## **Conflict Prevention on Construction Projects**

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### **Conflict Prevention on Large Construction Projects**

#### **Model of Conflict encountered Large Construction Projects**



#### Case Study

The Bangkok Mass Transit System Project in Thailand Objectives

1. Determine the Attitudinal Differences Among:

- Group 1: The Group Affected by the Project
- Group 2: The Project Participants
- Group 3: NGOs, Interested Organizations
- Group 4: Academics and Experts
- Group 5: The Local Government Officials
- 2. Derive Factors Leading to the Interface Conflicts

#### 34 Variables to be Tested

Code	Variables
A1.1	Quality of water in watercourses
1000	during construction.
A2.1	Control of some operations causing
	loud noise and high vibration.
A2.2	Construction during the night.
A2.4	Noise in sensitive areas.
A2.5	Public announcement for loud noise operations.
A3.1	Construction of stations over roads.
A3.2	Control of dust from truck driving.
A3.3	Installation of fence along the site.
A3.4	Dust from solid waste outside the site.
A3.5	Cover of excavated holes during the construction.
C1.1	Construction of columns in the middle of roads.
C1.2	Construction of stations in sidewalk areas.
C2.1	Placing construction materials and equipment on roads or walkway outside construction fences.
C2.2	Entrances to construction sites.
C2.3	Management of site layout.
C2 4	Information to road users.
$C_{2.5}$	Traffic sign signals and lane
02.5	channeling

Code	Variables
C2.6	Queue length of trucks.
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C2.8	The requirement of the Act on Land
	Traffic.
C3.1	Participation in EIA study.
C3.2	Technical hearing prior to EIA study.
C3.3	Public hearing prior to final decision-making.
C3.4	Response to the requests made by the public.
C3.5	Chance to monitor during the construction period.
C3.8	Survey on social impact data.
D1.1	Disturbance on business during the construction.
D1.6	Information revelation.
D1.7	The requirement of laws regarding public information and public
	opinion.
D4.1	Route passing nearby historical and religious landmarks.
D4.2	The construction at Lumpini Park.
D5.1	Project's elevated structures.
D5.2	Visual impact during construction.
D6.1	Accident during the construction.
D6.2	The requirement regarding Act on
	control building construction

#### Hypothesis

"Each group has the same attitude towards the factors leading to interface conflicts encountered the project"

- Test by
- ANOVA test: investigate whether the group mean scores are the same or not
- Multiple Comparisons with Tukey's HSD test: pairwise comparisons

### Testing Results (ANOVA)

- All variables exhibited significant difference at 5% sig.
- Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

Testing Results: Tukey's HSD Numbers of Variables That Have Similar Mean Scores When Compared for Pairs of Respondents Groups No. of Variables



#### **Comparison of the Mean Scores of Individual Variables among the Five Respondent Groups**



Conclusions The group affected by the project, the academics and experts, the local government officials are close to each other. They ranked variables concerning noise and vibration impact, air impact, impact on road and traffic, impact on archaeological and historical issues, accidents as "important" and "moderately important."

Conclusions (2) The group affected by the project and NGOs have several links to each other. They ranked variables concerning accident as "very important" and variables concerning noise and vibration impact, impact on road and traffic, EIA and public participation as "important."



## Conclusions (3)

 The project participants are different from the other groups. They considered the issues either as "moderately important" or "less important."

 The major reason for conflicts is attitudinal division between the project participants on one side and the other groups on the other side. Recommendations to Reduce Conflicts on Projects
Accident: Protection of the public against falling object should be provided

 EIA study and public participation: Conducting EIA without public participation or failing to hold technical hearing can invite opposition and ignite resistance.  Recommendations to Reduce Conflicts on Projects
Socioeconomic and information revelation: If social impacts cannot be minimized to a satisfactory degree, the whole role of development project could be called into question.

Road and traffic: Construction over roads can cause traffic congestion. Information on the best alternative route should be given. Inform the public on expected regional traffic changes as a result of the construction.

Recommendations to Reduce Conflicts on Projects

 Archaeological and historical sites: Eligible property should be preserved and protected without adverse effect from construction and the implementation of projects that have negative impacts on cultural heritage should be avoided.



Recommendations to Reduce Conflicts on Projects

 Air impact: The construction of elevated structures over roads and between high buildings should be carefully considered. The structures can obstruct natural ventilation. Recommendations to reduce conflicts on future projects

Noise and vibration impact: Source of noise from activities and action of the project should be controlled by following commitment of the legal standard. Working hours for particularly noisy operations should be minimized with appropriate local consultation in advance.

Recommendations to reduce conflicts on future projects

Visual impact: The project's elevated structures may cause visual impact. The designers should prevent the exposure or creation of visual misfits. All possible mitigation measures should be considered.

# **BTS Service**



#### BTS Shuttle Bus

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