lat Phrao Road. Now is in the process of negotiating the budget.

Group / Station	Questions/ Comments/ Suggestions	Clarification of Consultants
Ratchada Station (Cont'd)	train and it is the junction that intersects of 2 main roads, please provide special care.	
	5. About parking lot, due to Ratchada station is the terminal station, would like to have Park and Ride Building. If it is possible to park overnight or on a monthly basis. Due to the house is located in an alley and the area used as the entrance - exit of Ratchada Station is currently a renting space for parking of the resident in the alley.	5. About parking space, the park and ride building has been designed already. But the overnight parking or parking on a monthly rent, have to present to MRTA for further consideration.

(2) The comments from the questionnaire

The first meeting of this group was to gather the opinions of the participants using a questionnaire in the 1st focus group discussion **(Appendix 9C)**. This meeting was attended by 337 people who commented were 197 cases, representing 58.46 percent of all the attendees. The results are collected and analyzed data from the questionnaire **(Appendix 9 D)** a summary of the results are as below.

1) Gender

Respondents mostly male 108 cases, representing 54.82 percent the rest are female 89 cases, representing 45.18 percent.

2) Age

Most respondents are the group of aged between 51-60 years, 61 persons or 30.96 percentage, followed by those aged 41-50 years and those aged 60 years and another 42 person or 21.32 percent as well as the groups under the age of 30 years with a number least 17 cases, representing only 8.63 percent.

3) Education level

The majority of respondents who completed a degree in 92 cases or 46.70 percent, followed by a group of graduate-level in the amount of 43 cases or 21.83 percent, and those who graduate high school, another 30 cases, representing 15.23 percent, respectively. Among the graduate level or equivalent with a minimum of nine cases, representing 4.57 percent.

4) Group / corporate attendees.

Most respondents were the represent of the people/households who live near the project of 163 case representing 82.74 percent, followed by a group of community leaders in

the amount of 14 cases or 7.11 percent and a group of citizens interested in the amount of 12 cases. at 6.09 percent by representatives from government agencies / state enterprises amounted to 5 cases or 2.54 percent and community leaders / representatives of local government a percentage of 6.28, respectively, found that the group who has been affected by. development projects include hospitals, educational institutions and religious places with the least amount of only 1 case or 0.51 percent.

5) Get informed the Yellow Line Project

Most respondents Had been informed of the yellow line of the 167 cases, representing 84.77 percent of the rest had not been informed of the yellow line before the other 30 cases, representing 15.23 percent. Most of the news from newspapers, Yellow Line Project of 72 people, representing 43.11 percent. The second know from project staff of 66 people, representing 39.52 percent of the total Internet revenues accounted for 45 percent of the 41 neighbors of 26.95 percent and 24.55 from 28 television revenue accounted for 16.77 percent, respectively. From the billboards in 18 cases, representing 10.78 percent.

6) Comments on the Yellow Line Project. The Lat Phrao - Samrong overall.

Comments on the Yellow Line Project, the Lat Phrao - Samrong section, the majority of respondents agreed with the project of 174 cases, representing 84.32 percent of the remaining 23 cases were against the project representing 11.68 percent

The reason for agreeing to the project

The group agreed to the project with the majority reasoned for a convenient for traveling of 150 cases, representing 86.21 percent followed by the group with the reason for a quick tour of the 140 cases, representing 80.46 percent, reduction in car 109 cases, representing 62.64 percent, make the road traffic more agile by 79 cases or 45.40 percent, people using mass transit to help reduce global warming of 68 cases or 39.08 percent, save money on travel than the current 44 cases or 25.29 percent, price on property / real estate increased by 41 case or 23.56 percent and entrepreneurs to benefit another 36 cases, representing 20.69 percent respectively.

The reason for not agree with the project.

Those who disagree with the project for the majority reasoned that Metro system should not be a Monorail system for a number of 12 cases, representing 52.74 percent, followed by the group with the reason that may be not safe to travel 7 cases accounted for 30.43 percent, affect to the occupations of the people, 5 cases or 21.74 percent, with pollution and noise, dust, vibration of 4 cases or 17.39 percent, location of the station is not suitable for 3 cases representing 13.04 by the group, reasoned that trees on the traffic island were destroyed, have an impact on public housing and pay a surrender value may not be justified. There are at least two cases, representing 8.70 percent of the same group also found the reason obstructed the view and thus the cost of travel increases. There are only a 1 case or 4.35 percent

7) Concern about the issue of construction activity.

Respondents concern about the problems of the construction activities on various issues in order of concern in various following.

Traffic jams more

The majority of respondents are concerned the traffic will increase as the number 1 127 cases, representing 64.47 percent. followed by concern in this regard is ranked second with 33 cases, representing 16.75 percent of the group that anxiety states. Is ranked third with a total of 17 cases, representing 8.63 percent.

Flooding / drainage.

The majority of respondents are concerned the flooding / drainage is ranked third of 28 cases 14.21 percent followed by concern in this regard is ranked second with a total of 12 cases or 6.09 percent of that group. Anxiety states are the one with the least amount of only six cases, representing 3.05 percent.

Loss of land / property from expropriation.

The majority of respondents are concerned at the loss of land / property from expropriation is ranked one of the 28 cases 14.21 percent followed by concern in this regard is ranked second with a total of 24 cases. 12.18 percent of the group that anxiety states. It is ranked as the third least amount of only 14 cases, representing 7.11 percent.

Accidents from the construction The majority of respondents have a concern about accidents from the construction was ranked third of 38 cases representing 19.29 percent. The minor concern in this regard is ranked second with a total of 24 cases representing 12.18 percent. The group agreed that was anxiety states is the one with the least amount of only three cases, representing 1.52 percent.

Trade / turnover decreased The majority of respondents are concerned about trade / turnover decrease was ranked second of 37 cases representing 18.78 percent minor concern in this regard is the third of 30 cases representing 15.23 percent The groups that are concerned. the Is the one with the least amount of only 26 cases, representing 13.20 percent.

The environmental pollution (Noise, dust, vibration) The majority of respondents have concerned the issues of environmental pollution. (Noise, dust, vibration) is ranked as the second 62 cases or 31.47 percent, a minor concern in this regard is ranked third with a total of 48 cases or 24.37 percent while those that are. Nellie's Is the one with the least amount of only 7 cases accounted for 3.55 percent.

8) The comments on the Yellow Line Project in the different aspects.

Respondents comment on the appropriateness of the various areas of the Yellow Line Project as follow

(1) Project Alignment

Most respondents comment that the project route is appropriate for 195 cases, representing 95.94 percent. For the group that not agree with only eight cases, representing 4.06 percent of the group who deem inappropriate. Most no suggestion for 7 cases accounted for 87.50 percent of those who comment that the trail is not suitable. There is a suggestion that the beginning of the route should start at Phaholyothin Road, only 1 percent of 12.50.

(2) Station Location

The majority of respondents thought that the station is appropriate for 186 cases, representing 89.34 percent. The group thought that the location of the station did not fit

only 21 cases, representing 10.66 percent those who deem inappropriate. Most no recommendation for 15 cases or 71.43 percentage. the group who thought that the station improper suggestion is to make the station near the intersection of the most and should make the station well enough with the number three. the Photo was 14.29 percent as well.

(3) The Model of the Station

The majority of respondents thought that the station's format is appropriate, in 178 cases, representing 90.36 percent. The group agreed that the format of the station was not right is only 19 cases or 9.64 percent by the group that the station's format is inappropriate. Most no suggestion for 15 cases, representing 78.95 percent of the group who saying the station's format is not appropriate suggested that the escalator should provide at the sidewalk. And the station is smaller than a number two cases, representing 10.53 per cent as well.

(4) the Construction Model as a Monorail System

The majority of respondents thought that the construction model as a monorail is suitable, with 173 cases, representing 87.82 of the groups that form the construction of a monorail inappropriate. with only 24 cases or 12.18 percent by those that form the construction of a monorail most inappropriate no suggestions for 11 cases or 45.83 percent those who disagree that the construction of a monorail system is inappropriate recommended that it should be made as a BTS system with 2 cases or 8.33 percent and should be made as an MRT system a total of 11 cases, representing 45.83 percent.

(5) Park and Ride Buildings

The majority of respondents thought that building park and the ride is appropriate, with 177 cases, representing 89.85 percent. The group agreed that building the park and ride does not fit with only 20 cases, representing 10.15 percent by whom that buildings Park & Ride inappropriate, most no suggestion with 13 cases, representing 65.00 percent of the group who saying the building park and ride is not appropriate. The suggestion is that there should be a parking lot for more than a total of 7 cases accounted for 35.00 percent.

(6) Depot

The majority of respondents thought that the Depot is appropriate with 187 cases representing 94.92. The group that believed the Depot is improper, only 10 cases or 5.08 percent by the group that disagrees with the Dopot is improper without any further suggestions were 10 cases or 100.00 percent.

(7) The Project Line Connection or other public transportation.

The majority of respondents thought that the line connecting the project or other transit systems are appropriate and 186 cases, representing 94.42 percent of the group that is connected to other mass transit lines or systems. Transit does not fit with only 11 cases, representing 5.58 percent without any additional suggestions of 11 cases or 100 percent.

(8) The suggestions on the Yellow Line Lat Phrao – Samrong project construction

(1) The suggestions during the project construction

Almost all respondents have no additional suggestions that representing 191 cases or 96.95 percent. For the remaining six cases, representing 3.05 percent were with further suggestions.

The group that has suggested in the project include the need for the measures especially on the impact of noise, dust representing of 5 cases accounted for 83.3 percent and requires that the measures on the impacts on traffic as well as design the efficient of drainage representing only one case, denoting 16.7 percent equally.

(2) Suggestions for the overall project

Most respondents have no suggestions for the overall of the project accounted for 156 cases, representing 80.20 percent. The rest of the group as a whole has suggested with 41 cases, representing 19.80 percent.

The suggested issues in the overall of the project, in descending order summarized below.

First: should be a metro 8 cases, representing 20.51 percent.

Second: should be clearer on the entrance - exit location and should be done the Sky walk to facilitate across to the public. And care should be taken in regard to the expropriation of the four cases, representing 10.26 percent as well.

Third: should be implemented as soon as possible. and should have escalators and elevators to facilitate the user account for three cases, representing 7.69 percent as well.

Fourth: the public should be involved in the design process of entrance - exit stairways especially for the selection. Also, environmental impacts should be reduced such as noise, vibration. To set up the entrance - exit to the station should minimize the impact on the commercial building. In designing drainage systems requested. Do not make the flooding should the distance of each station well enough. It should be added parking space - passengers. And should replace trees A number of proposals were 2 cases accounted for 5.13 percent equally.

Fifth: in the next meeting would clarify that this is one of the cases, representing 2.56 percent.

9.7.4 The Second Focus Group Discussion

The second focus meeting aims to review in detail of the proper design and preparation of tender documents for Yellow Line Project, the Lat Phrao - Samrong held during 26 - 27 October 2013, as shown in **Photo 9.7.4-1** to **Photo 9.7.4-4**. The objective is to present the results of the detailed design of the routes form the project. Environmental Impact and measures to prevent and reduce environmental impact and concerns over the impact of the project including recommendations and measures for prevention modify and minimize the impact that might occur. From the target group related to the results of the study accordance with local requirements, the attendees registered a total of 337 people by a sub -group 2 has divided its operations into four groups covering the areas of governance, which is in Bangkok district including Chatuchak, Huai Khang, Wang Thong Lang, Bang Kapi, Suan Luang, Prawet, Bang Na, and Muang Samut Prakan.

- (1) Group 1 target areas that cover Bang Na district, Muang Samut Prakan consists of Si Iam, Si La Salle, Si Bearing, Si Dan Station, Si Thepha, Thipphawan and Samrong Station.
- (2) Group 2 target areas cover Bangkok district including Suan Luang, Prawet, consists of Si Udom, Suan Luang Ro 9, Srinagarindra 38, Si Nut, Kalantan and Phatthanakan Station.

- (3) Group 3 target area that cover Bang Kapi, consists of Si Kritha, Lam sali intersection, Bang Kapi and Lat Phrao-101 Station.

- (4) Group 4 target areas that cover, Chatuchak, Huaw Khwang, Wang Thong Lang, consists of Ratchada Station Phawana, Chok Chai-4 and Ladprao-71, Lat Phrao-83 and Mahadthai station.

Plan the second sub-group meeting divided the people into four groups by the amount and the target area. The target audience is invited to attend the meeting are shown in **Appendix A** and detailed plan of the meeting.

1) The Purposes of the Meeting

(1) To offer information about the development projects, the project model and modify the system or form of mass transit projects.

(2) To receive comments and suggestions on the project and the train system, as well as ask questions about any concerns on the impacts and measures to prevent and reduce the impact that may arise from the development of its guests. meeting on issues related to education and development project.

2) The Target Area

In the meeting, the two groups want those affected by development projects. Get to know the details of the project properly. The hearing on the recommendation concerns the care of those affected by development projects and give the participants an opportunity to exchange ideas and thoroughly mixed views. The target group is comprised of four groups.

(1) public / businesses were expropriated or affected by development projects. Residents near the entrance - exit to the station or in the station project.

(2) community leaders such as the president of communities along the route of the project, etc.

(3) entities affected by development projects, including government agencies / hospitals / religious / educational institutions and so on.

(4) the government agencies involved in the project, including county and municipal offices, and so on.

This is to facilitate the travel of attendees and does not affect the careers and businesses of attendees. In particular, public enterprises and commercial stores were affected along the route of the project. It divides its operations into four groups by region, area and location of the project, the community, and the station.

Group 1 classified by region. Including Bang Na district, Muang Samut Prakan, Samut Prakan,

Classified by station total 7 stations including Si Iam, Si La Salle, Si Bearing, Si Dan Station, Si Thepha, Thipphawan, Samrong Station.

Group 2 classified by region including Suan Luang, Prawet district

Classified by station total 6 stations including Si Udom, Suan Luang Ro 9, Srinagarindra 38, Si Nut, Kalantan and Patthanakarn

Group 3 classified by region including Bang Kapi district

Classified by station total 4 stations including Si Kritha, Lam sali intersection, Bang Kapi, and Lat Phrao-101.

Group 4 classified by region including Chatuchak, Huaw Khwang, and Wang Thong Lang district

Classified by station total 6 stations including Ratchada, Phawana, Chok Chai-4, Ladprao-71, Lat Phrao-83 and Mahadthai station

3) Attendees

At the meeting, the sub- groups 2 have a total of 337 participants with a target of 272 people, accounting for 77.06 percent of the target groups invited to the meeting. Details are as follows.

Group 1 participants consisted of 92 people including			
- Residents in Muang Samut Prakan area	total	62	people
- Residents in Bangna district	total	11	people
- Government Agencies	total	1	people
- Consultants	total	11	people
- Mass Rapid Transit Authority of Thailand	total	7	people
Group 2 participants consisted of 65 people including			
- Residents in Suanluang district	total	30	people
- Residents in Prawet district	total	18	people
- Consultants	total	10	people
- Mass Rapid Transit Authority of Thailand	total	7	people
Group 3 participants consisted of 99 people including			
- Residents in Bang Kapi district	total	82	people
- Consultants	total	10	people
- Mass Rapid Transit Authority of Thailand	total	7	people
Group 4 participants consisted of 110 people including			
- Residents in Huae Khwang district	total	21	people
- Residents in Wang Thong Lang district	total	68	people
- Residents in Chatuchak district	total	4	people
- Government Agencies	total	1	people
- Consultants	total	8	people
- Mass Rapid Transit Authority of Thailand	total	6	people
- Press	total	3	people
Number of Attendees		**337**	**people**

For the attendees, the second focus groups meeting are shown in **Appendix 9B**. For the atmosphere of the second focus groups, meeting are shown in **Photo 9.7.4-1** and **Photo 9.7.4-4**

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.4-1 The atmosphere at the second focus group meeting (group 1) On Saturday, October 26, 2013. Meeting Room, 3rd Floor, Bay Hotel Srinakarin.

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.4-2 The atmosphere at the second focus group (group 2) On Saturday, October 26, 2013. At meeting room Tharnthip, King Park Avenue Hotel.

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.4-3 The atmosphere at the second focus group meeting (group 3) on Sunday, 27 October 2013. 2nd Floor Metro Point Bangkok Hotel

Participants registered and receive document

Participants visited project document boards

Consultants presented project details

Listened to project details

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Photo 9.7.4-4 The atmosphere at the second focus group (group 4) on Sunday, 27 October 2013. 1st Floor Building Mutual Place.

4) The results from the 2nd focus group meeting.

In the 2nd focus group meeting, the attendees can participate, ask questions and comment on the meeting and provide comments and feedback on the questionnaire after the meeting. The details are as follows:

(1) Comments on the Meeting.

At the 2nd focus group meeting, after the consulting company has presented a detailed study of environmental impacts and measures to prevent and reduce environmental impact. It provides an opportunity for attendees to ask questions/comments and suggestions about the project. The station can be classified as shown in **Table 9.7.4-1**.

Table 9.7.4-1 questions, comments and suggestions about the project.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
<u>Group 1</u> Samrong station	1. Pictures from the consultant presented, the location of the Samrong station within the red patch is and expropriation of land or not.	1. The area within the red dotted lines represents the area in which the MRTA construct the entrance - exit to the Yellow Line. The area was expropriated for the construction project to the Green Line. Is performed by using the entrance - exit together.
	2. How wide and height of the Samrong station?	2. The width of the Samrong station From the middle of the Theparak road out of about 12 meters on each side of the station are not very high off the ground. However, due to the driveway of the Yellow Line will be the higher of the Green Line which is about 14 meters high, which could lead to the construction of the station up to about 21 meters.
	3. Samrong offered to move the station to a distance of 200 meters to the next intersection Theparak. because of the Samrong station by the project may cause overshadowed wind direction and proximity to the area's buildings and commercial buildings too.	3. The consultant will request to be considered again. The reason for selecting the Samrong station follows the conventional projects plan (1) because the area where the Samrong station is right to position and near the Green Line. The passengers will be able to convenient access to the transit area (2) to reduce the expropriated land. Due to the use - up with Green Line.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
	4. In cases that affected both directly and indirectly in the construction and long term operation. Which what are agency is responsible and the measures.	4. The impact caused the yellow line, the MRTA is the agency that responsible for all.
Thipphawan station	1. The Area Plot 13 and Plot 14 on the project will be expropriated for the construction of the entrance - exit Thipphawan station or not. For the entrance - exit of Chularat Hospital station where will be expropriated.	5. Area 14 will be expropriated for the entrance - exit of Thipphawan station construction For the Chularat Hospital side, the area next to the hospital in the Triangle area all will be expropriated.
Si Thepha station	1. Why to design the diagonal entrance - exit to the Sri Thepa while it can be of the normal design.	1. The consultant will request to be considered again on the criteria for the selection of the construction area is up to them which will use the following criteria: (1) the area used to be an empty space. To avoid trouble (2) if there is no space to your building or abandoned buildings or building / building smallest. The impact is minimal. If there are other areas In the vicinity of the rules above, it can be moved.
	2. Suggested to move the entrance - exit of Si Thepha station from the market area to Seven-Eleven Shop with an area of 200 squares wahs or not. The expropriation of the land market, causing a negative impact on Residents who made it on the market for about 150 people, and many people in the neighborhood.	1. The consultant will be to consider the appropriateness of position again. So that is good for all parties.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Si Dan station	1. According to the original station, will the station be moved or not. For the park and ride building, the local commercial buildings will be expropriated or not.	1. In most of the stations that have changed the location of its first meeting requested to a station near the intersection as much as possible for most of the accent up to the station has changed only two locations to facilitate the passengers by create a space that will not be expropriated in the building or if there will be expropriation expropriation in retreating 15 meters, creating a temporary parking area for the passengers. However, it could not build on all the entrance - exit to the station. However, there may be building up in some way and create the appearance of a bus stop to concave. The passenger
Si Bearing Station	1. Suggested to move the 4th entrance - exit of Si bearings station from the original construction to the Caltex petrol station. This is a very dangerous area. The move comes as the Krung Thai Bank Si Bearing branch bearing and offered to move up - down at one of the stations bearing side of Soi Si Dan-18 or move to other bare areas.	1. The consultant will reconsider again. The criteria for the selection of the area. The entrance - exit construction will be using the following criteria: (1) To avoid trouble, the area used to be an empty space. (2) if there is no space to your building or abandoned buildings or small building. The impact is minimal. If there are other areas in the vicinity of the rules above, it can be moved.
	2. The survey of public opinion around the station Si bearings. There were concerns about the project that the stations will block the view of the area, so the project can move the location of the terminal to another or not. The area is the same entrance - exit to the station - as a substitute.	2. The consultant request will be reconsidered again, why the station Si Bearing has to be constructed in the area. Because of the distance between the two stations, which are less than 800 meters and up to 1200 meters of the station is too close together. The bus will cost and will not be connected. And consideration of the services to be near the intersection of the most devoted people who use the service orientation of the two roads intersect.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
	3. Srinagarindra Road that currently has three lanes on each side which construction will take three years. How many lens of Srinagarindra Road will be available?	3. Road construction area will be closed for one lane on each side, so it will be available two lanes on each side.
Si La Salle Station	1. Is there any publicize of the project information on the internet? Is there any way to follow and how?	1. To conduct the project information dissemination must be authorized by the MRTA. Before that information can obtain from the project's website.
	2. At Si La Salle Station, the station building across the viaduct.	2. The Si La Salle station to be built above the viaduct Si La Salle by the middle of the bridge
Si Iam station	1. The environmental impact of the project on the Yellow Line to happen. The agency is responsible measures, however, the operator or residents surrounding area throughout the course of the entire project. Both in the construction phase and when the project ends.	1. Entrepreneur or individuals receiving the environmental impact of the project on the yellow line going through the line. Both in construction and operation can propose issues to be compensated or suggestions and solutions to the practical. The consultants will present the issues and suggestions from entrepreneurs and people to suffer from the MRTA. Know and determine the measures to reduce the further environmental impact.
	2. How were the entrance - exit to the Si Iam station and How wide of a road cut into the range of the ITF (Inter-modal Transfer Facility) and the ITF have transfer passengers or the car park alone?	2. The entrance - exit of Si Iam station will have four of the ascent - the first and the second will be in the Park and Ride building, which will be built in the area of the office of the Samut Prakan Highway District. To facilitate those who want to use the train to the private car park in the building. Use the up and down at 1 and 2 in connection to the station easily. Part way down the third it was over then plotted before turning onto Bangna - Trad Road, which is a service for the passenger (Kiss & Ride) without the parking on the traffic surface.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Si Iam station (cont'd)	3. The entrance - exit area of 3 and 4 how much in land expropriation aspect.	3. In the entrance - exit area of the Samut Prakan highway district, which is no problem, but the expropriation. For the 4th entrance - exit - of Si Iam temple station, which would have to be expropriated in some parts. It uses about 18 X 25 meters and there may be some additional space that can be developed through the tunnel and the ITF (Under pass), which cannot be determined using the area and no conclusions will be discussed with the Department of Highways and approval with the MRTA.
	4. If those without cars will have to travel to come to the station Sir Iam what should they going to do and how far from the 4th entrance - exit in front of Wat Si Iam to the station. Are there some facilities that will help travel quite because of the far distance.	4. From the 4th entrance - exit station Si Iam a Sky walk a distance of about 100 meters, which is a short walk away. The facilities in the corridor. The project is designed to provide a smooth passage and escalator service and a lift for disabled
	5. The entrance - exit from the Srinagarindra Road. Input will have access to the Condo Supalai or not.	5. There is no more entrance - exit from Si Iam station, which connects to the front of condo Supalai.
	The 3rd and 4th entrance - exit located on secondary roads all. The bus does not pass but most passengers use Bangna - Trad Road is the main route with the bus. Therefore, how the passengers from Bang Phli, KingKaw, Bang Chalong will use the service Si Iam station.	6. The passengers fare Bang Phli, KingKaw, Bang Chalong who use Bangna - Trad Road could use the bridge to cross into the Si Iam station.
<u>Group 2</u> Si Udom Station	1. Will the construction of the Si Udom station be impacted on the surrounding area on the noise, vibration or the station	1. Due to the Si Udom station is very close to the building that may expropriate the entire building. The need to consider the safety and dangers of the construction

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Si Udom Station (cont'd)	and the height and the distance from the station to the building?	must be prioritized. In the height of the station, due to the driveway of the yellow line must be above the viaduct park. The height of about 14 meters, which would be built up to about 21 meters to the station.
	2. Proposed to build stations across Si Udom. intersection to reduce the impact on the expropriation of land.	2. Since there is the Udom Suk tunnel in the middle and cannot be established straddling the tunnels because the tunnels have already been completed. So you must bypass the station and the bus off to the side.
	3. Will the No.4 entrance - exit area at the Si Udom station, which has an area of 18x25 meters are cutting into the Honda company and How much the depth of the sidewalk will intrude into the building much.	3. The No.4 entrance - exit area at the Si Udom station to enter the land of Honda and depth of the the 4 entrance - exit area at the Si Udom station is close to the building.
	4. The No.4 entrance - exit area at the Si Udom station in front of Rou store. How much wider land will be expropriated from the margins of the footpath.	4. The area will be expropriated land are mostly the green space which the MRTA interested in. However, the area is really being expropriated is the red zone. The expropriation of the footpath into the land. Depending on whether the area is the bus station, which is run trains to use the term from the center out to the 7.5 meter space station will use the distance from the center to each side 15 meters, which take into account the safety and why. an emergency such as fire, etc.
	5. The Yellow Line Project which to constructed in the Metro Monorail system or not, could it be convert into the underground system or not.	5. The Yellow Line Project to be constructed is a Monorail systems process, but if it turns into the metro underground system, the construction needs to start over which is not within the scope of this study.
	6. How much space would it take for the project route that divers	6. The Metro route will be intruded in the area of the footpath for approximately 8

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
	into the footpath and building owners can use the space under the route for a parking space or not.	meters. For the use of the space under the rail is available by request. The area is subject to MRTA. In the process of land expropriation.
	7. In most of the running train that pass the front of hotel Novotel – Bang Na which the pillars will be intruded into the sidewalk and the land of the hotel or not? If so how many meters, then how the MRTA will be closed out the access of the hotel or not, and the area under the running rail operators can be used as the parking lots or not.	7. The project route is adjacent to the footpath diversion which may take up to about eight meters. For the current business accesses must consider The engineering construction if the pillars do not obstruct the accesses and the space available but if they were obstructing the accesses, the owner will have to find out measures to those affected which has to be agreed in the process of land expropriation and use the space under the running rail operator is available. It has been agreed between the operator and the MRTA.
Si Nut Station	1. How high and wide of the Si Nut station, would it obstruct the views of commercial buildings.	1. Srinagarindra Road is very wide of 15 meters, which the width of the station from the center is 11.5 meters on each side, so it is quite a distance from the building or commercial building.
	2. The length of the road is just 8 meters, will have the effect of obstructing views of commercial buildings.	2. Due to shortening the distance to only 8 meters of the total length of the road with traffic island and left the footpath about 17 meters away from the building, which is also considered a reasonable distance.
	3. There is the space in Soi On Nut-60 and Soi Srinagarindra-28., which is in the framework of the red line. How wide and length of the area that to expropriate land in the rectangular shape	3. The area has two red frame on the main road, about 19 meters inside the red frame is approximately 28 meters wide by 16 meters deep. In sum, in the red area of 16x28 meters.
	4. The project will use Bosch service a whole area to build or not.	4. The areas to be continued for the expropriation of land will be divided into two parts: the red and the green area by the Red Size 15x28 meters, which is deep in the area which would have to

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Si Nut station (cont'd)		be expropriated. The green area is the entire plot.
	5. If the rest of expropriation cannot be used to operate. Would it be sold to the MRTA or not.	5. In case of the ownership of the land which was expropriated in some parts and cannot be used to operate, can apply to the MRTA for the renewal of the conversion. However, if the remaining space can continue to operate, it can give MRTA. For expropriation which will benefit to both parties. Depending on the decision of the owner of the land by the MRTA. It hired a company to perform the appraisal.
	6. In the case of the No.4 entrance - exit to the Si Nut station to be expropriated are in the land that the landowners already plan to do business in the area. Would entrance - exit to the Si Nut station be moved or in the case that cannot move how the landowner can be filed the protest and which agency?	6. The consultant will reconsider again. The criteria for the selection of the area. The entrance - exit construction will be using the following criteria: (1) To avoid trouble, the area used to be an empty space. (2) if there is no space to your building or abandoned buildings or small building. The impact is minimal. If there are other areas in the vicinity of the rules above, it can be moved.
	7. Si Nut station locations are finalized or not.	7. The location of the station Si Nut is 90% certain. If there is no accident or other obstrucles. The structure was designed by the Definitive Design, which will be designed to make the train with four core brands in the profile to depend on contractors.
	8. For the No.3 entrance - exit to the Si Nut station, would the space in the frame provide more details than the current version or not.	8. The No.3 entrance - exit to the Si Nut station frame, which is a red zone, the area will be expropriated for the construction of The No.3 entrance - exit. To the green space will not be expropriated, the only area in which the plan can be developed to be utilized in the future. The owners of the land could be developed for use in conjunction with the MRTA.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Phatthanakan Station	1. The No.2 entrance - exit to the Phatthanakan station in the McDonald's area with a red dot, what is the dimensions and what is the height of the Phatthanakan station, and how the height of the station if plus the height of the roof.	1. The No.2 entrance - exit to the Phatthanakan station in the McDonald's area will occupy approximately 18x25 meters, is the largest planned. This could be a chance to get smaller. However, where is the red area of the entrance - exit to the Phatthanakan station, depending on the shape of the land. The height of the station development. The height from the floor to the bar, as there are also many options, is about 14 meters high, as there are many possibilities and the roof plus driveway for about five meters.
	2. The surrounding area of 18x25 meter area which is defined in three meters or not.	2. Yes, however, the surrounding area may less than three meters.
<u>Group 3</u> **Lam sali station**	1. For the No.4 entrance - exit to the Lam sali -intersection station, how much the area of the park is being expropriated	1. Lam sali intersection Parks would be quite a lot expropriated for the Orange Line not in the Yellow Line Project.
	2. The expropriation has questioned the Orange line project, then. It appears that the No.1 entrance - exit to the yellow line of the frame is red but the Orange Line Project will not use the space there. What are the details?	2. In the area of the solid red line is an area of Metro Orange Line but the area of the patch is part of the Metro Yellow Line extension project in the future due to the volume of traffic will increase in the future.
	3. Is there any possibility to make the flyover across the Lumsali intersection over all commercial buildings.	3. In design to construction, the need for construction to comply with the Orange Line which is the underground system.Thus, some commercial buildings have to be expropriated.
	4. Suggest to use the space in front of the Krung Thai Bank across the area next to the Screw and Nut store for the entrance - exit to the station instead of expropriation of the Screw and Nut store	4. The available space next to the Screw and Nut store is not enough to build the entrance - exit to the station. The project will use an area across the front of the Krung Thai Bank for the entrance - exit to the station as well.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Lam sali station (cont,d)	5. How much space to be used in the construction of the entrance - exit to the station in the Screw and Nut store.	5. Take the whole plot is about 400 square meters or about 100 square wahs.
	6. How would MRTA compensate for the expropriation of land and for the loss of business opportunity?	6. The expropriation of land, MRTA considers the price of land and the hiring rate, the valuation of the land by the appraised value of the land. The purchase price in the market with trading and taxing, the actual selling price into consideration, including the value of lost business opportunities which is approximately 30% of the land and buildings value, will be adapted to the appraisal which will pay for expropriated land. If landowners were not satisfied they can appeal in the petitions. It can be filed with the court, too and judicial decisions are final. There is also the option to develop the ITF in conjunction with the MRTA depending on negotiations between landowners with the MRTA.
Bang kapi station	1. Would the furniture shop in the corner of Bang Kapi-junction, be Expropriated	1. It is unlikely to be demolished or expropriated land there. It may have been one of the pillars in front of the store to accommodate the bend radius of the Monorail.
	2. the entrance - exit The Mall Bang kapi and Makro How is the design for the entrance - exit in front of The Mall Bangkapi and Makro.	2. The design the entrance - exit in front of Makro is in a common design, but the Sky Walk may be built to reduce the volume of the roaming in the area that the operator wants to benefit from the creation of Sky Walk has to be the proposal for the mutual benefit of both MRTA. And entrepreneurs.
	3. How to assess the amount of space in the ITF in front of Makro is how many Residents have concerned that parking will not	3. The expropriation of a parking space in front Makro must take into account the ease of parking for Makro's enough or not. However, there will be no

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Bang kapi station	be enough to serve.	expropriation of all but in that case, there will be a mutually beneficial way, Makro, which was useful to have discussions with the MRTA. In the next stage, the subject of the predicted passenger volume. The Photos have come from expectations, the main characteristics of the area by providing a minimal amount of space (Minimum).
Lat Phrao 101 station	1. What the location of the entrance - exit of Ladprao-101.station is.	1. For the entrance - exit of Ladprao 101 station, the the first located at the overpass and the green building. the second located at Ladprao -101/1, the third located at Ladprao -128/3 and the fourth located at Ladprao -128/1
	2. The commercial building that located near the No.3 entrance - exit of Ladprao 101 station as the businesses and residents which will be affected thus is it possible to move the 3rd entrance - exit of Ladprao 101 station to the traffic island.	2. The consultant will be reviewed again since it is possible because of space of the traffic island can alter the No.3 entrance - exit of Ladprao 101 station.
	3. Is it possible for the No.1 entrance - exit of Ladprao-101 station to move to another side of soi Ladprao 101	3. The No.1 entrance - exit of Ladprao 101 station cannot be moved since this point is according to the plan and will be more useful. Also, it can accommodate a number of people in Soi Lat Phrao 101 to use the service. If move to the other side of the alley, it will increase the traffic problems.
	4. The No.1 entrance - exit of the Ladprao -101 station will impact on the Pawn shop and KT optic so suggest that the MRTA. Move the 1st entrance - exit to an empty in the market which is more appropriate	4. The consultant will consider and present to the MRTA. However, the reason for setting up the No.1 entrance - exit of the Ladprao -101 station with the several criteria including the distance of the station, the distance between stations, safety, and convenience of the passengers, as well as the principle of land expropriation.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Lat Phrao 101 station (cont.)	5. In the No.4 entrance - exit areas that are not being expropriated can participate in the business or not.	5. To participate or use in the business, the business owners can offer to the MRTA. It will be an agreement which benefits both parties.
	6. In the construction of the station's entrance - exit at Soi Ladprao -101/1 will obscure the view of the store or not, and will the. entrance - exit similar to the BTS or not.	6. The station entrance - exit will not obstruct the views and will not look like the entrance - exit of the BTS, but the construction of the building - which will foster the beautiful scenery.
	7. Would the Ladprao -101 station move a station from the beginning of Ladprao -101 to the right by the beginning side of the station moved to the end side of the station to Ratchada road area of the abandoned building the two sides can be done or not.	7. The cconsultant will be considered again however, the move will allow the station to accommodate people in Ladprao -101 far more than the impact caused by the transfer station will affect the average distance of the next two or three train stations.
<u>Group 4</u> Lat Phrao 83 station	1. How much area in the No.3 entrance - exit of the Chalongrut station will be expropriated?	1. In the No.3 entrance - exit of the Chalongrut station will be expropriated nearly 100 square wahs, which the designer has overestimated the area, in fact, may not be equal to the planned area.
Chok Chai 4 Station	1. Around the No.3 and No.4 area entrance - exit of the Chok Chai 4 station consists of a commercial building, which not expropriated. However, the operators have agreed that. There will be affected by the construction of the station. Thus, they want to offer a whole array of commercial buildings expropriated. What is the process to do so?	1. The complaint can be filed with the MRTA or the consulting firm can be the coordinator for this issue.
	2. How much construction area for the No.4 entrance - exit of the Chok chai 4 station.	2. In the of the Chok Chai 4 stations area is about 22 meters and a width of about 14 meters.
	3. Due to a large water pipe from Lat Phrao Road which the data has been listening from the first	3. Relocation of water mains will use the Pipe Jacking method, which is used to cut the pipe without stopping the water

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
Chok Chai 4 Station (cont'd)	meeting, would the demolition takes one and a half years, it is worthwhile or not.	supply. The policy of the Metropolitan Waterworks Authority (MWA), and the construction permission Bangkok, which allowed the area to traffic operating at night. As daylight hours to restore traffic areas. This work will be used to dig a hole and push the pipe through the two to each other during the night. During the day, use a griddle close the holes on both sides to keep the car running thoroughfare normally also MWA is required to act on the part of the pipe to be completed before the construction of the Metro Yellow Line.
	4. Approved by the cabinet, the construction of the Metro route Ratchada - Ramkhamhaeng that the will be subway, however, the Lat Phrao route will be a Skytrain, which is on the ground. Would it is possible to consider to switching action plan to Subway?	4. Resolution cabinet on May 17, 1994, subject areas that should be given to mass transit (MRT) underground system. The rapid transit system project That will happen in the future To create a common area in the basement area of 25 square kilometers. And a basement area of 87 square kilometers. Within the confines of the ring road (Road) and mass transit projects in progress. Creating a system of underground space. As a result of the line through the area. Given the above the metro. The other line not through in such areas the road Heightened Subway Since the construction of the metro to expropriate more land and the long period of construction. The cost of construction is high.
Phawana station	1. In the No.3 entrance - exit at the Phawana station, the project has a planned area of commercial buildings. The rules proposed by the consultants is to avoid building as much as possible. Thus, suggest using a parking area opposite the drug treatments clinic 2, Lat Phrao or open space,	1. Consultants will consider the details again.

Group/Channel	Questions/Comments/Suggestions	Clarification of Consultants
	away from the building.	
	2. How many meters from the beginning of the Ladprao 41/1 alley will be used for the No.2 entrance - exit construction and the land at the back of the expropriated building belong to Mr. Suraphol will be expropriated a few meters.	2. Space in the building of the No.2 entrance - exit will take about two 18x25 meter area, the orientation may be parallel or perpendicular to the road with the road. Consider the area in terms of the area The second entrance - exit extends into space 25 meters from the edge of the sidewalk Mr. Suraphol being expropriated to 12 meters, 25 meters from the building to the front of the building was expropriated all.
	3. The MRTA will pay for the expropriated land at market prices including the loss in business or not, how much of the price.	3. By law, the Royal Decree in any expropriation was announced. The price will be based on the market in that year.
	4. How many unit of the commercial building will be expropriated in the No.1 entrance - exit of the Phawana station?	4. There will be 4 units of the commercial building expropriated in the No.1 entrance - exit of the Phawana station.
Rutchada station	1. Addition suggestion for in the temporary parking and temporary transfer because the area is suffered from very heavy traffic. Would the construction project cause more traffic problems?	1. Consultants will thoroughly consider in the details again.

(2) The comments from the questionnaire

The second sub-group meeting has gathered the opinions of the participants using a questionnaire in a sub-group meeting No. 2 **(Appendix 9C)**. This meeting was attended by 337 people, the audience, inviting all attendees, 272 people have commented on the production 195 cases, representing 71.69 percent of all the attendees. The results are collected and analyzed data from the questionnaire **(Appendix 9 D)** a summary of the results are as below.

1) Gender

Respondents mostly male 109 cases, representing 55.90 percent the rest are female 86 cases, representing 44.10 percent.

2) Age

Most respondents is the group of aged between 51-60 years, 52 persons or 26.67 percentage, followed by those aged 41-50 years 42 cases representing 21.54 percent and those

aged 31 – 40 for 35 person or 17.95 percent as well as the groups under the age of 30 years with a number least 21cases, representing only 10.77 percent.

3) Education level

The majority of respondents who completed a degree in 79 cases or 40.51 percent, followed those who graduate high school, another 45 cases, representing 23.08 percent, a group of graduate-level in the amount of 39 cases or 20.00 percent, respectively. Among the graduate level or equivalent with a minimum of 16 cases, representing 8.21 percent.

4) Group / corporate attendees.

Most respondents were the represent of the landlord/tenants in the project of 111 cases representing 56.92 percent, followed those who have the building near the project of 56 cases representing 28.72 percent and a group of citizens interested in the project amount of 18 cases or 9.23 percent and the representatives from government agencies / state enterprises amounted to 4 case or 2.05 percent, respectively,

5) Characteristics of residential buildings / companies / offices.

The characteristics of residential buildings / establishments / Office of respondents. Most of the house / building number 115 cases representing 58.97 percent followed by home / townhouse of 50 cases or 25.64 percent, office building Number 16 cases or 8.21 percent, dorm/apartment nine cases or 4.62 percent, gas stations by 3 cases or 1.54 percent, and condominium 2 case representing 10.3 percent.

6) Current occupation

Most of the respondents own business / sales of 135 cases or 69.23 percent, followed by company employees 39 people representing 20.00 percent, maid / butler of 11 cases or 5.64 percent and government / state enterprise employees 10 people or 5.13 percent

7) Land use / building

The land use form of most of the respondents is residential and merchant of 106 cases or 54.36 percent, followed by housing, only 46 cases representing 23.59 and place of commercial / office alone 43 cases, representing 22.05 percent.

8) The right to land / buildings

The majority respondents ownership rights to the land / building number 161cases, representing 82.56 percent and the tenants of the 34 cases, representing 17.44 percent.

9) The live / work in a building adjacent to the project.

Most respondents have lived/ worked in buildings adjacent to the project over 10 years, the number of 161 cases, representing 82.56 percent, followed by 1-5 years of 17 cases or 8.72 percent between 6-10 years 13 cases or 6.67 percent and less than one year of 4 cases or 2.05 percent.

10) Get informed the Yellow Line Project

Most of the answerer had been informed of the yellow line of the 163 cases, representing 83.59 percent of the rest of the matters had not been informed of the yellow line before the other 32 cases, representing 16.41 percent.

However, most news Line Project yellow from project staff number by 66 cases, 40.49 percent, followed by a note from the neighborhood of 58 cases or 35.58 percent, newspapers of 57 cases

or 34.97 percent. From the internet 43 cases or 26.38 percent, from television revenue accounted for 31 cases or 21 percent, from billboards 19.02 case or 12.88 percent and from the radio of 4 cases or 2.45 percent.

11) Project route

Most respondents comment that the project route is appropriate for 186 cases, representing 95.38 percent. For the group that not agree with only nine cases, representing 4.62 percent

12) Station location

The majority of respondents thought that the station is appropriate for 163 cases, representing 83.59 percent. The group thought that the location of the station did not fit only 32 cases, representing 16.41 percent

13) The model of the station

The majority of respondents thought that the station's format is appropriate, in 181 cases, representing 92.82 percent. The group agreed that the format of the station was not right is only 14 cases or 7.18 percent

14) the construction model as a monorail system

The majority of respondents thought that the construction model as a monorail is suitable, with 181 cases, representing 92.82 of the groups that form the construction of a monorail inappropriate. with only 14 cases or 7.18 percent

15) Park and ride buildings

The majority of respondents thought that building park and ride is appropriate, with 179 cases, representing 91.79 percent. The group agreed that building the park and ride does not fit with only 16 cases, representing 8.21 percent

16) Depot

The majority of respondents thought that the Depot is appropriate with 185 cases representing 94.87. The group that believed the Depot is improper, only 10 cases or 5.13 percent

17) The Project Line Connection or other public transportation

The majority of respondents thought that the line connecting the project or other transit systems are appropriate and 183 cases, representing 93.85 percent of the group that is connected to other mass transit lines or systems. Transit does not fit with only 12 cases, representing 6.15 percent

18) The coordinator informed or provide information about the project to the people who live or work in the construction project.

The most respondents agreed that the measures that reduce the environmental impact of the project construction by a coordinator or to be informed about the project. The people who live or work in construction projects is appropriate, then 118 cases, representing 60.51 percent of the group that measures a coordinator or to be informed about the project. The people who live or work in the construction project without a proper number of 77 cases, representing 39.49 percent.

19) A press releases prior to the impact or inconvenience that may have been from the construction project.

The most respondents agreed that the measures that reduce the environmental impact of the project construction by news release prior to the impact or inconvenience that may have been from the construction project. A reasonable number of 117 cases, representing 60.00 percent. The group that measures to inform the press release prior to the impact or inconvenience that may have been from the construction project without the proper number 78 cases, representing 40.00 percent.

20) The notice on measures to reduce the environmental impact of the project construction.

The most respondents agreed that the measures that reduce the environmental impact of the project construction The notice on measures to reduce the environmental impact of the construction project. The appropriate number of 128 cases, representing 65.64 percent of the group that measures to inform about the measures to reduce the environmental impact of the construction project is not appropriate for a total of 67 cases, representing 34.36 percent.

21) The press release stated that, if you have been affected by the construction project, you can complain to the Complaint Information Center of the project

The most respondents agreed that the measures that reduce the environmental impact of the project construction. The press release stated that. If you have been affected by the construction project. You can complain to the Information Centre received complaints of the project. The appropriate number of 117 cases, representing 60.00 percent of the group that measures to inform you that the press release. If you have been affected by the construction project. You can complain to the Information Centre received complaints of the project. No reasonable number of 78 cases, representing 40.00 percent.

22) To provide clarity on the scene of the crash unusual events or construction.

The most respondents agreed that the measures that reduce the environmental impact of the project construction by providing clear information on the scene of the crash. Unusual events or the construction of a reasonable number of 120 cases, representing 61.54 percent of the group that measures to provide clarity on the scene of the crash. Unusual events or construction without the proper number of 75 cases, representing 38.46 percent.

23) Spraying water around the open space to reduce the spread of dust.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by spraying water to reduce the open space. The spread of dust The appropriate number of 169 cases, representing 86.67 percent of the group that measures sprinkling water around the open space to reduce the spread of dust. No reasonable number of 26 cases, representing 13.33 percent.

24) Spraying water around the open space to reduce the spread of dust.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by cover the materials to reduce dust is appropriate, then the number 174 cases representing 89.23 percent of the groups that covered the piles of materials to reduce dust without the proper amount of 21cases or 10.77 percent.

25) Spraying water around the open space to reduce the spread of dust.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by washing the car and the wheels free of the ground before the car came out outside the construction area. The appropriate number of 174 cases, representing 89.23 percent of the group that washing the car and the wheels to the ground before the car-free area outside the building without the proper number of 21 cases, representing 10.77 percent.

26) Install a fence at least 2 meters thick to prevent the dust from the construction area.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by installing a fence at least 2 meters thick to prevent the dust from the construction area. The appropriate number of 167 cases, representing 85.64 percent of the group that saw the installation of a fence at least 2 meters thick to prevent the dust from the construction area is not suitable for a number of 28 cases, representing 14.36 percent.

27) Control vehicle speed in the construction area to reduce the spread of dust.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by controlling the vehicle speed in the construction area to reduce the spread of dust is appropriate, then the number of 168 cases, representing 86.15 percent of the group that controls the vehicle speed in the construction area. To reduce the spread of dust is not appropriate for a total of 27 cases, representing 13.85 percent.

28) The timing control functions to control noise impacts on nearby communities.

The most respondents agreed that the measures that reduce the environmental impact of the dust resulting from the activities of the area. materials pile and transportation by controlling the duration of the work to control the impact of noise on nearby communities have the right number of 165 cases representing 84.62 of the group that controls the duration of the work to control the impact of noise on nearby communities. No reasonable number of 30 cases, representing 15.38 percent.

29) The prohibited construction activities and noise after 22:00.

Most respondents agreed that measures reduce the impact of noise from different activities in construction by prohibited construction activities and noise after 22:00. The appropriate number of 165 cases, representing 84.62 percent of that group. The prohibited construction activities and noise after 22:00. No reasonable offer of 30 cases representing 15.38 percent.

30) The check engine regularly to prevent noise

Most respondents agreed that measures reduce the impact of noise from the construction activities by monitoring engine regularly to prevent noise. The appropriate number of 176 cases, representing 90.26 percent of the group that checked regularly to prevent engine noise. No reasonable number of 19 cases, representing 9.74 percent.

31) To make the construction activities that may cause a vibration by engaged in the daytime from 07:00 AM. to 18:00 PM.

Most respondents agreed that measures to reduce the impact of the vibration that may result from construction activities by requiring construction activities may cause. Vibration could be taken in the daytime from 07:00 AM. to 18:00 PM. A reasonable number of 173 cases, representing 88.72 percent of the group agreed that the construction activities that may cause a vibration. Be taken in the daytime from 07:00 AM. to 18:00 PM. No reasonable number 22 cases, representing 11.28 percent.

32) Energy reduction activities, drilling, pile driving hammer. In the area susceptible to being affected, such as hospitals, schools and so on.

Most respondents agreed that measures to reduce the impact of the vibration that may result from construction activities by reducing the energy impact of drilling activity in the pile. In the area susceptible to being affected, such as hospitals, schools, etc. are appropriate and 174 cases, representing 89.23 percent of the group saw a reduction in energy activities, drilling, pile driving hammer. In the area susceptible to being affected, such as hospitals, schools, etc., are not appropriate for the number 21 cases, representing 10.77 percent.

33) Control truck speed in the construction area to reduce vibration

Most respondents agreed that measures to reduce the impact of the vibration that may result from construction activities by controlling the speed of vehicles in the area of construction to reduce vibration. The appropriate number of 172 cases, representing 88.21 percent of the group that controls the speed of the truck in construction to reduce vibration. No reasonable number of 23 cases, representing 11.79 percent.

34) The plan to route traffic to avoid and shortcuts to select a route for the trip.

Most respondents agreed that measures to reduce the impact on traffic by the traffic plan indicating the routes and the shortest route to the route chosen for the trip are appropriate,167 cases, representing 85.64 percent the group that the traffic plan indicating the routes and shortcuts. to select a route for the trip. No reasonable number of 28 cases, representing 14.36 percent.

35) Promoted to use the bypass

Most respondents agreed that measures reduce the impact on traffic by promoting the use of the bypass. The appropriate number of 163 cases, representing 83.59 percent of the group that promoted the use of the bypass. No reasonable number of 32 cases, representing 16.41 percent.

36) To arrange the facilitator for the traffic.

Most respondents agreed that measures reduce the impact on traffic by arranging facilitator for traffic. The appropriate number of 167 cases, representing 85.64 percent of the group that provides facilitator traffic. No reasonable number of 28 cases, representing 14.36 percent.

37) Installing LED lighting, signs and traffic signals clearly, to facilitate travel.

Most respondents agreed that measures reduce the impact on traffic by installing LED lighting, signs and traffic signals to facilitate a clear travel. The appropriate number of 172 cases, representing 88.21 percent of the group that saw the installation of signal lights and stop

signs, traffic clearly, to facilitate travel. No reasonable number of 23 cases, representing 11.79 percent.

38) Provide temporary drainage systems to reduce drainage problems.

Most respondents agreed that measures reduce the impact of drainage by providing temporary drainage system to reduce drainage problems. The appropriate number of 172 cases, representing 88.21 percent of the group that organized a temporary drainage system to reduce drainage problems. No reasonable number of 23 cases, representing 11.79 percent.

39) Maintain the cleanliness in construction areas to avoid blockage problems.

Most respondents agreed that measures reduce the impact on drainage by taking care of the cleanliness of the construction site to avoid blockage problems. The appropriate number of 177 cases, representing 90.77 percent of the group that takes care of the construction area clean to prevent blockage problems. No reasonable number of 18 cases, representing 9.23 percent.

40) Requiring contractors to monitor and prevent sediment and debris from construction to clog up the drainage channels.

Most respondents agreed that measures reduce the impact on drainage by requiring contractors to monitor and prevent sediment and debris from construction to clog up the drainage channels. The appropriate number of 176 cases, representing 90.26 percent of the group agreed that the contractor monitor and prevent sediment and. From construction debris to clog the drainage channels. No reasonable number of 19 cases, representing 9.74 percent.

41) Other comments and suggestions on measures to reduce the environmental impact of the project construction of the MRTA.

Most respondents have additional suggestion 149 cases, representing 76.41 percent of the remaining 46 cases, representing 23.59 percent, with further suggestions.

The comments and suggestions for other issues. On measures to reduce the environmental impact of the construction of the project. MRTA. In order from most to least are as follows.

Ranked # 1 There should be measures to help those who have been affected by the business further 16 cases, representing 34.78 percent.

Ranked # 2 There should be additional measures to reduce the impact at the station (size, height), which relies on street stalls in front of the store. And obscured the view of the eight cases, representing 17.39 percent.

Ranked # 3 Should install an electric light at night during construction work, such as Bang Kapi junction 7 cases accounted for 15.22 percent.

Ranked # 4 Measures should be taken to educate the public about air pollution audio from the development of six cases, representing 13.04 percent.

Ranked # 5 There should be additional measures for flood protection measures especially along the Lat Phrao road during the construction of five cases, representing 10.87 percent.

Ranked # 6 The expropriation of private land should be spaced from the building of the station and should enhance the flood protection measures especially Lat Phrao Road during the construction. The number of suggestion only two cases representing 6.52 percentage.

Ranked # 7 Request for pay more attention on the measures to reduce the effects of moving water pipe main 2 cases accounted for 4.35 percent.

Ranked # 8 Should strictly comply to follow the presentation in the meeting, compliance with regulations as well. If the plumbing or electricity cuts should take notice. And proposed measures and their impact on the division of construction of buildings with a total offer of 3 cases representing as 2.17 percent.

42) Comments on the construction of the Yellow Line, the Lat Phrao - Samrong

The majority of respondents agreed on the construction of the MRT in yellow line during the Lat Phrao - Samrong number 160 cases representing 82.05 percent, disapproved of by 26 cases reprecenting 13:33 percent remaining 9 cases, accounting for 4.62 percent for no comment.

The reason that the construction of the Yellow Line Lat Phrao - Samrong order from most to least are as follows.

Ranked #1 Agree on the construction of the Yellow Line Lat Phrao - Samrong but not commenting 109 cases, representing 68.13 percent.

Ranked #2 Comfortable to travel the 29 cases, representing 18.13 percent.

Ranked #3 Reduce the traffic congestion on the major routes of the 27 cases, representing 16.88 percent.

Ranked #4 The city prospered and developed in a great number of 10 cases, representing 6.25 percent.

Ranked #5 Reduce the use of fuel improve the environment for eight cases, representing 5.00 percent of the reasons for disagreement to the construction of the Yellow Line Lat Phrao- Samrong order from most to least is summarized as follows**:**

Ranked #1 Criteria for the selection of the station is not suitable 7 cases accounted for 26.92 percent.

Ranked #2 The location of the station is not suitable for 6 cases, representing 23.08 percent.

Ranked #3 The monorail system is not fit to be a metro. In addition, during the construction the business cannot be operated and has been directly affected and opposed to the construction project Yellow Line during the Lat Phrao - Samrong does not comment on 5 cases as 19.23 percent.

Ranked #4 Structure of the monorail system obscured on Lat Phrao road, making it look dowdy 3 cases, accounting for 11.54 percent.

Ranked #5 The process to compensate for expropriation may not be justified and have an impact on the profession and the public housing amounted to 2 cases, equal to 7.69. percent.

9.7.5 The 2nd forum for public opinion listen

The second forum for public opinion listen, study, detailed review of the proper design and preparation of tender documents, Yellow Line Project, the Lat Phrao – Samrong was held on Thursday, November 28, 2013, at 09:30 AM. to 12:00 PM. at the ballroom floor 15 hotels Maple. Srinagarindra Road, Bangna, Bangkok. The registration beginning approximately at 9:00 to 9:30 AM. and once presided over (Mr.Chaisith Kururat Deputy Mass Rapid Transit Authority of Thailand) arrived Mr. Theraphan Thechasirinukoon Assistant Governor of the Mass Rapid Transit Authority of Thailand reported then presided over. After the opening meeting then presented a 10-minute video presentation of the project by offering information and guidance to a study by the consultant of the project. After completing the presentation, attendees had the opportunity to ask questions. Provide feedback and comments on the project's advisory panel answering questions until about 12.00. The closing plenary session of about three hours, the details of the schedule.

The 2nd forum for public opinion listen to Yellow Line Project,
the Lat Phrao - Samrong.

9.00 – 9.30 AM.	Registration / Reception
9.30 – 9.35 AM.	The report of the 2nd forum for public opinion listen By Mr. Theraphan Thechasirinukoon Assistant Governor of the Mass Rapid Transit Authority of Thailand
9.35 – 9.45 AM.	The opening of the 2nd forum for public opinion listen By Mr.Chaisith Kururat Deputy Mass Rapid Transit Authority of Thailand
9.45 – 10.00 AM.	video presentation of the project
10.00–10.45 AM.	Presentation the results of projects in different subjects. - Background of the project,The scope study and Results. By Dr. Kanchit Philnuan deputy project manager. - The project route and the structure By Mr.ThanaKron Chitheraphiyo Engineers - Summary the architectures design By Mr. A-se Sukyang Architect - The results of the environmental impact and implementation, the public participation. By Dr. Rattakorn WongPipatannanon. Environmental specialists
10.45 – 11.50 AM.	Listen to opinions and suggestions and answer the attendees questions By the Mass Rapid Transit Authority of Thailand and the consulting group.
11.50 AM. - 12.00 PM.	Summary the meeting, close meeting and lunch together.

1) The purpose of the meeting

To present and listen to public opinion. The Results forms and detailed design projects, routes form the project environmental impact and measures to prevent environmental impact. And discuss the appropriateness and adequacy of the measures. To improve reporting and a detailed project

2) The target group invited to attend

Defining stakeholders Implementation of the guidelines for the participation of the public social and environmental impact assessment. In the process, the EIA Social Environmental Impact Assessment Bureau. Natural Resources and Environmental Policy and Planning Office 2006 by classification into seven groups comprising stakeholders. Those affected by the project responsible for prepare a report on the environmental impact assessment. The environmental impact assessment report government at various levels of environmental NGOs/organizations/institutions/scholars, independent media, and the general public. The names of the target groups invited to attend, as shown in annex A.

3) Attendees

Participants are involved in the project include government agencies. Local authorities, organizations, private sector development private sector Those affected by the implementation of the project area. And the general public interested in the project, a total of 422 people, including.

1) Government Agencies	total	28	people
2) State enterprise	total	8	people
3) Local governments	total	3	people
4) Private entrepreneurs	total	22	people
5) Those affected Development projects			
Institution / hospital	total	5	people
6) Press	total	9	people
7) People / entrepreneurs who live near the project.			
Chatuchak	total	4	people
Wang Thong Lang	total	60	people
Huae Khwang	total	18	people
Ban Kapi	total	33	people
Suanluang	total	25	people
Prawet	total	28	people
Bangna	total	21	people
Sumrong Nue Muang Samut Prakarn	total	57	people
8) Mass Rapid Transit Authority of Thailand	total	81	people
9) Consultants	total	20	people
Number of Attendees		422	people

For the list of attendees, detailed in **Appendix 9B** of the climate conference to hear public comment on two occasions, as shown in **Photo 9.7.5-1**.

Participants registered and receive document

Participants registered and receive document

Participants visited project document boards

Participants visited project document boards

Mr. Teeraphan Techasirinugul
Assist to MRT Governor present report to he chairperson

Mr. Chaisith Kururatna
Deputy MRT Governor Opening the Seminar

Photo 9.7.5-1 showing some parts of the activities during the first public participation seminar at Maple hotel on Thursday 28 November 2013 during 9:30 AM. to 12:00 PM.

Consultants presented project details

Consultants presented project details

Listened to project details

Listened to project details

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Photo 9.7.5-1 showing some parts of the activities during the first public participation seminar at Maple hotel on Thursday 28 November 2013 during 9:30 AM. to 12:00 PM.

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Photo 9.7.5-1 showing some parts of the activities during the first public participation seminar at Maple hotel on Thursday 28 November 2013 during 9:30 AM. to 12:00 PM.

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Participant expressed ideas and suggestions

Consultants responsed to questions and give explanations

Consultants responsed to questions and give explanations

Photo 9.7.5-1 showing some parts of the activities during the first public participation seminar at Maple hotel on Thursday 28 November 2013 during 9:30 AM. to 12:00 PM.

4) Summary of The 2nd forum for public opinion listen

To conduct the 2nd forum for public opinion listen, attendees can participate, ask questions and comment on the meeting and provide comments and feedback on the questionnaire below.

(1) Commenting on the meeting. The 2nd forum for public opinion listen, the consulting firm presented a detailed study of environmental impacts and measures to prevent and reduce environmental impact. It also provided an opportunity for attendees to ask questions / comments and suggestions about the project which are summarized in **Table 9.7.5-1**. Summary of issues and questions, comments and suggestions about the project / classification station, as shown in **Table 9.7.5-2**

Table 9.7.5-1 Questions, comments and suggestions about the project in the meeting room

Questions/Comments/Suggestions.	Clarification of Consultants
<u>The economic</u> 1. When the royal decree expropriated land will be announced. The announce, rules and procedures for the expropriation of land. will only have an impact on land or in the announcement along the lines of the entire project.	1. The royal decree announced the expropriation of land will be expropriated by the announcement of the line which the designated areas are quite broad. However, when it expropriated, the MRTA. will send an officer to perform the appraisal to expropriate land and building by the assessment will be carried out by the MRTA. To propose to the Board of Directors of the MRTA to proceed the announcement of the royal decree to expropriate land
2. The fare of 20 baht throughout the line as the consultant stated. Will fare in this price forever or only during the initial phase of the project.	2. In terms of fares, the MRTA are comparing pricing structures. The fare policy is important with the MRTA. It must be considered in conjunction with other government agencies that provider of public transport. This will determine the right price for both passengers and consultants that conducted a study comparing the two types of price collecting fares based on distance or station and costs evenly throughout the period which is currently in the process of analyzing and presenting preliminary results to the MRTA consideration.

Questions/comments/suggestions.	Clarification of Consultants
The economics	
3. The benefits share of those affected with the MRTA and the MRTA. Are there rules to share benefits so that those affected have a choice in the decision or not.	3. At present, the MRTA have no rules to Share Benefits, so those affected or the operator. We must have a dialogue with MRTA. It is a case by case basis.
The environment	
1. The volume of the Yellow Line Project, the Lat Phrao - Samrong, a monorail to the level of the sound more or less the volume of the BTS today.	1. The noise from the Yellow Line Project, the Lat Phrao- Samrong, a monorail system to the level of the noise level is less than the BTS today.
2. The operation of Yellow Line Project construction phase Lat Phrao- Si Samrong in the Si Thepa station area to the current problem of flooding from Sumrong canal. If a construction project was undertaken by the MRTA. It is a process and measures how construction in order not to cause more flooding.	2. In this study, a hydrological engineer who studied in particular at the station. Engineers will be featured on a special drainage. Also placing bunting is probably similar to other projects. Placed on banks not to obstruct the water or placed in the same way. The bridge close to each other so as not to block the drain. The consultant will take into account the opinions.
The Public Participation	
1. In each of the meeting, there will be questions that arise. The consultant has to consider the people who are affected have not received a clear answer. Therefore, the consultant should have a conclusion or answer all questions within each meeting.	1. In each meeting, the consultant will gather information from each meeting to present to the MRTA and consider the answers to most of them. The consultants have presented in the media. The project, which interested parties can subscribe. The meeting will be convened to present the progress of the work the consultants have studied and presented to the public to consider. The meeting will also need to gather feedback and to consider the present and in the future. The public can offer comments at any time.
2. In each meeting, how would the project publicize or channel information about each meeting?	2. Detailed information about the project can be found on the website of the project. (www.mrta-yellowline.com)

Questions/comments/suggestions.	Clarification of Consultants
3. Proposed for a meeting, particularly those affected by the expropriation of land.	3. The Consultant will be presented with the MRTA. Board, to offer the further conferences, particularly those affected by the expropriation of land.
4. Suggested to establish the fund for those affected by the project and the expropriation of land for construction projects.	4. The Consultant will be presented with the MRTA. Board, to propose to consider the appropriateness of establishing a fund to take care of those affected by the project further.
<u>Other</u> 1. When would the Yellow Line Project, the Lat Phrao - Samrong will start the construction and when to completed and where in the area will start construction first.	1. The project plans for the construction is expected to begin in 2015 and expected to be completed in 2019 and the operation intended to be open in the same year.

Table 9.7.5-2 questions, comments and suggestions about the project by station

Group/Channel	Questions/comments/suggestions.	Clarification of Consultants
Chok chai 4 Station	1. Those in the green space as a mentor has to offer. The interests and agree on the construction project. How can contact the MRTA to offer the MRTA consider.	1. In the study follow the consultants suggestion in green space area is that can be developed using the land for development in different ways such as ITF or TOD, if the operator or land owner is interested, can contact the MRTA or the consultants can corporate with the MRTA.
Si Udom Station	1. In the No.3 entrance - exit Si Udom station, in the case of the land owners did not agree with will be changed or not. In the area of the second entrance - exit are wider and will have the escalators or elevators,	1. In terms of length and width of the. entrance - exit, the consultant has a profile that is quite certain. This will be explained in details to those interested after the meeting.

Group/Channel	Questions/comments/suggestions.	Clarification of Consultants
Si Udom Station	2. Those directly affected by the stations Si Udom want to know The information about the project. The format of the station The distance from the building. Where to get information and the construction and operation of the project, the operator can do a business or not.	2. Detailed information about the project can be found on the website of the project. www.mrta-yellowline.com or from consultants.
	3. At Si Udom Station located tunnels of Bangkok hence where the station is located.	3. Si Udom station is located next to the tunnel Novotel Bangna.
	4. If the people who have been affected by the expropriation of land surround Si Udom Station would like to what the deed number would be expropriated.	4. Currently, the master plan is still not complete, when it finished, it will be published or you can contact the consultants directly.
Lat Phrao Station	1. The road median on Lat Phrao Road which is a water pipe located. How would the project will be handled so that people in the area not affected by the use of tap water.	1. The plumbing, the consultants have considered an alternative to joining the Authority is in the construction phase there will be an orientation for new plumbing done before then proceed to the diversion of water from old plumbing pipes to the new line. Then proceed to demolish the old plumbing. As part of the Cut convergence is that the MWA has cut the convergence without turning off the water, which the MRTA. It will meet the requirements of MWA, so the relocation will consider the impact on water use. of the smallest
	2. In terms of the impact, how the project will proceed the noise preventive measures to reduce the impact?	2. In terms of the impact of noise on the yellow line. The Lat Phrow – Samrong, the system uses an electric MONORAIL with the level of noise is generally less than BTS because, in general, the noise from the BTS Skytrain system generate from steel wheels on steel rails satire. The MONORAIL system, on the other

Group/Channel	Questions/comments/suggestions.	Clarification of Consultants
Lat Phrao Station (cont'd)		hand, that the wheels and tires are running on concrete. This will reduce much of noise emissions. In addition, the manufacturer has designed a system to reduce the noise made by a source from the wheel cover with the car. Hence, the effects of noise from MONORAIL systems are certain less and the building of the station, the station will be covering. This will also reduce the noise level that
	3. How is time table and frequency of the yellow line route?	3. Time table of the train during the normal running of the train is around 05:00 - 24:00. The frequency of the train is to match the volume of passengers at different times.
	4. According to the information that in Lat Phrao area will have another station in the future. Would it possible to get to know the details of the future station.	4. In a previous study on the distance between stations which is planned for three future stations, however, due to the volume of passengers using the service, those planed stations can be built accordingly.
	5. According to the information received the fare policy determines from the passengers volume which the consultants have estimated about 20,000 people per hour. However, the Bang Kapi and Lumsali station area have a population of more than that. Is it proposed that the fare would be 15 baht?	5. For Bang Kapi Station (Lumsali) where the two metro lines converge. This makes a lot of people there. In a study of 20,000 people counted as passenger numbers have considered the all-inclusive system. So may provide the frequency of convoys in every 3-4 minutes and can also increase the number of trains or carriages have. Therefore, it can contain the public adequately. In terms of price, to have more passengers, it does not mean. Fares are lower The price is a matter of policy The government and the MRTA. It is considered to be consistent with the target. Public service as much as possible. In the same way, it must have sufficient income to the cost of implementing the system.

Group/Channel	Questions/comments/suggestions.	Clarification of Consultants
Phawana Station	1. Would like to know that the Phawana entrance - exit was expropriated would continue to be expropriated or not. Since the last meeting has proposed a move away from the old station.	1. The area is green space along the way. Consultants have designed that the area also do not use direct So will not be expropriated. But may be in contact with the MRTA. to develop together in the future.
	2. In the red zone and green one or various structures In construction projects, will it be published on the website or not. Since the information did not receive the details.	2. The data are the report of the meeting and website reported in the project.
Si Dan Station	1. The location of the Si Dan stations where located far away from Si Dan intersection of Srinakarindra road so would like to know the reason for selecting the station since it is difficult for the people who use the service.	1. In the Si Dan station, the feasibility study has been conducted for the first time in this study. Consultants have designed the station moved about 200 meters, but with a limit on the length of the bridge because if a station close to the bridge more the height of the station will be increased. So from, that consultant studies and conferences to hear it two times, it has been proposed to adjust. The station can be adjusted for convenient to the public, expropriation including the other minimal components so that the form has to offer.
	2. If Si Dan station location has been adapted approach. How far from Wat Dan or Samrong canal?	2. The Si Dan station at a distance from the road from Wat Dan or Samrong canal, about 130 meters.
	3. What does the dotted red line throughout the project means and means to surrender or not?	3. The area along the red dotted line represents the distance along the route ordinance that prohibits the granting of any buildings in the area. This is not expropriation but the law requires that the building of any adjacent street is retreating 15 meters from the road.
Si Bearing Station	1. Where is the location of the Si Bearing station	1. Si Bearing station is located at soi Bearing.

(2) The comments from the questionnaires

The meeting of this group was to gather the opinions of the participants using a questionnaire in the 2nd meeting **(Appendix 9C)**, in which the meeting. This meeting was attended by 422 people who commented were 180 cases, representing 42.65 percent of all the attendees. The results are collected and analyzed data from the questionnaire **(Appendix 9D)** a summary of the results are as below.

1) Gender

Respondents mostly male 109 cases, representing 60.56 percent the rest are female 71 cases, representing 39.44 percent.

2) Age

Most respondents are the group of aged between 51-60 years, 51 persons or 28.33 percentage, followed by those aged 31 – 40 years, 46 persons or 25.56 percentage, and those aged 60 years for 39 person or 21.67 percent, followed by those aged 41-50 years for 35 person or 19.44 percent as well as the groups under the age of 30 years with a number least 9 cases, representing only 5.00 percent.

3) Education level

The majority of respondents who completed a degree in 92 cases or 51.11 percent, followed by a group of graduate-level in the amount of 47 cases or 26.11 percent, and those who graduate high school, another 19 cases, representing 10.56 percent, those who graduate junior high school graduates or lower than 12 cases, representing 6.67 percent and graduates of associate degree or the equivalent of 10 cases, representing 5.56 percent.

4) Group / Corporate Attendees

Most respondents were the represent of the landlord/tenants in the project of 73 cases representing 40.56 percent, followed those who have the building near the project of 42 cases representing 23.33 percent and the representatives from government agencies / state enterprises amounted to 30 case or 16.67 percent, a group of citizens interested in the project amount of 27 cases or 15.00 percent, community leaders / representatives of local government, 5 cases or 2.78 percentage and representatives of the institutions of the three cases, representing 1.67 percent.

5) Get informed the Yellow Line Project

Most respondents had been informed of the Yellow Line Project of the 164 cases, representing 91.11 percent of the rest had not been informed of the yellow line before the other 16 cases, representing 8.89 percent. This is mainly news, construction Metro Yellow Line from the Notice of meeting 83 cases, 50.61 percent minor note from project staff numbers by 46 cases 28.05 percent, newspaper of 36 cases, 21.95 percent. The note from neighbors and Internet. The ratio is equal to the amount of 30 cases, 18.29 percent know from television of 20 cases, 12.20 percent and saw the billboards of 15cases, 9.15 percent and informed by radio of 4 cases 2.44 percent.

6) Comments on the Yellow Line Project

Most respondents had been informed of the Yellow Line Project on 157 cases, representing 87.22 percent of the rest of the matters had not been informed of the yellow line before the other 23 cases, representing 12.78 percent. However, most news Line Project from the

yellow project officials 61 cases, 38.67 percent minor saw the newspapers of 56 cases, 35.67 percent aware of neighbors of 48 cases 30.57 percent aware of. Internet revenues accounted for 38 cases or 24.20 percent, know from televisions 25 cases or 15.92 percent, aware by advertising 24 cases and 15.29 percent of the radio 9 cases or 5.73 percent.

7) Meeting / Seminar of the Yellow Line Project

Most respondents had attended the meeting / seminar Yellow Line Project of 101 cases, representing 56.11 percent of the rest had never joined the conference / seminar Yellow Line Project 79 cases, representing 43.89 percent.

Most respondents had attended the meeting / seminar Yellow Line Project is the first time 46 case or 45.54 percent minor participants / seminar two times the amount of 25 cases or 24.75 percent. The number of people attended the seminar 3 times for 20 cases or accounted for 19.80 percent and attendance / conference four times 10 cases, representing 9.90 percent.

8) The project route

Most respondents comment that the project route is appropriate for 178 cases, representing 98.89 percent. For the group that not agree with only two cases, representing 1.11 percent

9) Station Location

The majority of respondents thought that the station is appropriate for 159 cases, representing 88.33 percent. The group thought that the location of the station did not fit only 21 cases, representing 11.67 percent

10) The model of the station

The majority of respondents thought that the station's format is appropriate, in 163 cases, representing 90.56 percent. The group agreed that the format of the station was not right is only 17 cases or 9.44 percent

11) The construction model as a Monorail System

The majority of respondents thought that the construction model as a Monorail is suitable, with 166 cases, representing 92.22 of the groups that form the construction of a monorail inappropriate. with only 14 cases or 7.78 percent

12) Park and ride buildings

The majority of respondents thought that building park and the ride is appropriate, with 163 cases, representing 90.56 percent. The group agreed that building the park and ride does not fit with only 17 cases, representing 9.44 percent

13) Depot

The majority of respondents thought that the maintenance center is appropriate with 175 cases representing 97.22. The group that believed the maintenance center is improper, only 5 cases or 2.78 percent

14) The Project Line Connection or other public transportation

The majority of respondents thought that the line connecting the project or other transit systems are appropriate and 167 cases, representing 92.78 percent of the group that is connected to other mass transit lines or systems. Transit does not fit with only 13 cases, representing 7.22 percent

15) The coordinator informed or provide information about the project to people who live or work in the construction project.

The most respondents agreed that the measures reduce the social impact by a coordinator or to be informed about the project. The people who live or work in the construction project. The appropriate number of 156 cases, representing 86.67 percent of the group that the above measures. No reasonable offer by 24 percent to 13.33, the suggestion is that there should be more contact with people who have been directly affected.

16) The notice on measures to reduce the environmental impact of the project construction.

The most respondents agreed that the social impact measure by notice on the measures to reduce the environmental impact of the construction project. The appropriate number of 160 cases, representing 88.89 percent of the group that the above measures. No reasonable offer of 20 cases 11.11 percent, the suggestion is that there should be more contact with people who have been directly affected.

17) The press release stated that, if you have been affected by the construction project, you can complain to the Complaint Information Center of the project

The most respondents agreed that the measures reduce the social impact, the press release stated that. If you have been affected by the construction project. You can complain to the Information Centre received complaints of the project. The appropriate number of 144 cases, representing 80.00 percent of the group that the above measures. No reasonable offer of 36 cases, representing 20.00 percent, the suggestion is that there should be a more open Web to receive complaints directly. The officer received a complaint at any time.

18) To provide clarity on the scene of the crash unusual events or construction.

The most respondents agreed that the measures reduce the social impact by providing clear information on the interference, unusual events or construction. The appropriate number of 149 cases, representing 82.78 percent of the group that the above measures. No reasonable number of 31 cases, representing 17.22 percent.

19) Committed the contractor must comply with the regulations and practices to control dust from the construction of various types of air pollution editorial board and communities in Bangkok, Thailand

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By requiring the contractor must comply with the rules and regulations for controlling dust from the construction of various types of air pollution in the editorial board and the community in Bangkok, Thailand. The appropriate number of 173 cases, representing 96.11 percent of the group that the above measures. No reasonable offer 7 cases accounted for 3.89 percent.

20) Installing solid fences with the height of at least two meters, or equivalent. To determine the construction area. The rotate light fixtures along the construction area must also be installed every 30-meter spacing and installation to be completed before starting construction and to dismantle or move out if construction in the area when the construction was completed.

The most respondents agreed that Installing solid fences with the height of at least two meters, or equivalent. To determine the construction area. The rotate light fixtures along

the construction area must also be installed every 30-meter spacing and installation to be completed before starting construction and to dismantle or move out if construction in the area when the construction was completed. The appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable offer of 3 cases, 1.67 percent

21) The use of ready mixed concrete production and mixing from the outside construction areas to prevent and minimize the impact to happen to the community surrounding the area.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. The use of ready mixed concrete production and mixing from the outside construction areas to prevent and minimize the impact to happen to the community surrounding the area. The appropriate number of 178 cases, representing 98.89 percent of the group that the above measures. No reasonable offer of 3 cases or 1.11 percent.

22) The spraying water on the surface of the road network at least 3-4 times a day along the construction area or areas that may cause the spread of dust.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By spraying the surface road network was at least 3-4 times a day along the construction area or areas that may cause the spread of dust is appropriate with the number 174 cases representing 96.67 percent the group agreed that the above measures. No reasonable amount of 6 cases or 3.33 percent, the recommendation is to further enhance the spraying.

23) Preparing employees for at least 3-4 people / construction areas to clean and store operations in the building and construction activity is completed each day.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. The employee must provide at least 3-4 people / construction areas to clean and store operations in the building and construction activity is completed each day. The appropriate number of 175 cases, representing 97.22 percent of the group that the above measures. No reasonable amount of five cases, representing 2.78 percent.

24) Providing a control unit maintenance or monitoring condition and engine and machinery for the construction of at least one a week, to prevent the emission of particulate (TSP and PM-10), and toxic fumes.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By providing the control unit maintenance or inspection of the engines and machines that are used in the construction of at least one time per week to prevent the emission of particulates (TSP and PM-10), and toxic fumes are reasonable, the number 175 cases or 97.22 percent of the group that the above measures. No reasonable amount of 5 cases or 2.78 percent has more feedback should be provided to the daily.

25) Preparing employees for at least 3-4 / construction site to sweeping and cleaning or picking dirt / mud track at the wheel before the vehicle ran out of the building every time.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By providing employees with at least 3-4 people / construction site to make sweeping and cleaning or picking dirt / mud track at the wheel before the vehicle ran out of the

construction area, every time there is a reasonable number of 171 cases, representing 95.00 percent of the group that the above measures. No reasonable amount of 5.00 cases, representing 9 percent.

26) Forcing to use the material covered of the vehicle used for transport materials / equipment to prevent loss / omissions of material / equipment.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By forcing the material covered of the vehicle used for transport materials / equipment to prevent loss / omissions of material / equipment. The appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable offer of 3 cases or 1.67 percent.

27) The most respondents agreed that the measures reduce the impact of dust caused by construction activities

by Providing fine mesh or canvas covered under the elevated structure or a Depot and park & ride buildings. To support materials / equipment may fall from a building 10 meters above ground level, or to prevent blowing dust. The appropriate number of 174 cases, representing 96.67 percent of the group that the above measures. No reasonable amount of 6 cases, representing 3.33 percent.

28) Providing fine mesh or canvas cover or block the construction of the station to prevent the dust from the construction.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By providing fine mesh or canvas cover or block the entrance - exit of station construction to prevent the dust from the construction. The individuals that agreed with the above measures appropriate of 175 cases, representing 97.22 percent. Not reasonable amount of five cases, representing 2.78 percent.

29) Preparing employees for at least 3-4 people to clear traffic on the old road surface along with the construction of the elevated structure and the metro station during the night at least four days a week between 24:00 am. - 3:00 pm of the following day.

The most respondents agreed that the measures reduce the impact of dust caused by construction activities. By providing employees with at least 3-4 people to clear traffic on the old road surface along with the construction of flyovers and the metro station. During the night at least four days a week between 24:00 am. - 3:00 pm of the following day, a reasonable number of 165 cases, representing 91.67 percent of the group that the above measures. Not reasonable 15 cases or 8.33 percent. An additional suggestion is that staff should be cleaned daily.

30) The use of tools, equipments and machinery, without causing noise levels and equipment. Reduce or control the noise level by mechanical noise such as pipe or casing cover, etc. In the case of noise levels over 90dB (A) for a period of one hour each.

The most respondents agreed that the measures reduce the impact of noise. By using the tools, equipment and machinery, without causing noise levels and used to reduce or control the volume of mechanical equipment such as pipes, soundproofing or sleeve protectors, etc. In the case of noise levels over 90dB (A) at the source. sounds a period of one hour each with the appropriate number of 173 cases, representing 96.11 percent of the group that the above measures. No reasonable offer 7 cases accounted for 3.89 percent.

31) The construction of the structure to work 8:00 to 18:00. During the 21:00 am. To 5:00 pm. the following day. Is constructed so as not to cause noise levels during the rest of the community.

The most respondents agreed that the measures reduce the impact of noise. The construction of the structure to work 8:00 to 18:00. During the 21:00 am to 5:00 pm. the following day. Is constructed so as not to cause noise levels during the rest of the community. The appropriate number of 170 cases, representing 94.44 percent of the group that the above measures. No reasonable number of 10 cases or 5.66 percent. A further suggestion was to start work after 9:00 am onwards.

32) The contract states to complete the installation of sound-absorbing material. Placed along the transit system. A distance of at least 200 m/s in the period before and after the sensitive areas of the affected area schools, hospitals, mosques, temples.

The most respondents agreed that the measures reduce the impact of noise. The contract states to complete the installation of sound-absorbing material. Placed along the transit system a distance of at least 200 m/s in the period before and after the sensitive areas of the affected area schools, mosques, temples, hospitals have the appropriate number of 174 cases representing 96.67 of the group that measure said that No reasonable for 6 cases or 3.33 percent, the additional recommendation should include additional large buildings.

33) The installation of sound-absorbing material. Under the BTS stations, including Phawana station, Chok Chai 4 Station, Ladprao-101 Station and Samrong Station. To reduce the impact of noise levels.

The most respondents agreed that the measures reduce the impact of noise. The process of installing sound-absorbing material under the stations, including Phawana stations, Chok Chai 4 Station, Ladprao-101 Station and Samrong Station, to reduce the impact of noise levels are reasonable, and the number of 171 cases, representing 95.00 percent of the group that the above measures. No reasonable number 9 cases or 5.00 percent. The additional recommendation should be added to the installed sound-absorbing material.

34) The detailed design for construction of elevated structure and depot and park & ride buildings. To support the quake or tsunami safely under the Building Control Act 1979.

The most respondents agreed that reduce impact shock that may result from construction activities. The detailed design for construction of elevated structure and depot and park & ride buildings. To support the quake or tsunami safely under the Building 1979 is fitting for 176 cases, representing 97.78 percent of the group that the above measures. No reasonable offer of 4 cases or 2.22 percent.

35) The building the foundation for the elevated structure or building depot and park & ride building. The Circular Bored Pile or Barrette Pile should be used to reduce vibrations in sensitive areas.

The most respondents agreed that reduce the shock impact that may result from construction activities. The foundations for the construction of the elevated structure or building depot and park & ride buildings to use Circular Bored Pile or Barrette Pile to reduce vibrations on

sensitive areas. The appropriate number of 175 cases, representing 97.22 percent of the group that the above measures. No reasonable amount of five cases, representing 2.78 percent.

36) Use the Steel Sheet Pile between the foundation and to help reduce vibration levels to a depth not to disturb the area along the road network.

The most respondents agreed that reduce impact shock. That may result from construction activities. By piling Steel Sheet Pile between the foundation and to help reduce vibration levels to a depth not to disturb the area along the road network. The appropriate number of 175 cases, representing 97.22 percent of the group that the above measures. No reasonable amount of five cases, representing 2.78 percent.

37) The construction is scheduled to begin operations that will cause a vibration in at 8:00 AM. - 18:00 PM.

The most respondents agreed that measures reduce the impact of vibrations caused by construction activity. By the start of construction work. To cause a vibration in at 8:00 AM. - 18:00 PM. The appropriate number of 173 cases, representing 96.11 percent of the group that the above measures. No reasonable income amounted to 7 cases or 3.89 percent The additional suggestion is that more work should start after 9:00 AM.

38) In the case of there is a complaint from the owner of the building / commercial building, located close to the area.Construction of the building was damaged. Delivery to civil / structural analysis and to check for any damage caused. If it is found that the damage caused by Construction will be carried out to assess the damage and find a solution or to assist urgently.

The most respondents agreed that measures reduce the impact of vibrations caused by construction activity. In the case of a complaint from the owner of the building / commercial building adjacent to the construction area of the building was damaged. Delivery to civil / structural analysis and to check for any damage caused. If it is found that the damage caused by the construction must be carried out to assess the damage. And find solutions or help urgently, the appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable income amounted to 3 cases representing the 1.67 percent The additional suggestion is that should have checked the building before the operation.

39) The preferred route to avoid the traffic to reduce a number of vehicles on the road network during the original construction.

The most respondents agreed that measures reduce the impact on traffic. The preferred route to avoid the traffic passes - to reduce a number of vehicles on the road network during the original construction. The appropriate number of 174 cases, representing 96.67 percent of the group that the above measures. No reasonable amount of 6 cases representing 3.33 percent, the suggestion is that there should be more to transport equipment for construction after midnight. To reduce traffic congestion.

40) Improving the condition of roads to accommodate different route to avoid the traffic to flow more traffic moves continuously without interruption.

The most respondents agreed that measures reduce the impact on traffic. By improving the condition of roads to accommodate different route to avoid traffic. More traffic flows to

move continuously without interruption. The appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable offer of 3 cases or 1.67 percent.

41) Before the construction of the rail system must be installed at least 1 kilometer markings and insignias. To ensure safety, reduce confusion or delays in traffic passes - the area of the construction project.

The most respondents agreed that measures reduce the impact on traffic. Prior to the construction of the rail system must be installed at least 1 kilometer markings and insignias. To ensure safety, reduce confusion or delays. In roaming through - the area of the construction project. The appropriate number of 175 cases, representing 97.22 percent of the group that the above measures. No reasonable amount of five cases, representing 2.78 percent.

42) Use the reversible lane to release the vehicle to the city to have a capacity equal to the capacity prior to construction. This will cause bottlenecks in the joint.

The most respondents agreed that measures to reduce the impact on traffic by use the reversible lane to drain the vehicle into the city to have a capacity equal to the capacity prior to construction. This will cause bottlenecks in the joint. The appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable offer of 3 cases or 1.67 percent.

43) Coordination with the traffic police officers to help direct traffic in the construction area. To ensure the safety and mobility of traffic.

The most respondents agreed that measures reduce the impact on traffic. The coordinator asked police officers to help direct traffic in the construction area. To ensure the safety and mobility of traffic. The appropriate number of 173 cases, representing 96.11 percent of the group that the above measures. No reasonable offer 7 cases accounted for 3.89 percent.

44) Promoted to the public or the route has been widely publicized through the media, such as labels, brochures, newspapers, radio news to traffic websites and TV, etc.

The most respondents agreed that measures reduce the impact on traffic. The release to the public or the route has been thoroughly through media such as labels, publicity, brochures, newspapers, radio news to traffic websites and TV, etc. the appropriate number of 177 cases, representing 98.33 percent of the group that the above measures. No reasonable offer of 3 cases or 1.67 percent.

45) The surface area to improve traffic on the elevated structure and the Metro station the conditions are as good as original

The most respondents agreed that measures reduce the impact on traffic. By improving traffic flow on the surface area and the elevated structure. BTS has the same condition. The appropriate number of 179 cases, representing 99.44 percent of the group that the above measures. No reasonable number one case accounted for 0.56 percent.

46) Installing lights around the area of the train station. And a sidewalk along the road network for the traffic light to the surface. By the luminous flux of at least 21.50 and a brightness similar to the natural light as much as possible to prevent accidents that may occur.

The most respondents agreed that measures reduce the impact on traffic. By installing the lights around the area of the train station. And a sidewalk along the road network for

the traffic light to the surface. By the luminous flux of at least 21.50 and a brightness similar to the natural light as much as possible to prevent accidents that may occur. The appropriate number of 176 cases, representing 97.78 percent of the group that the above measures. No reasonable offer of 4 cases or 2.22 percent, the recommendation is to add more lighting installed.

47) Contractors must provide workers a regular construction area 2-3 people to monitor and store waste materials such as dirt / stone / sand / cement, etc., to prevent obstructions to water flow conditions. nature, especially during the rainy season.

The most respondents agreed that measures reduce the impact on drainage. The contract states Prepare construction workers are routinely construction area 2-3 people to monitor and store waste materials such as dirt / stone / sand / cement etc to prevent obstruction to the flow of water as a natural state in particular. during the rainy season there is a reasonable number of 173 cases, representing 96.11 percent of the group that the above measures. No reasonable offer 7 cases accounted for 3.89 percent.

48) Supervise the contractor place the stack of materials sparingly used in construction, in the right place and avoid putting piles of materials in the area to obstruct the flow of water during the rainy season into the public sewer.

The most respondents agreed that measures reduce the impact on drainage. By controlling and requiring the contractor place the stack of materials sparingly used in construction, in the right place. And avoid putting piles of materials in the area to obstruct the flow of water during the rainy season into the public sewer. The appropriate number of 178 cases, representing 98.89 percent of the group that had no such measures are appropriate for the two cases, representing 1.11 percent.

49) Monitoring and maintenance of drainage systems and the drainage area automated pond at least one time per month, especially during the pre-season. or when there is a reason to expect that the heavy rain season.

The most respondents agreed that measures reduce the impact on drainage. The monitoring and maintenance of drainage systems. And the drainage area automated Pond at least one time per month, especially in the period before. During the rainy season, or are expected to cause heavy rain season. The appropriate number of 171 cases, representing 95.00 percent of the group that the above measures. No reasonable number 9 cases on the 5.00 percent suggested more should monitor and maintain this.

50) Other comments and suggestions. On measures to reduce the environmental impact of the construction project of the MRTA.

Most respondents have suggested additional 134 cases, representing 74.44 percent of the remaining 46 cases, representing 25.56 percent, with further suggestions.

The comments and suggestions for other issues. On measures to reduce the environmental impact of the construction of the project. MRTA. In order from most to least are as follows.

Ranked 1st should be strictly in accordance with the Convention. And groomed the 31 cases, representing 67.39 percent.

Ranked 2nd, if the plumbing or electricity cuts. Should take notice of the 6 cases, representing 13.04 percent.

Ranked 3rd should be added measures the amount of particulate matter pollution and 5 representing 10.87 percent.

Ranked 4th expropriation distance of the station. And the need to clear the building of 4 percent, 8.70.

Ranked 5thhave lighting at night during construction work, for example, three separate Bangkapi. Should additional measures and their impact on the division of construction of buildings. And should take measures to help those affected by the business. A number of proposals were 2 cases, representing 4.35 percent as well.

Ranked 6th should increase the flood protection measures. Ridge Road during the construction and statute should further reduce the impact area of the station. (Size, height), which relies on street stalls in front of the store. And obscured views There are a number of proposals by 1 percent as 2.17.

51) Concern issues from construction activities. Yellow Line Project the Lat Phrao - Samrong

All respondents concern about the issues from construction activities. Yellow Line Project, the Lat Phrao - Samrong, in order to more. Low summarized as follows:

A ranked 1st traffic jam of 175 cases, representing 97.22 percent.

Ranked 2nd environmental pollution (noise, dust, vibration) of 142 cases, representing 78.89 percent.

Ranked 3rd accident of the construction of 110 cases, representing 61.11 percent.

Ranked 4th loss of land / property from expropriation of 84 cases, representing 46.67 percent.

Ranked 5th flooding / drainage 79 cases, representing 43.89 percent.

Ranked 6th trade / turnover decreased by 78 cases 43.33 percent

52) Comments / suggestions to the meeting.

(1) The consensus of the meeting and the purpose of the meeting.

The majority of respondents, 91 cases or 50.56 percent that is consistent with the objectives of the conference are moderate. Minor that is consistent with the objective of meeting the high level of 81 cases, representing 45.00 percent of the remaining eight cases, representing 4.44 percent that corresponds to the purpose of the meeting to a lesser degree.

(2) The clarity of the proposed project to the meeting.

The majority of the 104 cases, representing 57.78 percent of the information that was presented to the meeting with a clear moderate. The second project that the information is clear in many of the 65 cases, representing 36.11 percent of the remaining 11 cases, representing 6.11 percent that the information on the proposed project. The meeting is clear, to a lesser degree.

(3) The clarity of the report and answer questions.

The majority of the 103 cases, representing 57.22 percent of that statement and answer questions with clarity moderate. Followed by that statement and answer questions

with clarity the extent of 56 cases or 31.11 percent, while the remaining 21 cases representing 11.67 percent that the clarifications and answers to questions are less clear.

(4) Understanding the information presented

The majority of the 117 cases, representing 65.00 percent of understanding on the project proposed is moderate. The second is to understand the information presented in many of the 51 cases, representing 28.33 percent of the remaining 12 cases, representing 6.67 percent of the proposed project is to understand the data, to a lesser degree.

(5) The appropriateness of the meeting documents.

The majority of the 92 cases, representing 51.11 percent of that meeting documents are reasonable moderate. The second meeting documents that are suitable for a greater number of 49 cases, representing 27.22 percent of the remaining 39 cases, representing 21.67 percent of that meeting documents are appropriate low level.

(6) The suitability of the venue

The majority of the 95 cases, representing 57.78 percent of that conference was an appropriate level. Inferior to that venue is appropriate, moderate 78 cases, representing 43.33 percent of the remaining 7 cases accounted for 3.89 percent of that venue is appropriate low level.

(7) The appropriateness of the duration of the meeting.

The majority of the 93 cases, representing 51.67 percent of the time in meetings that are reasonable in the medium. Minor that The duration of the meetings is appropriate in many of the 72 cases, representing 40.00 percent of the remaining 15 cases, representing 8.33 percent in the period that is appropriate to a lesser degree.

9.7.6 Public dissemination of information to the public.

1) Public relations documentation

Consultant carry out activities, public relations, project documentation, release three sets of 100,000 copies for disseminating information to the public along the route of the project and the participants of the meeting to listen to public opinion two times, and the small group 2. first, as shown in **Photo 9.7.6 - 1** and **Appendix 9E (CD).**

Photo 9.7.6 - 1 The preview release

2) Exhibition

The board conducted a series of three exhibitions so as to provide detailed information on the project is clear. The exhibit consists of a symposium and carries out activities, participation, and feedback. As shown in **Photo 9.7.6 - 2** by the action published in the symposium to listen to public opinion, and the two sessions two times as shown in **Appendix 9F (CD).**

Photo 9.7.6 - 2 The Preview exhibition

3) project website

The preparation of the project site www.mrta-yellowline.com to disseminate information and create awareness about the project in the correct range as well as a channel for the exchange comments and suggestions on the project as shown in **Photo 9.7.6 - 3.**

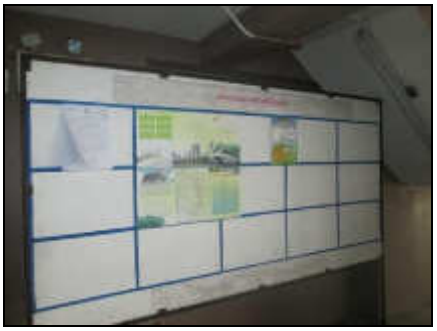
Photo 9.7.6 - 3 www.mrta-yellowline.com

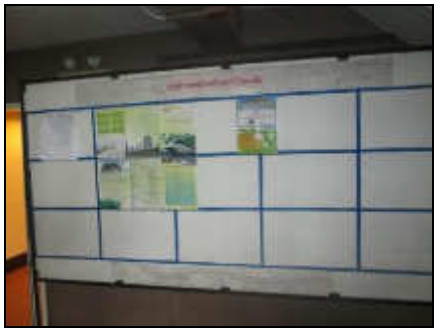
4) Public Relations Of The Project

The next press release announcing the project by various government agencies. Constitutes information which is required to meet the local people. The implementation of the project were posted on promoting various government agencies in the local projects include Chatuchak district office, Hua Kwang district office, Wang Thong Lang district office, Bang Kapi district office, Suan Luang district office, Prawet district office, Bangna district office, and Sumrongnua District Municipal etc. as shown in **Photo 9.7.6 – 4**.

Prawet district office

Wang Thong Lang district office





Sumrongnua District Municipal

Photo 9.7.6 - 4 Mounting Announcements According to various government agencies

5) The dissemination of information via the website

In the Yellow Line Project, the Lat Phrao - Samrong also promote dissemination of information via the website, but also to promote the dissemination of information through other sites. Related web sites include central government, such as Prime Minister. Bureau Public Relations Department, etc. In addition, during the symposium. Listen to public opinion, the first time the media. It is the news of the project. In the media, including leading newspapers. Thairath Daily newspaper Khao Sod newspaper Daily News. The Nation newspaper managers University News TV stations, radio stations, TV channel 9 MCOT. The website Pantip as shown in **Photo 9.7.6 - 5.**

Prime Minister 's Office

Bureau Public Relations Department

leading newspapers

Thairath Daily newspaper

The Nation newspaper

Khao Sod newspaper

Photo 9.7.6-6 Public dissemination of information through the website of the agency and the media

6) Yellow Line Project Facebook

Making Facebook Yellow Line Project. (www.facebook.com/pages/Yellow Line Project) To disseminate information and create awareness about the project in the correct range as well as a channel for the exchange. Comments and suggestions on the project. As shown in **Photo 9.7.6-6**

Photo 9.7.6-6 www.facebook.com/pages/โครงการรถไฟฟ้าสายสีเหลือง

7) Power Point

Preparing Power Point lectures to enhance the understanding of the participants. The meeting listened to public opinion, the two sub-groups, including the two times as shown in **Appendix 9G** (CD)

8) Announced the Results of the Meeting

Announced results of the meeting to all stakeholders and the interested public. But did not attend the public hearing is held. Be aware of the key issues in the meeting to listen to public opinion, and the two sessions two times by the announcement at government offices in the area include Chatuchak district office, Hua Kwang district office, Wang Thong Lang district office, Bang Kapi district office, Suan Luang district office, Prawet district office, Bangna district office, and Sumrongnua District Municipal as shown in **Appendix 9H (CD).**

9) Video

Preparation videos Series 1 on DVD as a medium that can convey the information in a format that is easy to understand. With the use of animation and includes audio and stills sound effects To present at the meeting to hear the first public meeting and listen to public opinion, the two are shown in **Appendix 9I (CD).**

9.7.7 Publicity and informational programs to target the stakeholders from the construction project

Consultants have conducted public relations and project information to the target audience. The stakeholders from the construction project along the route of the Yellow Line Lat Phrao - Sumrong distance 30.4 kilometers with 23 stations, with emphasis or importance to the owners or tenants of the building / land. The area is the construction of 23 stations, including the area surrounding the station. And people who live near the trail project as well as public sectors. The focus of the project The form of release and details of the operation.

1) Sign installation for project public relations

Consultants have installed new signs promoting size 1.2X2.4 meters of 49 signs scattered along the station building. And along the train route may be expropriated. Between 24 - 26 July 2013 included three days, as shown in **Photo 9.7.7-1.**

Photo 9.7.7.-1 Examples banners promoting

2) Distributian a brochure leaflet

Consultants in collaboration with the MRTA to distribute the press release (leaflets) to households adjacent to the route of the project. Including surveys of target groups along the route MRT Lat Phrao - Samrong sample of 1,169 cases 27-30 July 2013, including four by nurse leaflets promoting as shown in **Photo 9.7.7-2**

Photo 9.7.7-2 Atmospheric leaflets promoting (leaflet)

The survey data on public attitudes toward the yellow line during the Lat Phrao - Samrong are summarized below.

(1) Overview of respondents comment

Respondents were female 56.29 percent and male of 43.71 percent by the group aged 31-40 years, was 32.16 percent, followed by those aged 41-50 years 24.04 percent, the group. the last 30 years have produced a number of ranked third with 21.98 percent, and the group older than 60 years had the lowest proportion 7.78 percent of the respondents had an undergraduate education. Most percent, 42.94, followed by a group who have studied at the upper secondary level of 26.35 and with education in junior high or low of 18.73, with the remainder of the study. A postgraduate level above 3.59 percent.

(2) The right to use and occupy the building near the Yellow Line mass transit routes

The 50.13 percent of the respondents use the building near mass transit routes yellow line is a merchant. The use of the residents and traders the percentage of 36.44, the rest is used for building a residence of 13.09 and an office building and government offices 0.34 percent on the right to occupy a building is found. the respondents were mostly tenant buildings (53.38 percent) while the remaining 46.62 percent owned buildings.

3) Receiving the Information of the construction of the Yellow Line

The respondents more than half (54.83 percent) had been informed about The Yellow Line. The remaining 45.17 percent had not received information about the project.

Considering contacting station found that respondents most reviews had not received such information.

Lat Phrao 83 Station : Imperial Lat Phrao (Lat Phrao 81)

Si Kritha Station : Si Kritha intersection (South)

The construction area of Phatthanakan station between the crssroad of the railway and Phatthanakan intersection

Si Nut Station : Between of Si Nut intersection (South)

Suan Luang Station : Seacon Square and Paradise Park

Si Iam Station : Si Iam intersection

Si LaSalle Station : Si LaSalle intersection (South)

Si Bearing Station : Sri Bearing Intersection (South)

Thipphawan Station : at the beginning alley of Thipphawan village

A source of information for the project found that 44.65 percent of respondents reviews information from television news program, received 20.10 percent, informed the newspaper and 12.40 percent have been informed by a neighbor. The rest received information from the authorities of 1.63 percent.

(4) Awareness and Understanding of the Monorail systems.

The majority of respondents did not know Monorail system 63.64 percent while the remaining 36.36 percent of the system known as Metro Monorail.

Considering station in the station area where respondents comment majority (over 50 percent), known as Metro Monorail system has only four stations, including stations pray Wang Thong Lang station. Srinagarindra station 38 and station Tip Valley.

The other stations, The majority of respondents did not know Monorail system, especially Si Iam Station Si Dan Station checkpoint and Si Thepha, representing the unrecognized Monorail system, more than 70 percent.

(5) Opinions and Attitudes on the Yellow Line

In a survey of public attitudes towards the yellow line., a set point to sample not comment on the survey results, which are summarized and analyzed below.

(5.1) Opinion polls and attitude on the Yellow Line

The majority respondents attitude in positive to the Yellow Line is 46.19 percent that is a very good percentage and 40.03 that is good, if a program line yellow group does. sure / t with the Yellow line project accounted for 9.84 percent of poll respondents, however, have a number of offensive or negative attitude towards the yellow line. However, with the ratio of 2.48 percent is not much that is bad and that 1.45 percent extremely poor.

(5.2) The Yellow Line is an an important alternative to travel

Most respondents agree on a sentence that said the Metro Yellow Line is the important one to travel by 47.13 percent and strongly disagree 40.38 percent with the group was not sure / inaction 9.32 percent while the group disagreed with 1.88 percent and strongly disagreed with 1.28 percent.

(5.3) The Yellow Line will to solve traffic problems in the long run

The 46.71 percent of respondents strongly agree and agree on issues, 35.93 percent said that the yellow line can solve traffic problems in the long run. The group was not sure for 13.43 percent for those who did not agree and strongly agree with 2.74 and 1.20 percent respectively.

(5.4) The Yellow Line will make travel more convenient and faster.

The majority of respondents strongly agree on the Yellow Line will make travel more convenient and faster to 35.84 percent, 52.87 percent said that. The group was not sure / t with the remaining 8.64 percent is the strongly agree and disagree, 1.63 and 1.03 percent respectively.

(5.5) The Yellow Line save time and expense of travel.

The majority of respondents, 46.71 percent, 34.13 percent strongly agree and agree on issues states that the yellow Line saves time and expense of travel. The group does not agree and strongly agree accounted for a very small percentage, 2.40 and 1.03 respectively.

(5.6) Comments on issues negatively impacted during the construction.

1) During the construction of The Yellow Line will cause more traffic jams

The results showed that the respondents opinion the majority (55.52 percent) strongly agree with the point that during the construction of the Yellow Line will cause more traffic jams and 30.62 percent answered that with such issues, the group was not sure / inaction has meant that 11.12 percent. People at the nearby train station and along the route most predict that in the construction of the Yellow Line will have an impact causing more traffic jams.

2) The construction of The Yellow Line Project will make the trade balance drop

Of the 39.09 percent of respondents strongly agree with the point that during the construction of the yellow line to make the trade balance decreased by 30.62 percent and agree on the issue. Those who do not have the remaining 24.29 percent were opposed. And do not strongly agree that the trade balance will be reduced during the construction phase of the project, 4.19 and 1.80 percent respectively.

3) Noise from the Yellow Line construction activities will disturb the people nearby.

The 41.57 percent of respondents strongly agree with the issue of noise from the yellow line construction activities will disturb people nearby 39.62 percent and agree on the issue. Those who do not have the remaining 15.14 percent of the group disagreed. And disagree strongly

4) During the construction of The Yellow Line Project will create inconvenience in the daily life, but acceptable

Respondents opinions of 44.40 agree percent and 36.93 strongly disagree with the point that during the construction of the Metro Yellow Line will create inconvenience to daily life, it is acceptable. Those who do not. sure, there is 15.31 percent while those who did not agree with 3.25 percent and disagree strongly with only 1.11 percent.

(5.7) In the case of land expropriation and compensation of land equal to the purchase price paid in the market, including the lost of opportunity cost

The 50.04 percent of respondents strongly agree on the need to expropriate the land and pay land compensation equal to the market price including paying for

the opportunity to engage in trade with 31.05 percent of the group disagreed. And disagree strongly 3.08 percent and 1.28 percent respectively, the remaining 14.54 percent were not sure.

(5.8) The confidence in the standard of reducing the environmental impact of the MRTA.

By 39.01 percent of respondents were confident in reducing the environmental impact of the MRTA. Those with very confident, not confident and not very confident accounted for 29.0 percent, 3.42 percent, and 1.63 percent respectively. The group was 26.95 percent are not sure.

(5.9) Comments on the Yellow Line Project

Considering the overall respondent agree or not with the yellow line that 43.11 percent agreed with the project while 38.92 percent disagreed, and the group was strongly opposed. While the group does not agree and strongly agree only 2.91 percent and 1.63 percent respectively at 13.43 unsure / uncertain.

(5.10) The need to quickly construct The Yellow Line Project

The group of respondents who have a need and particularly the need to create a line of yellow by 40.89 and 39.52 percent, respectively, which do not have the remaining 15.23 percent to 4.76 percent as a group that wants to build the train quickly.

(5.11) Demand for the information of The Yellow Line Project

The majority of respondents (87.08 percent) want to receive information on the Yellow Line. The remaining 12.92 percent do not want to know about the project.

(5.12) The cooperation in attendance to listen to public opinion of The Yellow Line Project

The majority of respondents (61.68 percent) will not attend the public hearing on the Yellow Line. The group was pleased to attend the public hearing on the remaining 34.90 percent as a group. Not sure / depends chance of 3.42 percent.

Once the promotion and information programs to target the stakeholders of the construction project and has organized a public meeting to hear comments yet. There are those who agree and disagree with the suggestion for development projects. Including a letter of complaint to propose an alternative to the development project. Details are shown in **Appendix 9J** to resolve problems and complaints of the people affected by the project. Details are shown in **Appendix 9K**.

Chapter 10
Environmental Economics

10.1 Introduction

Environmental Valuation is the determination of values of environment goods and services. And changes of the environment quality as a result of the do or don't implement any measures. Environmental economists pay attention to the concepts and methods of environmental valuation, by recognizing the nature of the environment and natural resources that are available at no cost. Because there is no trading market, some resources were run out after used or destroyed, irreversibility and cannot produce more.

The Yellow Line Mass Transit Project (Lat Phrao - Samrong section) may cause the impact on the environmental factors to a certain extent. Typically, the effect of project improvement will not appear in the list of project costs or benefits of the economic optimization analysis and called it is external impacts. However, environmental impact assessment in the past was the physical evaluation with the descriptive detailed. There is a physical unit than the value assessment in the monetary unit as sediment quantity from the construction, vibration, noise, air quality, accidental risks to the wildlife, etc. The environmental impact assessment mentioned above could not take into consideration by the economic optimization analysis of the project development. The adoption of principles of environmental economics into applications to evaluate the physical environmental impacts into the monetary value will reflect the real costs and benefits of the project. And can be applied for more clearly and comprehensively of the economic optimization analysis.

10.2 Environmental Economics Evaluation

The valuation of environmental economics is the calculation of the environmental impact value into a monetary value.

10.3 The Combination of the Environmental Economics Valuation Results of the Economics Analysis Project.

This study used the completed environmental economics valuation results combined with the costs and benefits of the project to calculate an economic index, consisted of Net Present Value – NPV, Economic Internal Rate of Return – EIRR, and Benefit cost Ratio - B/C to evaluate the optimization or feasibility of the project. The acceptance criteria for the economic optimization are whenever; the benefits exceed the costs. Such criteria can be assessed from any economic indicators or all three, which mostly, using all three together to compare the costs, benefits and size of the project.

10.4 Environmental Economic Study Results

The results of environmental economics valuation based on the criteria of the National Development Research Institute (TDRI) showed that climatic and meteorological factors which

were in the part of the physical environment resources significantly positively impacts. The project will facilitate in reducing the vehicles used on the road by using the train instead which is the reduction of fossil fuels burning (Gasoline). The burning of fossil fuels has impacts on the climate, and the atmosphere consists of two majors; air pollution impact on human health. The other part is the carbon dioxide (CO_2), methane (CH_4) and nitrogen dioxide (NO_2) which is a fundamental cause of Greenhouse Gas: GHG resulted in the increase of climate change causing intensified natural disasters. Therefore, reducing of fossil fuels burning from the project will decrease the impact of these provisions. This is a benefit of the project, divided into two cases of the government policy, as the distance-based fare and 20 baht flat fare. Both cases resulted in the decreasing of burning of fossil fuels from the vehicles reduction and switching to a project service. The results are below.

10.4.1 Estimation of the Cleaning of Air Pollution from the Used of Vehicle

1) Literature Review

Air Pollution problems from the fuel combustion of the vehicle. Causing toxins that impact the environment and humans, some occurred pollution have the direct impact on climate change, such as CO_2, which was in the GHG group effects to global warming. Pollution caused by carbon monoxide (CO) has an impact on human health and climate change etc. The air pollution impacts from fossil fuel burning will impact on the either issue or both together. The impact of different types of pollution, as shown in **Table 10.4 - 1** and summarized the impacts on human health caused by various air pollution types as shown in **Table 10.4 - 2.**

The estimated cost of Air Pollution by Victoria Transport Policy Institute: VTPI, evaluated from various vehicle types (cars, small trucks, large trucks), in urban and rural. The estimated costs of Air Pollution, 2002 as in the **Table 10.4 – 3**, using the unit cost of the Air Pollution calculated as the average cost of cleaning of air pollution per vehicles - distance/year. As the standards of vehicle emission published by US government agencies cost of Air Pollution in, 2002 as shown in **Table 10.4 -4.**

The study on vehicle-related Air Pollution value by Donald R. McCubbin and Mark A. Delucchi, who has researched the project on "The Health Costs of Motor - vehicle-Related Air Pollution", the project has conducted a study on vehicle-related Air Pollution evaluation consists of four steps as follows:

(1) Estimation of vehicle-related pollution

The study estimated the vehicle-related pollutions, including CO, NO_2, Ozone (O_3) and Particulate Matter (PM), which are classified according to size as 2 types: PM that is less than 2.5 microns (PM_{25}) and PM with sizes ranging from 25 microns to 10 microns (PM_{10}).

(2) Estimation of climate change

Estimation of climate changes by using Micro Environments method for estimation of air pollution and using data from air quality standards of United States Environmental Protection Agency.

(3) The correlation between Air Pollution and health impacts

Conducted the literature reviews, secondary data collection from related studies on health impacts related air pollution. Which are classified by severity levels are cause eye irritation, headaches, respiratory disease and death.

Table 10.4 – 1 The impact of different types of pollution

Emission	Description	Sources	Harmful Effects	Scale
Carbon dioxide (CO_2)	A product of combustion	Fuel production tailpipes	Climate change	Global
Carbon monoxide (Co)	A toxic gas caused by incomplete combustion	Tailpipes	Human health, climate change	Very local
CFCs and HCFC	A class of durable chemicals	Air conditioners and industrial activities	Ozone depletion, climate change	Global
Fine particulates (PM_{10}; PM_{25})	Inhalable particles consisting of bits of fuel and carbon	Diesel veh. Tailpipes and other sources	Human health, aesthetics	Local and Regional
Lead	Element used in older fuel additives	Fuel additives and batteries	Human health, ecological damages	Local
Methane (CH_4)	A flammable gas	Fuel production and tail pies	Climate change	Global
Nitrogen oxides (NO_x) and Nitrous oxides (N_2O)	Varius compounds, some are toxic, all contribute to ozone	Tailpipes	Human health, ozone precursor, ecological damage	Local and Regional
Ozone (O2)	Major urban air pollutant caused by NO_x and VOCs combined in sunlight	NO_x and VOC	Human health, plants, aesthetics	Regional
Road dust (non-tailpipe particulates)	Dust particles created by vehicle movement	Vehicle use, brake linings, tire wear	Human health, aesthetics	Local
Sulfur oxides (SO_x)	Lung irritant and acid rain	Diesel vehicle tailpipes	Human health, and ecological damage	Local and Regional
VOC (volatile organic hydrocarbons)	Various hydrocarbon (HC)gasses	Fuel production, storage&tailpipes	Human health, ozone precursor	Local and Regional
Toxics (e.g. benzene)	Toxic and carcinogenic VOCs	Fuel production and tailpipes	Human health risks	Very local

Source : USEPA (2000), indicators of the Environmental Impacts of Transportation, USEPA, 1999; ORNI., Transportation Energy Data Book ORNL.

Table 10.4 – 2 Summarized the health impacts caused by various air pollution

Pollutant	Quantified Health Effects	Unquantified Health Effects	Other Possible Effects
Ozone	Mortality Minor RADs Respiratory RADs Hospital admissions Asthma attacks Changes in pulmonary function Chromic sinusitis and hay fever	Increased airway Responsiveness to stimuli Centroacinar fibrosis Inflammation in the lung	Immunologic changes Chronic respiratory diseases Extra pulmonary effects (Changes in the structure or function of the organs)
Particulate matter/ TSP sulfates	Mortality Chronic and acute bronchitis Hospital admissions Lower respiratory illness Upper respiratory illness Chest illness Respiratory symptoms Minor RADS Days of work loss Moderate or worse asthma status	Changes in pulmonary function	Chronic respiratory diseases other than chronic bronchitis Inflammation of the lung

Table 10.4 – 2 Summarized the health impacts caused by various air pollution (Cont.)

Pollutant	Quantified Health Effects	Unquantified Health Effects	Other Possible Effects
Carbon monoxide	Mortality Hospital admissions-congestive heart failure Decreased time to onset of angina	Behavioral effects Other hospital admissions	Other cardiovascular effects Developmental effects
Nitrogen oxides	Respiratory illness	Increased airway responsivenese	Decreased pulmonary function Inflammation of the lung Immunological changes
Sulfur dioxide	Morbidity in exercising asthmatics: Changes in pulmonary function Respiratory symptoms		Respiratory symptoms in non-asthmatics Hospital admissions
Lead	Mortality Hypertension Nonfatal coronary hearth disease Nonfatal strokes Intelligence quotient (IO) loss	Neurobehavioral function Other cardiovascular diseases Reproductive effects Fetal effects from maternal exposure Delinquent and antisocial behavior in children	

ที่มา : Ken Gwilliam and Masami Kojima (2004), Urgan Air Pollution: Policy Framework for Mobile Sources, Prepared for the Air Quality Thematic Group, World Bank.

Table 10.4 - 3 The estimated costs of Air Pollution in Year 2002.

	Urban					Rural				
	Unit Costs	Emissions	Mileage	Total Costs	Unit Costs	Unit Costs	Emissions	Mileage	Total Costs	Unit Costs
	Dollars Per Ton	Million Tons	Billion Miles	Billion Dollars	Dollars Per Mile	Dollars Per Ton	Million Tons	Billion Miles	Billion Dollars	Dollars Per Mile
Light Vehicles										
CO	$435	22.47	1,092	$9.8	$0.009	$0	11.94	580	$0.0	$0.000
NO_x	$11,209	1.42	1,092	$6.0	$0.015	$6,389	0.76	580	$1.7	$0.003
VOC	$8,963	1.63	1,092	$14.6	$0.013	$7,350	0.87	580	$2.2	$0.004
PM	$7,391	0.03	1,092	$0.3	$0.000	$3,622	0.02	580	$0.0	$0.000
CO_2	$12.50	113.99	1,092	$1.4	$0.008	$12.50	60.55	580	$0.3	$0.003
Totals			**1,092**	**$42.0**	**$0.045**			**580**	**$4.3**	**$0.009**
Light Trucks										
CO	$435	15.72	611	$6.8	$0.011	$0	9.59	373	$0.0	$0.000
NO_x	$11,209	0.88	611	$9.8	$0.016	$6,389	0.53	373	$1.3	$0.003
VOC	$8,963	1.02	611	$9.1	$0.015	$7,350	0.62	373	$1.7	$0.005
PM	$7,391	0.02	611	$0.1	$0.000	$3,622	0.01	373	$0.0	$0.000
CO_2	$12.50	89.70	611	$1.1	$0.010	$12.50	52.93	373	$0.3	$0.004
Totals			**611**	**$27.0**	**$0.053**			**373**	**$3.3**	**$0.012**
Heavy Vehicles										
CO	$435	1.58	94	$0.7	$0.007	$0	2.09	124	$0.0	$0.000
NO_x	$11,209	1.63	94	$18.3	$0.194	$6,389	2.15	124	$7.8	$0.063
VOC	$8,963	0.17	94	$1.5	$0.016	$7,350	0.23	124	$0.9	$0.008
PM	$7,391	0.05	94	$0.4	$0.004	$3,622	0.07	124	$0.1	$0.001
CO_2	$12.50	42.46	94	$0.5	$0.033	$12.50	56.01	124	$0.4	$0.019
Totals			**94**	**$21.4**	**$0.255**			**124**	**$9.3**	**$0.091**
Totals Vehicles										
CO	$435	39.77	1,797	$17.3	$0.009	$0	7.87	1,077	$0.000	$0.000
NO_x	$11,209	3.93	1,797	$44.0	$0.075	$6,389	1.15	1,077	$3.595	$0.023
VOC	$8,963	2.82	1,797	$25.3	$0.015	$7,350	0.57	1,077	$1.632	$0.005
PM	$7,391	0.11	1,797	$0.8	$0.002	$3,622	0.03	1,077	$0.060	$0.000
CO_2	$12.50	243.16	1,797	$3.0	$0.017	$12.50	56.50	1,077	$0.304	$0.008
Totals			**1,797**	**$90.5**	**$0.118**			**1,077**	**$5.6**	**$0.009**

Source : VTPI, Air Pollution Costs Spreadsheet

Table 10.4 - 4 Unit cost of Air Pollution in Year 2002

	Urban	Rural
Carbon monoxide (CO)	$435	$0
Nitrogen oxides (NO_x)	$15,419	$8,789
Volatile organic compounds (VOC)	$14,419	$11,823
Particulate Mater (PM)	$5,346	$2,620
Carbon dioxide (CO_2)	$18.13	$18.13

Source : VTPI (2006), Air Pollution Costs Spreadsheet, VTPI

(4) The correlation between economic values and health impacts

The correlation between health impacts and economic values using Contingent Valuation Method: CVM by interviewing about the willingness to pay: WTP) or the willingness to accept compensation: WTAC according to the severity level of pollution that cause health impacts.

The conclusion of the study results as the cost of air pollution removal due to using of various vehicle types per units (vehicle - miles). Divided into low and high levels of any pollution (PM, O_3 CO, NO_2 and Toxics) cost of eliminating the air pollution caused by vehicle used per unit (Based on a 10 percent Reduction in Motor-Vehicle-Related Emissions) cents per vehicle mile in the USA in 1990, as shown in **Table 10.4 - 5.**

Table 10.4 – 5 Cost of eliminating the air pollution caused by vehicle used per unit (based on a 10 percent Reduction in Motor-Vehicle-Related Emissions)

Vehicle Type	Emission Source*	PM		O_2		CO		NO_2		Toxics		Total	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
LDGV	v	0.48	7.02	0.01	0.07	0.04	0.37	0.04	0.22	0.00	0.05	0.58	7.71
	v+u	0.55	7.52	0.01	0.07	0.04	0.37	0.04	0.02	0.00	0.05	0.66	8.20
LDGT	v	0.74	10.70	0.01	0.11	0.06	0.53	0.06	0.32	0.00	0.09	0.88	11.72
	v+u	0.50	11.58	0.01	0.11	0.05	0.95	0.06	0.32	0.00	0.06	1.04	12.56
HDGV	v	1.56	30.28	0.03	0.28	0.15	1.63	0.12	0.74	0.81	0.29	1.85	33.12
	v+u	1.78	31.53	0.03	0.29	0.15	1.63	0.12	0.73	0.01	0.29	2.09	34.38
Gasoline	v	0.55	80.4	0.01	0.08	0.05	0.42	0.05	0.25	0.00	0.06	0.65	8.83
	v+u	1.64	8.61	0.01	0.08	0.056	0.42	0.05	0.25	0.00	0.06	0.75	9.40
LDDV	v	1.47	18.49	0.00	0.02	0.00	0.01	0.02	0.11	0.01	0.08	1.50	18.64
	v+u	1.50	18.70	0.00	0.02	0.00	0.01	0.02	0.11	0.01	0.08	1.53	18.84
LDDT	v	0.47	5.77	0.00	0.01	0.00	0.00	0.01	0.04	0.00	0.03	0.48	5.82
	v+u	0.52	6.14	0.00	0.01	0.00	0.00	0.01	0.04	0.00	0.03	0.53	6.19
HDDV	v	4.18	79.93	0.02	0.19	0.01	0.07	0.15	0.98	0.02	0.33	4.35	81.19
	v+u	4.43	81.37	0.02	0.20	0.01	0.07	0.15	0.99	0.02	0.33	4.61	82.63
Duesel	v	3.43	64.36	0.01	0.15	0.00	0.05	0.12	0.78	0.01	0.27	3.62	65.85
	v+u	3.68	66.03	0.02	0.16	0.01	0.05	0.12	0.78	0.01	0.27	3.83	67.03
All	v	0.78	12.57	0.01	0.03	0.04	0.39	0.08	0.29	0.00	0.08	0.89	13.37
	v+u	0.89	13.17	0.01	0.09	0.04	0.39	0.05	0.29	0.00	0.08	1.00	13.98

Table 10.4 - 5 Cost of eliminating the air pollution caused by vehicle used per unit (based on a 10 percent Reduction in Motor-Vehicle-Related Emissions) (Cont.)

	PM							
	V		v+u		v+u+rd		v+u+rd+re	
	Low	High	Low	High	Low	High	Low	High
LDGV	0.48	7.02	0.56	7.50	0.60	10.92	0.65	12.2
LDGT	0.74	10.70	0.90	11.54	0.94	16.09	1.02	17.8
HDGV	1.56	30.28	1.78	31.53	1.92	42.55	2.07	46.7
Gasoline	0.55	8.04	0.64	8.61	68	12.3	0.74	13.7
LDDV	1.47	18.5	1.5	18.7	1.53	21.3	1.57	22.3
LDDT	0.47	5.77	0.52	6.14	0.57	10.1	0.63	11.6
HDDV	4.18	79.9	4.43	81.4	4.75	111	5.21	122
Duesel	3.48	64.9	3.68	66	3.93	89.6	4.3	98.4
All	0.78	12.6	0.89	13.2	0.94	18.5	1.02	20.5

Remark : * Each emission source is cumulative: v include just motor vehicle emissions; v+u include v plus upstream emissions; v+u+rd include v+u plus paved road dust emissions; v+u+rd+re include v+u+re plus unpaved road dust emissions.

** LDGV = Light-Duty Gasoline Vehicles LDDV = Light-Duty Diesel Vehicles
LDGT = Light-Duty Gasoline Trucks LDDT = Light-Duty Diesel Trucks
HDGV = Heavy-Duty Gasoline Vehicles LDDT = Heavy-Duty Diesel Vehicles

Source : Donald R. McCubbin and Mark A Delucchi"The Health Costs of Motor-Vehicle-Related Air Pollution (1990)", URMAP Project

The study results of McCubbin and Delucchi (1999), Urban Rail Transportation Plan: URMAP conducted by TEAM Consulting Engineering and Management Co., Ltd. and Daoreuk Communications Co., Ltd. has been estimated the vehicle used related Air Pollution removal costs as of 2003 by adjusted with 3% per year inflation rate. The vehicle used related Air Pollution removal costs as of 2003, showed in **Table 10.4 - 6**

Table 10.4 – 6 The vehicle used related Air Pollution removal costs as of 2003

unit : bath/car-km.

Vehicle Type	PM		O_2		CO		NO_2		Toxics		Total	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Light-Duty Gasoline Vehicles	0.180	2.656	0.000	0.028	0.019	0.142	0.019	0.028	0.000	0.019	0.217	2.912
Light-Duty Gasoline Trucks	0.284	4.046	0.019	0.038	0.019	0.199	0.019	0.123	0.000	0.038	0.331	4.434
Light-Duty Gasoline Vehicles	0.586	11.448	0.009	0.104	0.057	0.614	0.047	0.284	0.000	0.113	0.700	12.526
Gasoline	0.208	3.044	0.000	0.028	0.019	0.161	0.019	0.095	0.000	0.019	0.246	3.337
Light-Duty Diesel Vehicles	0.558	6.996	0.000	0.009	0.000	0.000	0.009	0.038	0.000	0.028	0.567	7.052
Light-Duty Diesel Trucks	0.180	2.184	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.009	0.180	2.203
Light-Duty Diesel Vehicles	1.579	30.223	0.009	0.076	0.000	0.028	0.057	0.369	0.009	0.123	1.645	30.706
Diesel	1.314	24.523	0.000	0.057	0.000	0.019	0.047	0.293	0.000	0.104	1.371	24.901
All Vehicle	0.293	4.755	0.000	0.038	0.019	0.151	0.019	0.113	0.000	0.028	0.340	5.058

Source : McCubbin and Delucchi (1999). The Health Costs of Motor-Vehicle-Related Air Pollution, URMAP Project.

2) Valuation results

The exits of the mass rapid transit system resulted in the reduction of the use of private car/public transportation. This decreases the air pollution from the use of such vehicles. As well as reduce the traffic congestion on the road. The impact assessment of reducing air pollution by the Public Debt Management Office set the MRT Assessment Standardization is equal to 5 Baht/PCU-km, as shown in **Table 10.4 - 7** to estimate the Environmental Cost Saving as Benefit Transfer method and adjusted to the present value with 2.5% average annual inflation.

The analysis is divided into two major cases.

Case 1: Distance-Base Fare

Case 2: 20 Baht Flat Fare, divided into 3 sub-cases as below.

- 20 Baht Flat Fare Free Transfer or 20 Baht Flat Fare (1)
- 20 Baht Flat Fare Free Transfer except Blue line and ARL or 20 Baht Flat Fare (2)
- 20 Baht Fare Transferred charge or 20 Baht Flat Fare (3)

These 4 cases have the same financial investment which about 54,644 million baht investment. The assumption that the 20 Baht Flat Fare will serve more people than distance-base fare. The estimation of environmental cost savings, which is a benefit of the project, was divided into four such cases, using the valuation formula.

EC_{saving} = $(EC \times VKT_{(w/o)}) - (EC \times VKT_{(w/)})$

By

EC_{saving} = Environmental Cost Saving (Million Baht/Year)

EC = Representative vehicle pollution value

$VKT_{(w/o)}$ = Total distances of the service users transportation without the project (PCU-km/hr)

$VKT_{(w/)}$ = Total distances of the service users transportation with the project (PCU-km/hr)

The results of the environmental cost saving valuation in case of distance-base fare and 20 baht flat fare for sub-case (1) (2) and (3) are shown in **Table 10.4 - 8** to **Table 10.4 – 11**, respectively.

Table 10.4 - 7 Value of air pollutant calculated by MRT Assessment Standardization

unit : Baht/PCU-km

	Notes
5.0	Average of the costs for light-duty vehicles using gasoline and diesel in McCubin&Delucchi, 1999

Source : MRT Assessment Standardization of the Public Debt Management Office, Thailand.

Table 10.4-8 Valuation of air pollutants saving, in case of distance-base fare

Year	Valuation of eliminating the air pollution (bath/PCU-km)	Distance Saving		Value of Saving	
		VKT (PCU-km/hr.)	VKT (PCU-km/yr.)	million bath/hr.	million bath/year
2019	7.42	106.04	349,922	0.21	687
2029	9.50	187.82	619,793	0.47	1,557
2039	12.16	177.64	586,196	0.77	2,527
2049	15.57	265.33	875,574	1.09	3,603

Remark : Peak Hour Factor (PHF) = 10 , adjusted value for daily to annual = 330

Table 10.4–9 Valuation of air pollutants saving, in case 20 Baht Flat Fare (1)

Year	Valuation of eliminating the air pollution (bath/PCU-km)	Distance Saving		Value of Saving	
		VKT (PCU-km/hr.)	VKT (PCU-km/yr.)	million bath/hr.	million bath/year
2019	7.42	157.58	519,999	0.34	1,120
2029	9.50	227.61	751,119	0.57	1,886
2039	12.16	290.48	958,568	0.93	3,082
2049	15.57	336.48	1,110,397	1.38	4,570

Remark : Peak Hour Factor (PHF) = 10 , adjusted value for daily to annual = 330

Table 10.4-10 Valuation of air pollutants saving, in case of 20 Baht Flat Fare (2)

Year	Valuation of eliminating the air pollution (bath/PCU-km)	Distance Saving		Value of Saving	
		VKT (PCU-km/hr.)	VKT (PCU-km/yr.)	million bath/hr.	million bath/year
2019	7.42	109.92	362,737	0.22	712
2029	9.50	233.93	771,974	0.59	1,939
2039	12.16	237.80	784,729	0.76	2,523
2049	15.57	309.43	1,021,109	1.27	4,202

Remark : Peak Hour Factor (PHF) = 10 , adjusted value for daily to annual = 330

Table 10.4-11 Valuation of air pollutants saving, in case of 20 Baht Fare (3)

Year	Valuation of eliminating the air pollution (bath/PCU-km)	Distance Saving		Distance Saving	
		VKT (PCU-km/hr.)	VKT (PCU-km/hr.)	million bath/hr.	million bath/year
2019	7.42	103.95	343,021	0.20	673
2029	9.50	165.30	545,476	0.42	1,370
2039	12.16	219.37	723,929	0.71	2,327
2049	15.57	260.36	859,189	1.07	3,536

Remark : Peak Hour Factor (PHF) = 10, adjusted value for daily to annual = 330

10.4.2 Valuation of the Reduction of GHG from Vehicles Used

Emissions of GHG into the atmosphere are one of the leading causes of global warming problems today. Such problems cause many disasters, a change in sea levels from ice melting in the Polar Regions. Also, heated up to global temperature can cause intensify natural disasters such as drought, floods, severe storms, etc. The procedures and the evaluation results of the reduction of GHG in the case of having the project are as follows.

(a) Assessment Framework. Assessment of direct benefits from the project consists of the vehicle used saving cost value (VOC_{Saving}), travel time-saving cost value (VOC_{Saving}) and accident saving cost value (ACC_{Saving}). That benefits were evaluated by the economic experts of the project for economics optimization valuation due to VOC_{Saving} has the component of the costs of vehicle used in the calculation of HDM-4 program as.

- Fuel used
- Lubrication used
- Wear of tires
- Using spare parts for maintenance
- Maintenance cost
- Depreciation and Interest
- Staffs cost

From the above components, it can be seen that part of the major cost is the fuel cost. Thus, the concept of a valuation to GHG emission reduction is the valuation of fossil fuel burning related of GHG emissions reduction in case of having the project. Market Valuation method used secondary and primary data in the assessment as following.

(b) Valuation process: Valuation the reduction of fuel consumption in case of having the project and converted to reduction volume of carbon dioxide equivalent (CO_2e) from burning fuel. The value is the amount of GHG. The valuation of GHG values using the trading price determined by the reduction of GHG Project.

(c) Assessment information: From the valuation process as mentioned in clause (b), the data used for evaluation are as follows.

Fuel consumption rate of representative vehicles. The fuel cost is a major component of the vehicle used cost. The HDM-4 program is using the mechanics principles in computing the driving power of the engine and car accessories to calculate the fuel consumption rate of representative vehicles at the average speed of travel in km/L. As shown in **Table 10.4 – 12**

Calculating information on vehicle speed: The fuel consumption will vary based on the speed of the representative vehicle, as shown in Table 10.4 - 12, so that the evaluation of fuel consumption have to assessment the speed of the representative vehicle both with and without a project to evaluate the change of fuel consumption reduction. This information was from traffic engineering experts.

- $VKT_{(w/ot)}$ = Total travel distance of the road user at year t without the project
- $VKT_{(w/ t)}$ = Total travel distance of the road user at year t with the project

- $VHT_{(w/o\ t)}$ = Total travel hour of the road user at year t without the project
- $VHT_{(w/.\ t)}$ = Total travel hour of the road user at year t with the project
- PHF = Peak Hour Factor is the factor used to adjust the amount of traffic in peak hours as an average per day.
- The conversion factor changing day to year

Remark

VKT: Vehicle kilometers of travel (VKT) is the total distance of the system used of road (PCU-km.)

Means that the number of vehicles on the path in the particular distance, as if determined to find the distance of 10 km, what is the number of vehicles? It must be calculated/predicted that how many vehicles in 1 km then multiplied by the unit as the PCU (vehicle)-km.

VHT: Vehicle hours of travel (VHT) is the total hour of the system that used of road As the same meaning with VKT only used in term of time.

GHG emission quantity: By fuel type, vehicle burning of the fuel composed of, gasoline and diesel fuel. In the present, ethanol is mixed with the fuel above to reduce CO_2 emissions, such as gasohol 95, E20, E85 in the gasoline part and B7, B5, B3 for diesel. Most of GHG emissions from fuel burning are CO_2, for CH_4 and NO_2 were not much. The amount of GHG emissions of fuel types is summarized in the form of CO_2e, as shown in **Table 10.4 - 13**

Analysis Equation as below,

Speed = VKT / VHT .....(1)

$GHG_{saving\ .t}$ = $(GHG_{w/ot} \times VKT_{w/ot}) - (GHG_{w/\ t} \times VKT_{w/t})$ .....(2)

By

$GHG_{saving\ .t}$ = GHG emission reduction at year t

$GHG_{w/ot}$ = GHG emissions from fuel burning with no project in the year t

$GHG_{w/\ t}$ = GHG emissions from fuel burning with the project in the year t

$VKT_{w/o\ .t}$ = Total travel distance of the road user at year t without the project

$VKT_{w/\ .t}$ = Total travel distance of the road user at year t with the project

$GHG_{value.t}$ = $GHG_{saving.t} \times P \times PHF \times T$ .....(3)

By

$GHG_{value.t}$ = Benefit value of GHG emission reduction (million baht/year)

P = GHG price as of the volunteer carbon market (Baht/tCo_2e)

PHF = Peak Hour Factor

T = Factor used to convert from days to years

Table 10.4 - 12 The fuel consumption rate of representative vehicles at the average speed of travel

unit: kilometer per liter

Type of Vehicle	PCU[1/] Factor	Speed (km./hr.)[2/]									
		10	20	30	40	50	60	70	80	90	100
PC-M	1.00	3.04	5.89	8.31	10.30	11.80	12.76	13.22	13.23	12.89	12.30
PC-L	1.00	2.50	4.88	6.91	8.59	9.86	10.69	11.10	11.13	10.88	10.43
LT	1.75	3.19	6.19	8.96	11.29	12.95	13.79	13.86	13.32	12.41	11.32
MT	2.00	3.56	6.31	8.30	9.79	10.85	11.55	11.97	12.15	12.20	12.22
HT	2.50	1.18	2.10	2.93	3.62	4.16	4.51	4.71	4.76	4.66	4.57
LB	1.50	4.59	8.25	10.96	13.04	14.59	15.70	16.43	13.96	11.64	9.80
MB	2.10	3.56	6.31	8.29	9.78	10.84	11.53	11.94	12.12	12.16	12.17
Total	**11.85**	**35.55**	**65.10**	**88.67**	**107.38**	**121.07**	**129.72**	**134.01**	**130.26**	**124.53**	**118.66**
Average PCU-km/liter		**3.00**	**5.49**	**7.48**	**9.06**	**10.22**	**10.95**	**11.31**	**10.99**	**10.51**	**10.01**

Source : [1/] Office of the Commission for the Management of Road Traffic, Office of Prime Minister

[2/] Feasibility Study of Economics, Engineering and Environmental Impact of Airport Rail Link Extension of Bangkok International Airport (Donmuang) to Suwannabhumi International Airport Project. (2003)

[3/] PC-M = Medium personnel car PC-L = large personnel car
LT = light truck MT = medium truck
HT = heavy truck LB = light bus MB = medium bus

Table 10.4 – 13 Carbon Dioxide Equivalent (Grams per Liter)

Fuel Type	CO_2	CH_4	NO_2	Total CO_2Equivalent	
CO_2 Equivalent Factor	**1**	**21**	**310**	**Grams Per Liter**	**Grams Per Gallon**
Gasoline	2,360	0.2273	0.3358	2,469	9,345
Diesel	2,730	0.0605	0.2	2,793	10,572
Ethanol 10	2,124	0.2273	0.3358	2,233	8,422
Ethanol 85	531	0.2273	0.3358	640	2,422
Conventional Aircraft Fuel	2,330	2.19	0.23	2,447	9,262
Jet Fuel	2,550	0.08	0.25	2,629	9,951

This table indicates the CO_2 equivalentof various fuels.

Source : Transportation Cost and Benefit Analysis – Air Pollution Costs Victoria Transport Policy Institute (www.vtpi.org)

(d) Study Results: From various information and procedures for GHG emission reduction valuation which are the indirect benefit of the project. The coefficients used in the study are as follows.

(1) Fuel consumption rate: The fuel consumption rate depending on the type of vehicles and speed, as shown in **Table 10.4 - 12** Analysis of this project used an average fuel consumption of the representative vehicle.

(2) GHG emission: Emissions of GHG are different depending on the fuel types as shown in Table 10.4 - 13 in the form of CO2e. Analysis using the average of E10 instead of gasoline and B5 instead of diesel fuel in the proportion of 70:30 respectively, which the results equal to 2,360 gCO_2e/L (calculated (2,233 x 0.7) + (2,656.8 x 0.3)).

(3) Traffic engineering data: use of the VKT and VHT as designed by the traffic engineering experts, with PHF = 10 and day to year factor = 330.

The analysis was using different mentioned coefficients. The first step, analysis to determine the average speed of represented vehicles to find out the rate of fuel consumption with and without the project to adjust the quantity released GHG for fossil fuels burning in the form of CO2e. Analysis of an average speed of represented vehicles and GHG emissions of Yellow Line Mass Transit Project (Lat Phrao – Samrong section) (Distance - Base Fare), as shown in the **Table. 10.4 – 14** Study results of GHG reduction due to the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Distance - Base Fare), as shown in the **Table 10.4 – 15 Table 10.4 – 16** to **Table 10.4 -21** showed for 20 baht flat fare in 3 subcases, respectively.

10.5 Conclusion of Environmental Economics Evaluation

The operation of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) has significantly helped to reduce the use of vehicle transportation to be the train instead. The reduction of vehicle used also decreased of fossil fuels burning (Gasoline and diesel) which are the reduction of air pollution emission, emission reduction of CO_2, CH_4 and NO_2 contributed to climate change which is in the GHG group.

Environmental economic valuation results from the reduction of air pollution emissions, by evaluating in term of "Air pollution saving cost" and the reduction of GHG gasses in the form of "GHG reduction cost" was conducted in 4 cases; distance-based fare, and 20 baht flat fare with all 3 subcases. But in the case of 20 baht flat fare subcase (1) and (3), the results were equal to distances based fare. Then It can be concluded that only the 20 Baht Flat Fare subcase (2) or 20 baht flat fare with free transfer except the Blue Line and Airport Rail Link: 20 Baht Flat Fare and Free Transfer except Blue line and ARL was different. The summary of environmental economics valuation from fossil fuels burning (Gasoline and diesel) with decreasing of vehicle number as shown in **Table 10.5 - 1.**

Table 10.4 – 14 The average speed of represented vehicles and GHG emission the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: Distance - Base Fare)

Items	Year 2019		Year 2029		Year 2039		Year 2049	
	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)
Saving cost	349,922	34,983	619,793	54,038	586,196	142,877	875,574	484,316
- Average speed (km/hr.)		24.5685		21.8270		14.7220		7.2250
- Fuel consumption (km/liter)		6.3991		5.8536		4.1758		2.1675
- GHG emission (g/PCU-km)		368.8019		403.1707		565.1612		1,088.8120

Table 10.4 – 15 Valuation of the Reduction of GHG of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: Distance - Base Fare)

Year	GHG (g/PCU-km)	VKT saving (PCU-km/hr.)	Reduction of GHG (tCO_2e/hr.)	Values (million baht/year)
2019	368.8019	349,922	129.05	63.88
2029	403.1707	619,793	249.88	123.69
2039	565.1612	586,196	331.30	163.99
2049	1,088.8120	875,574	953.34	471.90

Remark : PHF= 10, to converted day to year = 330, Carbon credit price = 150 bath/tCO2e

Table 10.4 – 16 The average speed of represented vehicles and GHG emission the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Flat Fare (1)

Items	Year 2019		Year 2029		Year 2039		Year 2049	
	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)
Cost saving	519,999	34,983	751,119	54,038	958,568	142,877	1,110,397	484,316
- Average speed (km/hr.)		24.5685		21.8270		14.7220		7.2250
- Fuel consumption (km/liter)		6.3991		5.8536		4.1758		2.1675
- GHG emission (g/PCU-km)		368.8019		403.1707		565.1612		1,088.8120

Table 10.4 - 17 Valuation of the Reduction of GHG of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Flat Fare (1)

Year	GHG (g/PCU-km)	VKT saving (PCU-km/hr.)	Reduction of GHG (tCO_2e/hr.)	Values (million baht/year)
2019	368.8019	519,999	191.78	94.93
2029	403.1707	751,119	302.83	149.90
2039	565.1612	958,568	541.75	268.16
2049	1,088.8120	1,110,397	1,209.01	598.46

Remark : PHF= 10, to converted day to year = 330, Carbon credit price = 150 bath/tCO2e

Table 10.4 – 18 The average speed of represented vehicles and GHG emission the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Flat Fare (2)

Items	Year 2019		Year 2029		Year 2039		Year 2049	
	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)
Cost saving	**362,737**	**37,789**	**771,974**	**55,606**	**784,729**	**152,757**	**1,021,109**	**362,737**
- Average speed (km/hr.)		24.6148		21.8315		14.7340		7.2341
- Fuel consumption (km/liter)		6.4083		5.8545		4.1788		2.1702
- GHG emission (g/PCU-km)		368.2724		403.1087		564.7554		1,087.4574

Table 10.4 - 19 Valuation of the Reduction of GHG of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Flat Fare (2)

Year	GHG (g/PCU-km)	VKT (PCU-km/hr.)	Reduction of GHG (tCO_2e/hr.)	Values (million baht/year)
2019	368.2724	362,737	133.59	66.13
2029	403.1087	771,974	311.19	154.04
2039	564.7554	784,729	443.18	219.37
2049	1,087.4574	1,021,109	1,110.41	549.65

Remark : PHF= 10, to converted day to year = 330, Carbon credit price = 150 bath/tCO2e

Table 10.4 - 20 The average speed of represented vehicles and GHG emission of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Fare (3)

Items	Year 2019		Year 2029		Year 2039		Year 2049	
	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)	VKT (PCU-km/hr.)	VHT (PCU-hr./hr.)
Cost saving	**343,021**	**34,983**	**545,476**	**54,038**	**723,929**	**142,877**	**859,189**	**484,316**
- Average speed (km/hr.)		24.5685		21.8270		14.7220		7.2250
- Fuel consumption (km/liter)		6.3991		5.8536		4.1758		2.1675
- GHG emission (g/PCU-km)		368.8019		403.1707		565.1612		1,088.8120

Table 10.4 - 21 Valuation of the Reduction of GHG of the Yellow Line Mass Transit Project (Lat Phrao - Samrong section) (Case study: 20 Baht Fare and No Free Transfer (3)

Year	GHG (g/PCU-km)	VKT (PCU-km/hr.)	Reduction of GHG (tCO_2e/hr.)	Values (million baht/year)
2019	368.8019	343,021	126.51	62.62
2029	403.1707	545,476	219.92	108.86
2039	565.1612	723,929	409.14	202.52
2049	1,088.8120	859,189	935.50	463.07

Remark : PHF= 10, to converted day to year = 330, Carbon credit price = 150 bath/tCO2e

Table 10.5 - 1 The evaluation of environmental economics from fossil fuels burning (Gasoline and diesel) with decreasing of vehicle number

unit: million bath/year

Year	Distance-Base Fare and Free All MRTA Transfer		20 Baht Flat Fare and Free Transfer except Blue line and ARL	
	Value of air pollutants saving	Value of GHG gas reduction	Value of air pollutants saving	Value of GHG gas reduction
2019	687	63.88	1,120	94.93
2029	1,557	123.69	1,886	149.90
2039	2,527	163.99	3,082	268.16
2049	3,603	471.90	4,570	598.46