Good Public Relations:
An Essential Part of Successful Project Management

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Note: This paper was originally written in 1985 before projects #s 1 & 2, referred to in the text, were completed. Further details of Project Public Relations can be found in Issacons #1092-1097.

Introduction

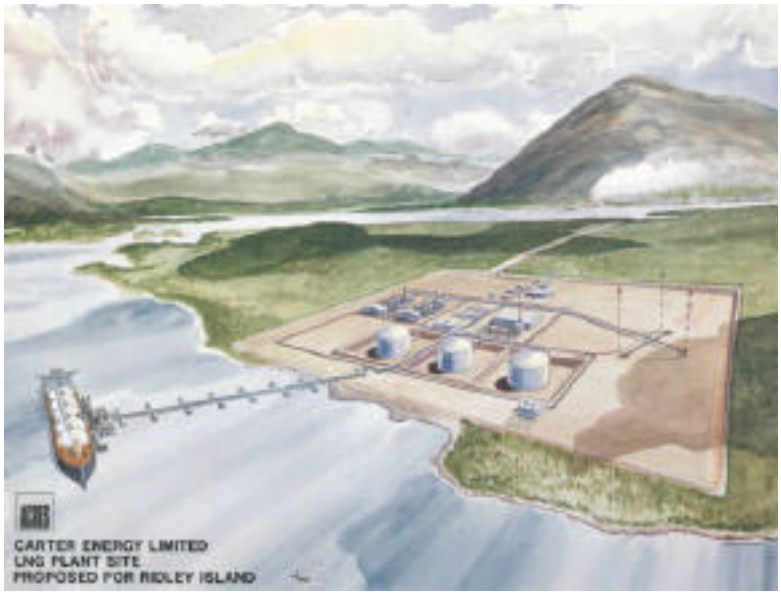
The author has been associated with three large projects in which. the importance of public relations and promotion was recognized by the sponsors at the outset. By virtue of their territorial spread, all three projects had the potential for considerable impact on their surrounding districts. In each project, one privately funded and the other two publicly funded, an official public relations or equivalent function was established to handle the project's "interface with the public". The results of this strategy and its effect on project activities was followed with considerable interest. Drawing on this background, a convincing case is made for the benefits of such a strategy. The purpose of this paper, therefore, is to suggest a model PR program for application to future projects.

On a smaller project it is noted that perhaps the term "Communications Plan" may be more acceptable to management.

Although the projects referred to are all large and clearly recognized the need for public relations, it is suggested that the principles established are just as evident and should be recognized on an appropriate scale by any project manager on any size of project.

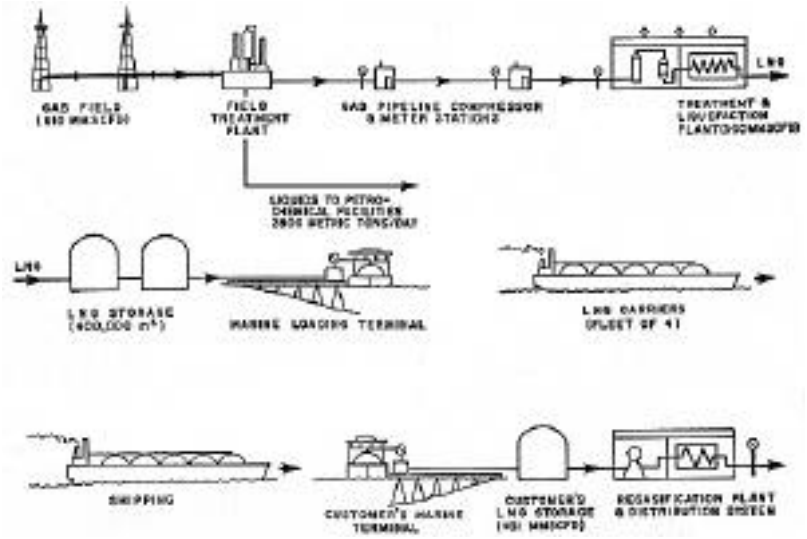
Project Examples

Project #1: LNG



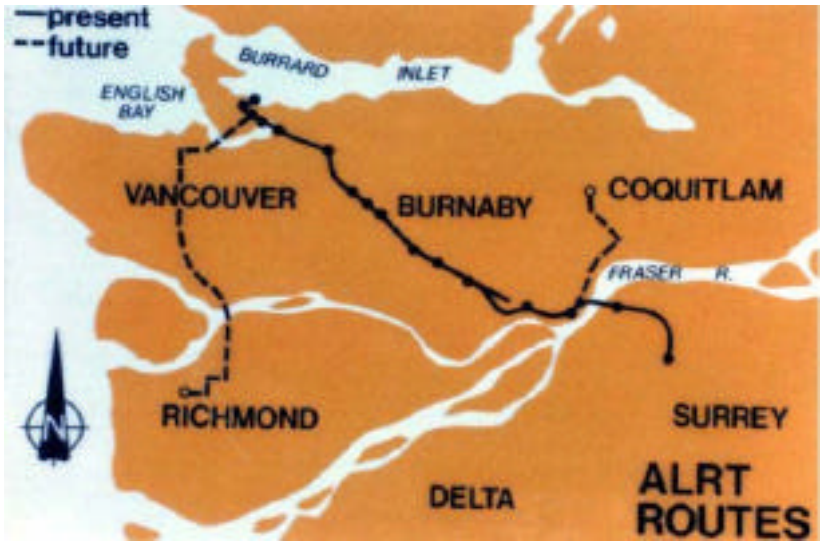
A proposal to establish the facilities for exporting natural gas to Pacific Rim markets was contemplated by a private company. The facilities would include an 800 km pipeline, a plant capable of producing 23,000 cubic meters of liquefied natural gas (LNG) per day, a marine terminal and a fleet of ships to deliver the fuel to the company's customers. The capital cost was estimated to be about $5.6 billion.

The "project" in this case was to carry out all the necessary financial and economic analyses, market studies, customer identification, site location and pipeline route selection studies, process, product transfer and safety equipment selection and fleet optimization studies. In addition, environmental impacts and socioeconomic benefit studies were required in order to complete an application to the Provincial Government for approval to proceed. To succeed, the application would require the majority support of all those impacted by the project, and assistance with public relations was obviously essential.



Liquefied Natural Gas Concept

Project #2: ALRT



Advanced Light Rapid Transit: Present and possible future extensions

The Provincial Government launched an ambitious project to design and build 22km of advanced light, intermediate capacity, rapid transit system between two densely populated areas from downtown to downtown over hilly terrain. To provide for grade separation, about 14 km of track is elevated, 2km is in tunnel, and the remainder is at grade on a dedicated right-of-way. Innovative features include very light driverless cars, magnetic traction, steerable wheels, and fiber optic based communication and control systems. The escalated cost of this four-and-a-half year project is $800 million. With such a high profile project, a decision to include a separate public relations department was taken at an early stage.

Project #3: Expo 86

The Provincial Government conceived the idea of a five-and-a-half month long transportation exposition, to be held in 1986, to commemorate the 100th anniversary of the founding of the city of Vancouver, British Columbia. Called Expo 86, its theme is World in Motion, World in Touch - the movement of people, goods and ideas, over land, sea, and air or by the flow of electrons. This theme will be developed through seminars, symposia and special events dealing with specific aspects. There will be special demonstration projects, performing and visual arts, and of course various theme pavilions. It will be held following the startup of the new ALRT transit system.

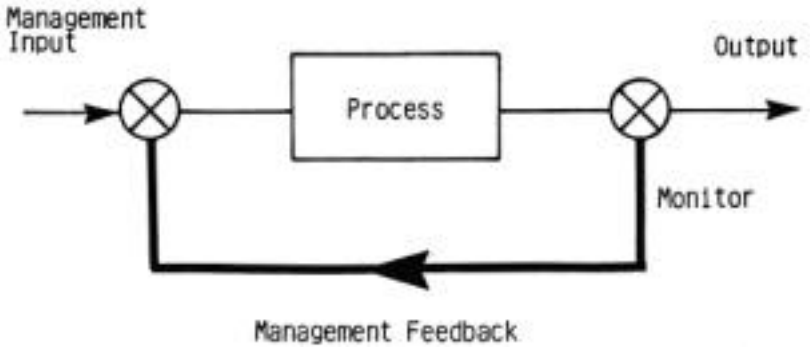
This panoramic view of Vancouver shows the site of Expo 86 superimposed on False Creek on the southern edge of the downtown area

This project, which is also four-and-a-half years long, started with a group of five people, now has a workforce of about 500 and will grow to some 20,000 during the exhibition. The rising tide of enthusiasm amongst potential exhibitors has increased the projection of 22 participating countries to the current total of 41. As a consequence the site, which is within walking distance of downtown Vancouver, has had to be expanded several times. Its present size is 70 hectares.

Including costly temporary structures built out over the adjacent water front, the total project cost, excluding the investment by participants but including exhibition operating costs, is around $800 million.

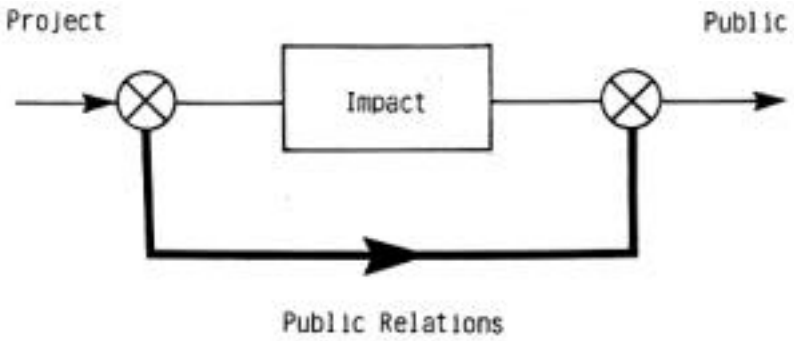
The Public Relations Concept

Information feedback to management is an essential part of the management process.



Traditional management feedback system

It can be an essential and powerful tool in improving motivation at the operative level. If it is properly handled, improved productivity will follow. In effect the traditional feed back is made to work in the reverse direction, and whether appropriate information is presented in verbal, written or graphical form, improvement in performance can be quite remarkable. This is just as true in the field of projects whether they are large or small, and applies equally to those working on the project as well as those affected by it.



Public Relations feed forward system

On a major project, particularly if it is publicly funded, a general information and progress center is quite normal. Equipped with visual aids for presentations, it will exhibit not only pictures, diagrams and models, but up-to-date charts of schedule and progress information suitable for the public at large as well as the project work force. Known in the trade as Public Relations, this whole effort is a vital part of managing the project. It can prove invaluable to project management in helping to control all aspects of a complex project.

In general terms Public Relations, or PR as it is more frequently termed, may simply be defined as "An activity designed to improve the environment in which an organization operates in order to improve the performance of that organization." From this definition it will be noted that the public interest groups, or target areas of the program, are clearly both internal and external to the project.

Unfortunately, to many people the term Public Relations is somewhat vague and self serving and its use may therefore be undesirable. However, there appears to be no really satisfactory term for an activity which should be a legitimate project function. The image of the "PR man" tends to be one of a smooth, fast talking individual replete with over worked clichés. Little distinction is drawn between PR and marketing, promotion or just hard selling where the message is deliberately one sided.

"Public Participation" is another description for a similar -activity which attempts to deal with the environmental and social impacts of a project. In many jurisdictions it is prescribed by government regulations. Its perception tends to be one of interference with project objectives, escalating cost and schedule delays.

A more dynamic and acceptable term might be "Communication Plan", provided that this term does not conflict with responsibilities elsewhere in the project organization. It is perhaps the most innocuous of the available terms, for without ample definition it fails almost completely to convey its purpose.

Whatever title is preferred, every project team should bear in mind that most capital projects are the target of negative information campaigns. These are usually mounted by those with other vested interests. Such special interest groups may seek to have the project delayed or cancelled to preserve the status quo, or otherwise held to ransom for their own pecuniary gain. Like bees to the honey pot, the News Media is much more likely to be attracted to such biased and often uninformed positions as being more "newsworthy" than the official project press releases.

The cry of the critics will likely include: The technology is untried; safety is at stake; the environment will be adversely impacted; indirect costs will be incurred by the community; taxpayers will be saddled with increased taxes and so on. Of course, within the local community there may be some individual hardship cases which will attract political and media attention, especially if the project has to acquire property for its implementation. In this case, people's homes, businesses and lifestyles may indeed be affected. In addition, actual construction, pile driving, trucking and road restrictions or congestion will create issues which will demand immediate and effective response.

All of these issues should be foreseen, recognized and dealt with honestly, fairly and promptly. Understand that everyone who works on the project contributes to its image. Make sure that that contribution is positive.

To a large extent, the project team's ability, to control the project environment will determine their ability to control the project in terms of cost and schedule.

The Plan

Good public relations starts with a strong identity, a planned program and concrete goals. Therefore, as with all other project management activities, establishing a PR activity or program starts with appointing someone to be responsible and then have them develop an appropriate plan. The PR program leader himself must be outgoing and positive, yet able and willing to work through a program systematically. He or she must also be capable of preparing carefully constructed text and presentations. In developing

the PR plan, the following eight basic steps are suggested:

1. Know the project organization and its objectives thoroughly.
2. Determine who the interested publics will be and the characteristics of each.
3. Establish the relative importance of each to the project, and in particular, identify the "high risk" areas.
4. Assess the current reputation of the sponsoring organization as it is perceived by each of the interested publics.
5. Determine appropriate action in each case.
6. Develop strategy, resources, priorities and schedule.
7. Implement the plan.
8. Continuously monitor the effectiveness of the program during its implementation and adjust the plan for optimum results.

Project #1: LNG

In the case of the LNG project a private sector public relations firm was hired. Their major asset was in knowing local dignitaries and media representatives and in being able to get quick and favorable access to them.

The financial success of the Expo 86 project is heavily dependent upon exhibitor participation on the one hand and attendance on the other. At least 15 million admissions are required to break even. A major promotional effort is therefore obviously part of the project.

However, a project such as this must have the support of the local communities, who initially viewed the enterprise with skepticism. Therefore the PR effort was separated from hard sell marketing at the outset and became the responsibility of the Communications Division. The basic philosophy of the PR program is to create public interest and awareness, to establish a sense of ownership and thereby to increase the number of local visitors. The focus is external and consistent effort is made to be proactive rather than reactive.

The Communications Division is divided into four departments, namely: community relations; protocol i.e. dealing with local dignitaries; media relations; and supporting information services. Each department has its own budget and plan which is reviewed monthly.

Internal project PR is the responsibility of the personnel department, which faces the problems of a widely dispersed workforce, variable hours worked and rapid turnover. Internal news letters are issued.

Project #2: ALRT

On the transit project a communication plan was developed and approved by management early in the design development stage. This plan was designed to bring to the surface the major issues and concerns that would impact the project at:

- the street level
- the community level
- the Provincial Government level
- the National level

It set out a program of activities that communicated the project's policies, practices and their rationale to

the project's key publics.

The plan first conducted a current situation. review which included probable public reaction to the risk of adopting advanced technology, its commercial viability, the safety of running trains without drivers, what happens in the event of a power failure and so on. At the street level there may well be hardship due to property expropriation, proximity to people's homes and construction upset.

The plan continued with its PR program philosophy, as outlined earlier, including the intent to promote and maintain a full understanding of the Transit Project by all project officers and staff. It concluded by identifying specific issues and concerns raised to date, and set out a complete and detailed implementation strategy and action program. During the life of the project, the plan has been reviewed regularly, and updated annually. The program was conducted by a separate department.

Program Effectiveness

To be effective, the PR program must recognize, reinforce and actively promote the objectives of the project. In addition, the PR program must be evident at all levels of the project organization, and it should aim at improving the credibility of the project team and hence their ability to perform. In short, the program must be designed to emphasize the positive influences of the project to counteract the negative attacks.

If the project is privately sponsored, undoubtedly the project sponsors will be the primary beneficiaries. Even so, in all likelihood there will be significant benefits accruing to the local populace in the form of increased employment, increased demand for local goods and services and corresponding increases in primary and secondary contributions to taxes.

If the project is publicly funded, it is worth bearing in mind that even though the "public" is the primary beneficiary, the "public" which stands to gain the most is not necessarily the "public" which is impacted the most. In practice the latter are likely to be the vocal minority, while the former sit on the sidelines as the silent majority! As the same generally holds true for the privately sponsored project, this provides the project manager with a powerful argument for establishing a well devised PR program.

Project #1: LNG

In the case of the LNG project, the economic analysis clearly showed that the project would result in a dramatic increase in economic benefits to the province. These included:

- A stable export base for natural gas resources for at least 20 years.
- An annual increase in overseas trade of over $1 billion, over a third of which would find its way into government coffers via additional tax revenues.
- Significant economic development of the northern part of the province
- A permanent increase in employment of over 15,000 as a. result of operating expenditures on natural gas purchases, labor and other materials, when multiplier effects are taken into consideration.

Thus quantified, these benefits were conveyed in simple terms by the public relations firm to the

Mayor's Office, the local media, local associations and the Provincial Government.

Project #3: Expo 86

The overall economic impact of Expo 86 is expected to be about $4 billion or roughly 5 times the project budget. As well as the excitement of the fair, this fact has been emphasized in the publicity literature. The highly dispersed impact on the poor local employment conditions has been very evident.

Project PR Program Philosophy and Audiences

The philosophy behind a typical PR program for a public project should cover a number of issues. For example:

- Conveying a good understanding of the project to the project team and workforce
- Providing presentation materials and handouts
- Keeping the public informed
- Being open with information and
- Promptly responding to misinformation

Project #2: ALRT

In addition to the above, primary target audiences of the Transit project included the alignment neighborhoods.

Aerial view shows major acquisition of property and track relocation to meet local opposition to running through a commercial center

However, it was noted that the people in this community would not necessarily be the same as the future transit commuters. In other words, a local but vocal minority could be expected, while the principal

beneficiaries, the commuting public, would be from a much wider radius and no doubt constitute a silent majority. This type of situation is of course quite common in most large public projects.

The way vociferous people were often handled was to bring them in to the project demonstration center and discuss their concerns quite openly and honestly. They were often very much mollified when they were convinced that no secrets were being held back. Secondary target audiences included the transit industry as a whole.

Project #3: Expo 86

At Expo a similar approach was taken. Due to the fair's location in the city, four major neighborhood interest groups were identified, and a special site neighbors program was established. Community Relations workers developed an effective liaison with each group. This approach worked well, and as a result there were few complaints in spite of construction upset and pile driving noise.

A 1:100 scale model was built and exhibited in a prototype standard exhibition display building, two years before opening day. The model was probably the largest architectural model ever built in Canada, and will have been seen by over 200,000 people. Together with supporting display material, it has helped to attract exhibitors, generate enthusiasm and answer many of the questions and concerns of the various interest groups.

Throughout, the Communication Division has identified its friends and its enemies, and has addressed itself to the grass roots. Any suggestion of secretiveness has been carefully avoided. Up to 60,000 copies of 'Neighbor's News has been distributed monthly, and every effort has been made to take advantage of networking through the distribution of the Expo logo and children's' fascination with Expo Ernie, a small lifelike working robot.

Issues and Concerns

It is well worth while being prepared for some of the typical issues and concerns that will inevitably be raised by the various target groups. These will depend on a variety of factors including some of the critical project assumptions, real and imagined situations and trends, various public indicators, experience with previous similar projects and the latest fashionable issues currently being pursued by the media at large. Depending on this climate, responses must be developed accordingly. Some typical project issues which have been encountered in the past on public projects are listed be low.

- Safety is a major concern.
- "What happens in the case of an emergency?" is a frequent question.
- Automation may create insecurity from the point of view of job loss. Alternatively, will the project create the number of jobs predicted?
- Unless the technology is well established, there will be concerns about its reliability.
- Expropriation creates dislocation and widespread controversy.
- The project may become an issue in an election campaign.
- Ill informed news reports can undermine public confidence in the project.
- Similarly, negative or inaccurate public statements can undermine the project, as well as all those associated with it.

- These days, people will raise environmental concerns such as pollution from project operations.
- Local neighborhoods may be impacted by noise and congestion during construction.

If the project is publicly funded, the possibility of cost and schedule overruns will be hotly debated, especially by those with a vested interest in ensuring that the outcome is a self fulfilling prophesy! Similarly, if project implementation is of long duration, and inflation has been allowed for as a separate item in the budget, there will be much and possibly deliberate confusion over such terms as "as spent funds" and "current (inflated) budget" versus "base (original) budget". The draw down from the contingency allowance will add further complications.

Finally, those involved in construction contract disputes may air the matter in the media, or within the hearing of the politicians, in order to give themselves added leverage in reaching a favorable settlement.

Careful and constructive attention to these kinds of details can be of enormous benefit to the smooth running of the project. Beware, however, that the public relations effort does not become an end in itself, and hence itself a target for public outcry!

Project #1: LNG

In the case of the LNG plant, particularly during the site selection stage, serious concerns were expressed over the possibility of LNG spills on the sea during ship loading. Previous spills and full scale tests were researched and mathematical cloud models studied. The information was made publicly available.

Project #2: ALRT

At the outset, the cost of the Transit project was generally thought to be exorbitant by the local tax paying community. In fact it is realistic when compared with intermediate transit systems with similar capabilities built elsewhere. Comparative figures were developed and shown graphically as part of a permanent display center.

The question of train noise was another serious public issue on the Transit project. This was due especially to the close proximity of the track in the densely populated areas, and the planned frequency of train service. In general the idea is to vary the number of carriages in a string to take care of capacity requirements during rush hour, while maintaining reasonable frequency at other times in order to encourage use of the system in the face of the otherwise more convenient automobile.

This problem of noise had been correctly anticipated by the system developers. The design of the system overall including the adoption of magnetic traction and steerable carriage wheels significantly reduces the noise problem. Simple technical explanations were developed and published to show that the sponsors were aware of this potential problem and had taken active steps in the design to counter this objection.

The safety of the automatic train controls was another serious concern, as the system is designed to be entirely driverless. A major strategy in the project implementation plan was to fast track a one kilometer section of the permanent elevated part of the line, through to complete temporary operation, as a test section. This section provided invaluable design and construction experience. In addition, it was used for

five months to give free rides to the, public. The two-car train completed over 12,000 trips and covered over 26,000 km. Nearly 300,000 visitors from all over the world took the opportunity to experience the new transit system at first hand. This strategy undoubtedly did much to build confidence and assuage the concerns mentioned above.

A depression in the freeform track alignment to make it less intrusive and avoid obstructing the scenic mountain views from a local residential estate

Project #3: Expo 86

In the early stages of Expo construction, the site became embroiled in a major labor issue. The BC Federation of labor saw the project as a test case for retaining closed union shop conditions on government work. The Provincial Government on the other hand was determined that every company in BC should have an opportunity to participate. Expo tried to negotiate a compromise with the unions. The government threatened to cancel the fair.

Expo's communication with the media was open, up front and honest. Through the media, the issues were taken back to the public, and the majority public opinion eventually prevailed. The show should go on and be open to all. Except for the original 4 or 5 days lost, there have been no labor interruptions since. The work force is about 87% union working along side the remainder who are non-union workers.

Implementation of the PR Program

Once the PR program has been prepared in outline, its contents must be approved by the project's management. The program should also be a distinct item in the project budget, and receive corresponding approval. However, the question will arise as to where the activity will best fit into the project organization. Depending on the type, size and duration of the project it may well be that the PR activity should be set up as a separate function within the project directorate of the sponsoring organization. Since high visibility is involved, this will best serve the sponsoring organization's goals.

It should be emphasized, however, that the project PR program should not simply be just an added responsibility of an existing department, because the project priorities and time frame will be quite

different, and specific project requirements may be overlooked.

Project #1: LNG

In the LNG and Transit projects, the PR functions were responsible directly to the sponsors themselves and therefore in a staff relationship to the project manager. No doubt this choice was made because the function was seen as being very sensitive. Notwithstanding, in both cases the project manager had good input and received good advice. In retrospect it would probably have been better to have the PR Department reporting directly to the project manager in both cases.

Project #2: ALRT

In the Transit project, the PR function was also responsible directly to the sponsors, and the total PR effort was generally supported by a staff of 8 people peaking at about 13. Individuals were selected either for their writing ability, or their ability to handle community services, exhibitions and so on. All worked as a closely knit team drawing on their various personal strengths. The writers had to be capable of producing fast clear media style text and generally had a journalistic background. The remainder were project trained to stand on a platform to be ready with information and to man the exhibitions. Some were selected for their suitability as General Information Officers.

Including outside brochure art work, printing, demonstration models and so on, the total cost of the PR effort amounted to approximately 0.6% of the total project budget.

Project #3: Expo 86

The Expo project was set up as a provincial Crown corporation, and the marketing and communications divisions were therefore both part of the project organization. However, because of the overlapping impact of the two divisions it is difficult to separate out the effective cost of each. The communications effort on its own is probably of the order of 0.4% of the project cost.

Communication Plan Objectives

As soon as the program outline and budget have been formally approved, execution of the program must be worked out in detail. The plan must start with a set of detailed objectives together with corresponding supporting tasks, complete with target dates, resources required, cost estimate, and method of measuring performance.

A typical set of objectives for a Communications Plan might therefore appear as follows:

- Establish and maintain a timely and accurate public information source
- Establish project procedures for the dissemination of consistent information
- Establish resources for the collection and collation of progress information as it becomes available
- Correlate project progress milestones to PR program initiatives
- Develop local community information programs in response to local concerns
- Have available up-to-date information packages and presentations for local community groups, including schools
- Emphasize the need for safety at all times

- Keep media contacts fully informed, especially those who appear to be sympathetic to the project
- Develop a system of review and feedback to alert the project to any issues that might become adverse
- Monitor and control the program to ensure optimum benefit from the effort

Project #2: ALRT

On the Transit project all of the objectives described above were vigorously pursued. For each item listed, specific tasks were identified, and a method of measurement or evaluation established. The person responsible, target dates, costs and locations were assigned to each task, as the program developed. Municipal and Public Relations has had its own separate section in the regular monthly Executive Summary Progress Reports .

As well as monitoring the program internally, public opinion surveys were used extensively to obtain readings on the external success of the program. These were conducted particularly after special events such as local exhibitions, the issue of a new brochure and so on.

Clean lines and pleasing landscaping did much to make the project acceptable

During construction, the alignment community was recognized as the most important audience. In the 22km of the system, there are 15000 homes within two blocks on either side. All homes within this area were informed by news letter as construction proceeded in each section. "Construction Progress in Your Area" provided residents with information on upcoming utility relocation, foundation excavation, column construction, the night time transportation of bridge beams and their subsequent erection. It gave details of who, how and when. When special permission from City Hall was necessary for construction activities, such information was hand delivered. There have been over 60 issues of the news letter . Each issue went to between 300 and 3000 homes according to the particular location.

In addition, a construction "Hot Line" was established and available to receive complaints day and night. It was provided by an answering service after 5pm. However, all calls were promptly dealt with, often with someone arranging to go and see the person concerned at the earliest opportunity to resolve the complaint. The practice worked very well and paid dividends.

The PR effort was intensive. Up to 16 alignment tours, 16 speaking engagements and 6 local exhibitions were conducted per month at the peak of construction. Some of the exhibitions were open for several months. Politicians and local representatives were naturally on hand on most of these occasions. Several events were made the opportunity for special celebration, such as the opening of the demonstration section, the break through in the downtown tunnel section, the erection of the last of the 1074 overhead concrete guide way beams and the energizing of the vehicle control and maintenance center.

Recent popularity surveys indicate that the project has the support of 80% of the local population. The success of the program is perhaps reflected in the fact that there have been no major schedule delays or cost overruns resulting from unwarranted interference in project progress. But perhaps the most satisfying evidence is to be seen in the shift of attitude on the part of the local newspapers.

Project #3: Expo 86

Expo's Communication Division conducted opinion or awareness surveys to monitor the results of its efforts. However, to consolidate public interest and commitment as well as being part of its aggressive marketing campaign, one of the most distinctive buildings, Expo Center, was fast tracked to open a year earlier than the main event. This 17 storey high preview pavilion, which includes a 27 meter domed Omnimax Theatre, has provided an exciting foretaste of the 1986 world exposition. It has at last attracted favorable press comment and solidified local public support.

Conclusion

As noted in the introduction, the purpose of the paper is to present a model PR program or Communication Plan for application on future projects. The eight steps identified in developing the Plan, the suggested program philosophy and possible audiences all point the way towards gaining approval for its implementation. The overall objective should be to create the most favorable climate in which the project can be implemented efficiently.

Often the internal need to make sure that the corporate view is clear to all those on the job, particularly one which covers a large area such as a transit project, is paramount. Non-conformers can be dangerous as they are perceived as having inside information and can considerably lower the credibility of the project. A very positive effort is necessary to avoid confrontation with the public. The media is a fact of life in forming public opinion, they can be an enemy or an ally. The key is to know them, be familiar with them and get them to trust you. On a large project it is necessary to talk to them all the time.

The specific Plan Objectives, and the extensive list of items for developing a work breakdown make it clear that there are a large number of items which will conceivably need attention. That all the items listed could be beneficial will be self evident. However, as with project management itself, the difficulty lies in quantifying the potential results at the outset in order to justify the expense of the program.

Perhaps the most telling justification for instituting some sort of plan, is that no matter what the project, there will always be some criticism. The cries of the critics will only be assuaged by someone who has had the time and forethought to be ready with the answers before the outcry gets out of hand. The cost of even a short delay during the height of construction can be out of all proportion to the cost of a little

foresight and "oil on troubled waters".

The mark of a successful project is one in which those directly involved complete it with a sense of a job well done, and those only indirectly involved are left with an aura of pride and satisfaction.

The assistance of the Rapid Transit and Expo staffs and others in contributing to this paper is gratefully acknowledged.

Postscript

In this year 2001, with its high-tech advances and changes in public attitudes and demands, one cannot help but reflect on those projects of some fifteen years ago. In my view they provided very valuable lessons in how to handle large infrastructure projects. Which, of course, is why I have reproduced this paper on this web site! For those who are not familiar with Vancouver, here are some observations on each of the three projects.

Project #1: LNG
The proposal for this project was duly submitted. However, shortly thereafter, the expected increases in energy prices did not materialize (at least not then) and the provincial government abandoned its proposal invitation. In fact, the Japanese, who then were very concerned about their energy supplies to maintain their booming economy, found that their needs were either over secured or otherwise did not rise to the levels expected. Under these circumstances the project would not have been viable.

Project #2: ALRT
The official opening of the Advanced Light Rapid Transit system, or "Sky Train" as it is now called, was designed to provide much needed transit service within Greater Vancouver as well as additional access to the Expo 86 world-class exhibition. The system was completed very successfully slightly under budget and ahead of schedule. So much so, that the system survived a full scale trial providing free public rides one weekend before the official opening of the exhibition. In fact the system was tested at overload capacity.

Since then, considering the technological innovation involved in this project, the system has performed remarkably well, especially compared to similar systems built elsewhere then and since. In spite of the high initial cost, in my view, it has been a considerable asset to the area and a worthwhile return on investment. The line has been extended and is currently being extended again.

Project #3: Expo 86
Expo 86 was a wonderfully fun time for all the visitors that it brought from all over the world. It too was "within budget" and opened as it must, on the due date. Bearing in mind the number of exhibitors involving many different organizations and their respective contractors, the project was a real challenge for the organizers and required very determined project management. A few exhibitors did fall by the way side, being unable to meet their committed dates. The exhibition introduced Vancouver to the world and established it as a world-class city. Unlike other exhibitions that have lost money, there can be no doubt that it was a good return on investment.

Since then, of course, the temporary platforms over the water on which some of the exhibits pavilions sat have long since been cleared away and the original land is now the site of a large and expensive high-rise downtown residential development.

Once again I should like to express my appreciation to all those on the original respective project staffs who contributed the valuable information in this paper.

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