



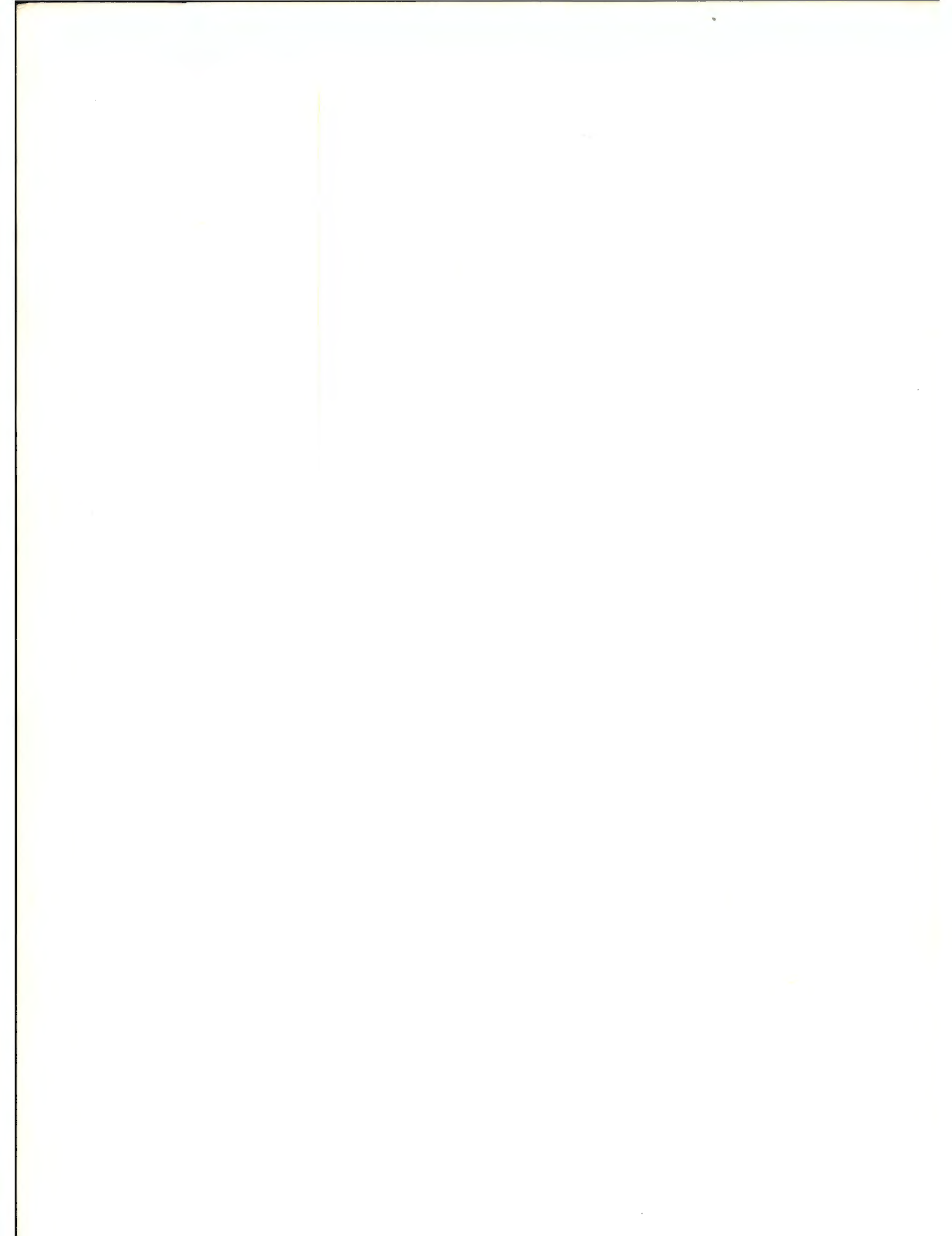
U.S. Department
of Transportation

Transportation Energy Contingency Planning: A Guide for Transit Operators

April 1982



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Transportation Energy Contingency Planning: A Guide for Transit Operators

April 1982

Prepared by

Municipality of Metropolitan Seattle
with assistance of

Metro Transit Energy Management Task Force

Prepared for

Office of Planning Assistance
Urban Mass Transportation Administration
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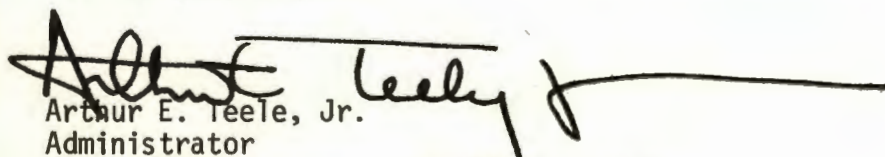
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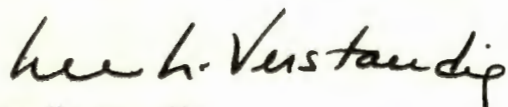
FOREWORD

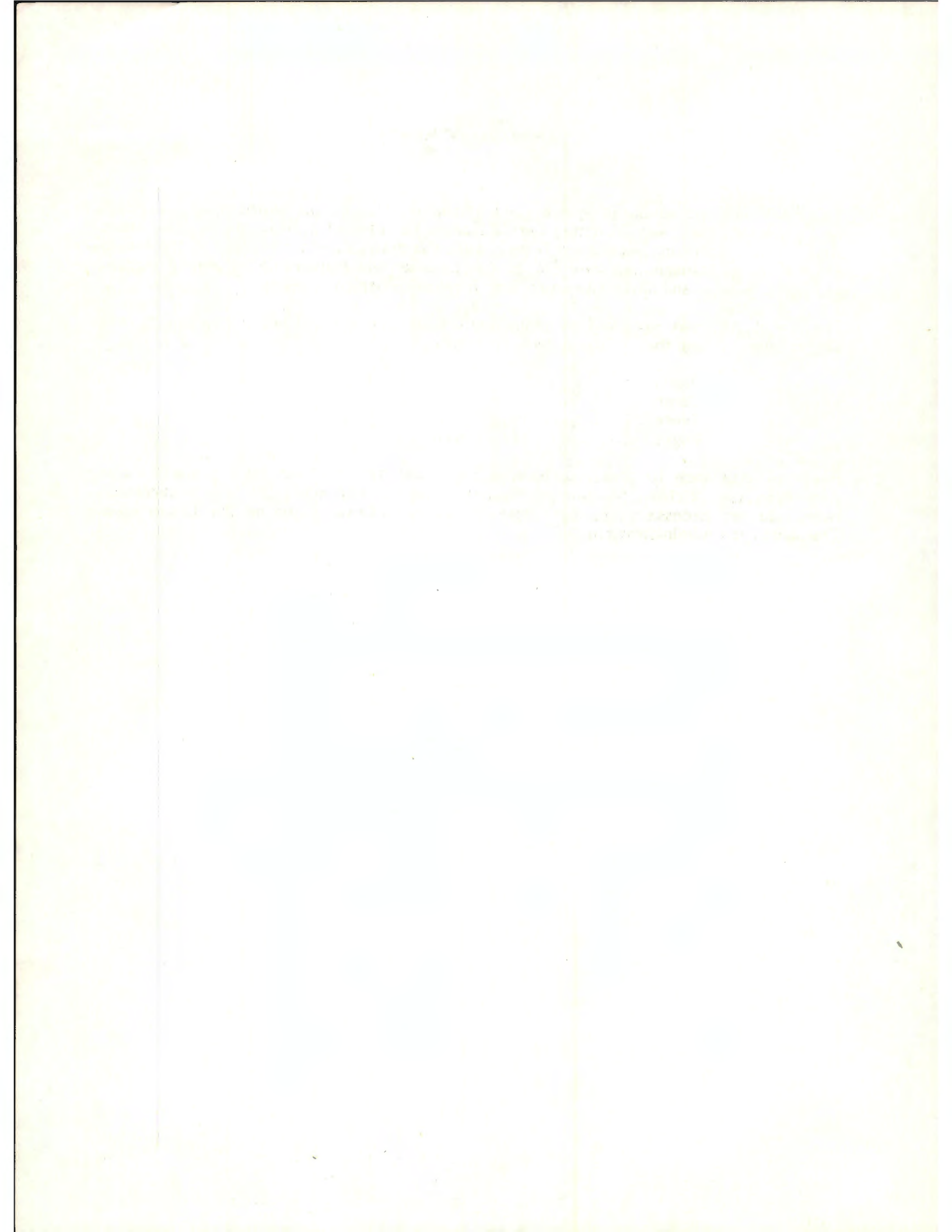
Energy contingency planning continues to be an important activity for transit operators. While current energy supplies are more than adequate, prices remain high compared to the recent past, and the potential for a disruption due to a variety of external forces remains. Further, recent changes in Federal policy on coping with energy shortfalls have focused on a decentralized, market oriented approach. This means that individual fuel users including transit operators can no longer rely on Federal intervention in the marketplace to assure them fuel. At the same time, transit can play an important role in providing alternative service to the public in the event of an emergency; helping to maintain vital mobility. These factors make it important for transit operators to be prepared to deal with a potential emergency.

In order to assist transit operators in carrying out this important activity, the Urban Mass Transportation Administration is developing a number of materials providing technical assistance. This document, which represents one of this series, is a practical guide for development of contingency plans and was prepared by the Municipality of Metropolitan Seattle. We believe it will provide operators with a good framework to use in their own planning and contains a number of useful insights resulting from Seattle Metro's experience in their own work in this area. Other documents in this series will be distributed as they become available.

Additional copies of this report are available from the National Technical Information Service, Springfield, Virginia 22161. Please refer to UMTA-WA-09-0034-82-1 in your request.


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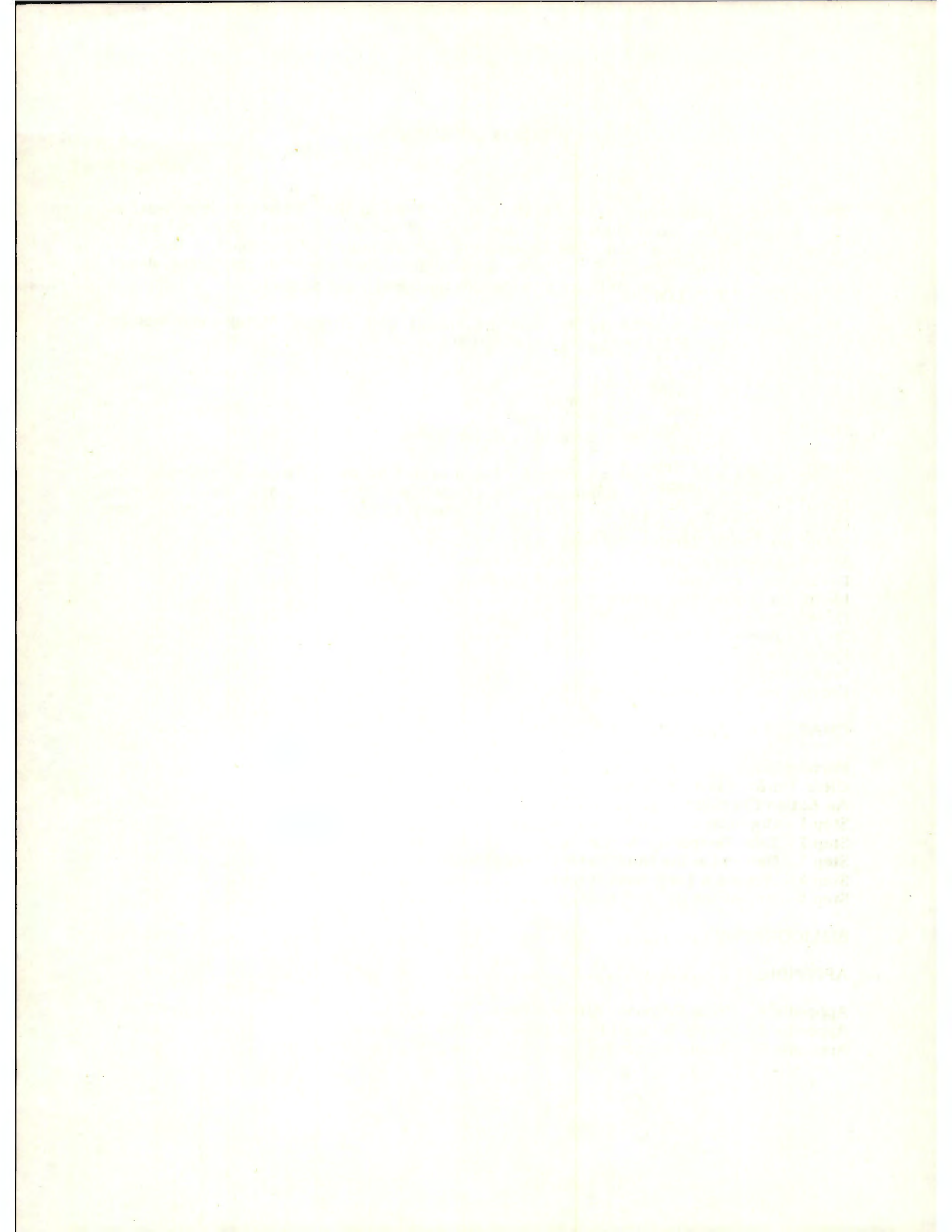


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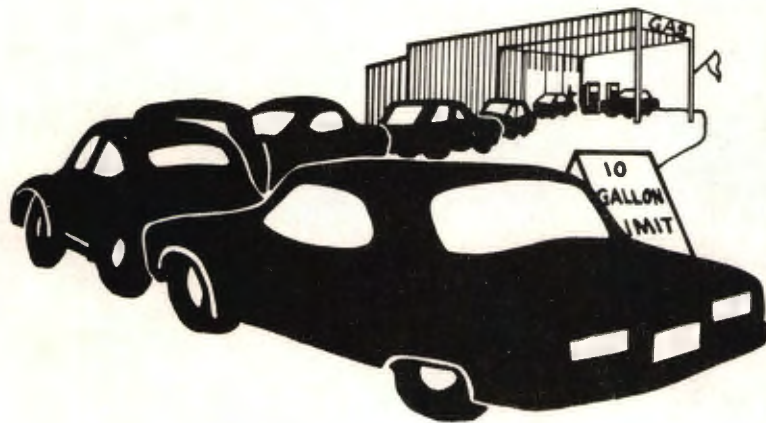
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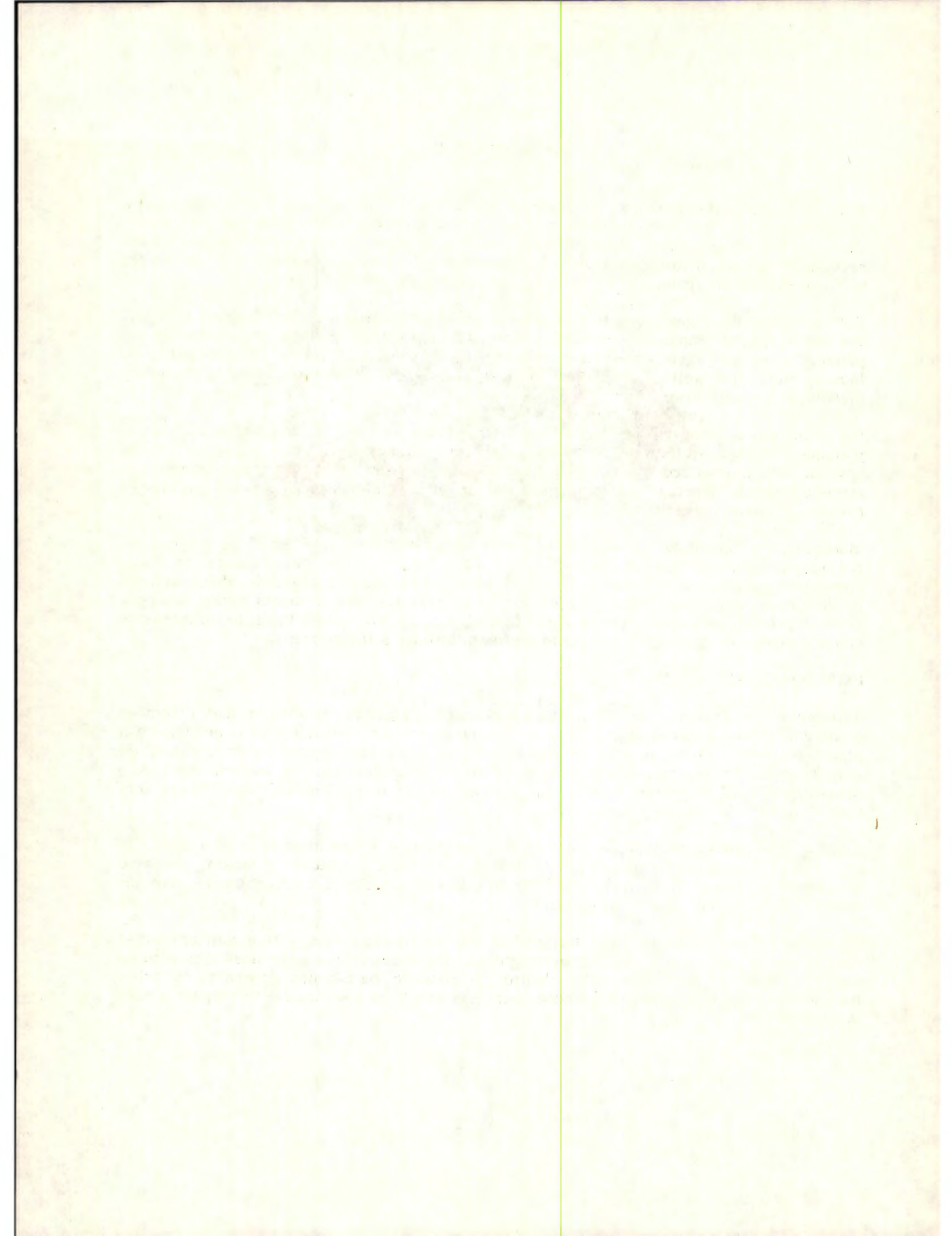
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Chapter I

Introduction



CHAPTER I

INTRODUCTION

In light of recent energy crises, continued strife in the Middle East and the volatile nature of the world oil picture, being prepared for an energy crisis is just good common sense. Based on the experience gained from past energy shortages, many transit operators have recognized the need to develop plans for meeting sudden surges in ridership, fuel supply difficulties, rapidly rising fuel costs and other crisis-generated problems.

But as memories of gas lines, rapid ridership growth and uncertain fuel supplies fade and the day-to-day demands of operating a transit system grow, energy crisis contingency planning loses the urgency and importance it had following the crises of 1973-74 and 1979. Most recently, the well-publicized world oil surplus of 1980-81 has relegated contingency planning to an even lower priority.

Nevertheless, the long-term prospect for another crisis is very real, and the need for local planning is still great. Although the fuel supply outlook may appear rosy today, it is quite possible that a localized supply interruption, caused by a strike or refinery accident, or a more widespread shortage resulting from war or OPEC policies could produce an energy crisis on relatively short notice.

Moreover, the recent termination of Special Rule #9 and the State Set-Aside program by the Department of Energy gives added importance to the development of local contingency plans. With termination of these two emergency safeguards, which assured surface mass transportation of 100 percent of current fuel requirements during a supply crisis and provided for emergency allocation of gasoline and diesel fuels, local operators can no longer rely on federal actions to see them through a future crisis.

HOW TO USE THIS GUIDE

This guide is designed to help transit operators assemble workable and effective contingency plans. Although it is written primarily for the operator who is developing a plan for the first time, it also provides practical guidance for refining or updating an existing plan. In addition to this introduction, the guide consists of two chapters that present practical guidelines to help plan for and manage a crisis under two different sets of circumstances.

Chapter II outlines a step-by-step approach for developing a plan in advance of a crisis. In this best of all worlds, when ample time and resources are available for looking ahead to an energy shortage, Chapter II will help an operator develop a comprehensive plan for meeting the demands of a crisis situation.

On the other hand, Chapter III is designed to help an operator cope with a planner's worst nightmare: A crisis has developed overnight and the operator is caught unawares with no plan for dealing with it. This chapter presents a bare-bones approach to crisis management and will be useful to those operators who have been unable to prepare a plan in advance.

The guide concludes with a bibliography and other planning resources.

BASIC PRINCIPLES OF CONTINGENCY PLANNING

There are several general principles that will help establish a clear focus for a contingency planning effort. These principles are based upon the experiences of operators and others involved in emergency planning and underlie the approach presented in this guide. To be most effective, a plan should be short and simple, flexible, realistic and ongoing.

Short and Simple

The longer, more complicated and detailed a plan is, the less likely it is to be used, particularly if someone other than the planner is responsible for putting it into action. Experience shows that a concise checklist of actions to take and issues to address will be the most adaptable in a crisis situation.

Keeping the plan simple will not always be an easy principle to follow. In fact, most planners will initially be tempted to cover all bases and thus risk becoming mired in excessive detail. However, it is important to remember that one of the planner's jobs is to reduce the potential complexity and confusion to a manageable size so that in an emergency situation effective and speedy action can be taken.

Flexible

A plan that allows for adjustment and fine tuning and offers several levels of response will be of greater value than one that presents a rigid, single-shot approach. For this reason, a staged approach to emergency planning is recommended so that a range of responses will be available to deal with mild to severe crisis situations.

Realistic

Although it is impossible to predict with absolute certainty what will happen in a crisis, it is important to base the plan on a realistic projection of the probable effects on the community and a sound assessment of available resources. An operator should avoid planning for the ideal situation or the worst case and plan instead for the most likely scenario.

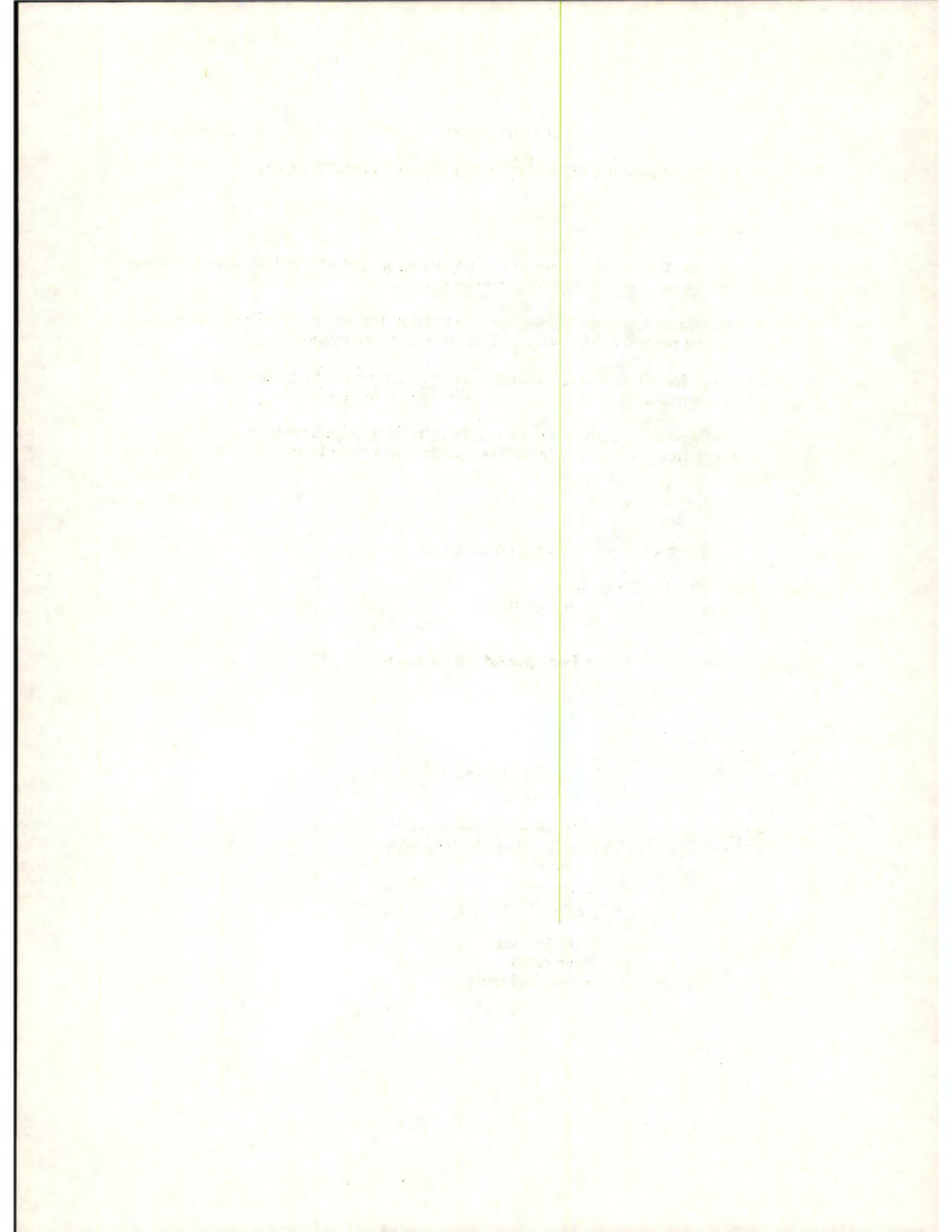
Ongoing

Contingency planning is an ongoing process-the job is not done once the plan is put together. Instead, planners should go one step further and arrange for periodic reviews and revisions to deal with new situations and conditions. In addition, the plan should include a continuing education effort, not only to keep people informed of their role in it but also to overcome any resistance to the plan. Making sure the recommended actions are clearly understood and supported by those who will be involved in putting the plan into effect is a vital part of the planning process.



Chapter II

Developing an Energy Crisis Contingency Plan



CHAPTER II

DEVELOPING AN ENERGY CRISIS CONTINGENCY PLAN

INTRODUCTION

This chapter outlines the basic steps for developing a comprehensive energy crisis contingency plan made up of three essential elements:

- A Crisis Scenario and Resource Inventory to outline the expected effects of a crisis and to assess the resources that will be available in an emergency.
- An Action Plan for maintaining existing service, accommodating ridership increases, identifying essential resources and keeping the public informed.
- A Crisis Management Framework to ensure efficient implementation of the plan, including identification of a trigger mechanism and development of a financing strategy.

BASIC STEPS

There are five basic steps for developing a contingency plan:

- **Step 1 - Organize for Planning**
 - Set up an efficient working group
 - Determine the purpose
- **Step 2 - Collect and Analyze Background Information**
 - Project a crisis scenario
 - Inventory available resources
- **Step 3 - Plan the Response**
 - Determine possible actions
 - Group the actions according to the level of crisis
 - Select the most effective actions
- **Step 4 - Develop a Crisis Management Framework**
 - Determine the overall management of the plan
 - Identify a trigger mechanism
 - Develop a financing strategy
- **Step 5 - Assemble the Plan**
 - Determine an appropriate format
 - Inform key actors of their roles
 - Provide for periodic review and update.

STEP 1 - ORGANIZE FOR PLANNING

The first step in developing a contingency plan is to get organized. This step involves taking care of two preliminary matters:

- First, set up a working group responsible for development of the plan.
- Then, establish a clearly defined purpose for the plan.

Set Up An Efficient Working Group

Deciding the best way to organize the planning effort involves determining who should be involved and how planning responsibilities will be assigned. The working group should be broad based and made up of key administrative, operating and support personnel who can collectively provide expertise in the following areas:

- equipment and maintenance
- base and field operations
- scheduling and planning
- budget and financial analysis
- marketing, customer assistance and public information.

In addition, it is a good idea to have resource people available with expertise in other areas from which support may be needed, such as labor relations and intergovernmental and community relations.

For smaller systems with limited staff, the people who should be part of the working group will be readily apparent. But in medium to large systems, there may be two or three individuals in each area who can provide the background and knowledge needed. In such circumstances, look for people who have shown an interest or have experience in energy or emergency planning as the best candidates for the working group.

Once the working group members have been selected, the next task is to assign responsibility for specific planning areas. The framework shown below outlines five principal planning functions to be filled by the group members.

Function	Responsibility
Coordination	<ul style="list-style-type: none">● overall policy and direction● coordination with public and private sectors
Operations	<ul style="list-style-type: none">● identify service changes and other modifications in operations
Resource	<ul style="list-style-type: none">● assess current fuel, equipment and manpower resources● determine availability of supplementary resources

Function

Responsibility

Data Analysis and Budget

- collect and analyze crisis forecasting data
- identify financing needs and strategies

Marketing and Public Information

- provide marketing, community relations, public information and related support

For medium to large systems, it will make sense to have one person in the working group assigned to each of these five functions, with one or two "floaters" who can provide support as needed. However, smaller systems are likely to find a working group of three to four members sufficient.

While an operator may devise a planning organization different from the one above, there are a few organizational criteria to keep in mind:

- **Size.** The larger the group, the more unwieldy its work and efficiency will be. A working group of four to six people is ideal.
- **Complexity.** The more complicated the organization, the more difficult the actual planning will be. A small working group with broad authority and clearly assigned responsibilities is preferable to a complicated structure.
- **Authority.** Giving the group authority is critical. In order to develop a meaningful and effective plan, the planning group must have broadly based and widely recognized authority to draw upon the agency's resources.

Determine the Purpose

In addition to organizing the planning effort, another preliminary matter to consider is the overall purpose of the plan. Having a clear purpose will help the planners avoid getting sidetracked by irrelevant details.

The best way of determining the purpose is to consider what the transit operator's role in an energy crisis will be. What will local officials, transit patrons, business and industry, and the general public expect? What responsibilities can an operator realistically meet?

The answers to these questions will vary from community to community. In some cities an operator may be expected to do no more than keep the system operating. Meeting this expectation, however, involves no small feat for an operator who is faced with increased ridership demand at a time when fuel supplies may be interrupted and prices skyrocket. In other communities, the public may look to the operator for leadership and guidance in all aspects of public transportation, including not only the transit system itself, but ridesharing programs as well. Similarly, if local government has not developed a contingency plan for the community, an operator may find itself taking a leadership role in community-wide planning.

Most operators have identified four potential roles they may be expected to assume in an energy crisis. These include the following:

- **Service Provider**, as the agency responsible for providing and promoting public mass transportation services.
- **Service Coordinator**, as a clearinghouse for coordinating other modes of public transportation in the public and private sectors, such as ridesharing and flextime programs.
- **Fuel Conserver**, as a potential conserver of fuel through the transportation efficiencies of mass transit.
- **Planning Instigator**, as a leader in the community's contingency planning, as well as a definer of supporting actions from private and public groups.

In thinking about the planning role and purpose, the key is to keep a realistic eye on the planning and operational resources available. An operator should be careful not to take on more responsibility than can realistically be handled.

At a minimum, most operators will determine two major purposes for their planning:

- To maintain the existing level of service in an emergency.
- To accommodate increased ridership demand generated by a crisis.

STEP 2 - COLLECT AND ANALYZE BACKGROUND INFORMATION

Actual planning begins with collecting and analyzing background information, specifically:

- a Crisis Scenario, or outline of the probable effects a crisis will have upon the community and transit operations, and
- a Resource Inventory of the equipment, fuel, personnel and other essential resources that will be available for dealing with the crisis.

Collecting and analyzing this kind of information will provide a firm foundation for developing a plan for responding to an energy crisis.

Project a Crisis Scenario

Though it's difficult to predict with absolute certainty the nature of a future energy crisis, it is important to have a general picture of what a crisis might be like and what its effects will be. Not only will such a scenario give direction to the plan, it will also identify the factors to keep an eye on in tracking a developing crisis.

The list below outlines the kind of questions an operator will want to consider in thinking about the effects of a future crisis.

- **How serious will the crisis be?**
 - What will be the extent of fuel shortages in the region?
 - What local, state and/or federal actions will be taken or resources made available to compensate for the shortfall?
 - How long will the crisis last -- in weeks, in months?
- **How will the crisis affect consumers? Will they experience:**
 - gasoline lines?
 - restricted sales of gasoline?
 - restricted hours at service stations?
- **How will the crisis affect transit operations?**
 - Will ridership increase? By how much? On which routes? During which service periods?
 - Will transit fuel supplies be affected?
 - Will fuel deliveries be cut back? By how much? For how long?

The best way to project answers to these questions is to look at the experiences of the community and the transit system during an actual energy shortage. In most cases, the 1979 crisis, which was triggered by the Iranian revolution, will offer a good opportunity for a case study.

There are several places to begin this research. Internal data on ridership levels and fuel supplies will be essential. And for the broader picture, newspaper files, local and regional energy suppliers and business associations, as well as local, state and federal energy offices will provide valuable information.

Though it's important to have a general picture of how the crisis affected the community and region, the most important area of research is how the crisis affected transit operations. Likely effects on operations include an increase in ridership; possible interruption in fuel supplies, both for revenue and non-revenue vehicles; and rapid increases in the price of fuel. Thus, for the crisis period under consideration, the following data should be collected:

- ridership levels, especially during peak periods and on heavy demand routes
- reported overloads, also during peak periods and on heavy demand routes
- the volume of customer information inquiries and complaints
- the number of reported pass-ups
- fuel supply difficulties
- transit fuel price trends.

In the process of collecting this information, some operators may identify the need for improving some aspects of their internal data collection system so they can be assured of adequate information for measuring possible crisis effects. If this is the case, improving ridership monitoring warrants high priority.

Once this research has been completed, the operator will have an information base from which a projection can be made of the crisis situation toward which the plan will be directed. A complete scenario will be made up of:

- a general overview of the crisis conditions, such as gasoline shortfall and other fuel supply difficulties, with special attention to gasoline lines, service station closings, and other impacts on the community;
- a list of possible mitigating measures that local, state or federal governments might take; and
- the impacts of the crisis on transit operations; specifically, the anticipated volume of ridership increase, possible interruption of transit fuel supplies and increases in fuel prices.

This scenario will be a central resource during the course of developing the plan. As will be seen in the following pages, it will be used to guide the selection of possible crisis responses (Step Three) and to identify key factors that will serve as crisis indicators (Step Four).

Inventory Available Resources

Not only is it important to know what the effects of a crisis might be, it is also essential to have a sound assessment of how well-prepared the system will be to deal with it. An inventory of the available resources for meeting the demands of a crisis will help assess the extent of preparedness.

Items to consider in assembling the resource inventory include the following:

- **A list of supplementary equipment**, from both internal and external sources. In compiling the internal list, the spare ratio, reserve coaches, equipment on loan or lease and equipment ordered or scheduled for delivery but not yet in service should be included. If any of this equipment is out of service now, it will be necessary to determine how long it will take and what must be done to prepare it for service.

For the external list, available equipment from charter lines, intercity carriers and school and church buses should be considered, with specific attention to:

- the number of coaches available
- seating capacity
- fuel requirements (gasoline or diesel)
- restrictions on uses (for instance, school buses may be prohibited on freeways and be unavailable in the morning peak)
- legal and insurance requirements
- availability of drivers and maintenance.

Before assembling this list, it is a good idea to check with the city and county offices of emergency services or police departments to see if similar information has already been compiled for other emergency plans.

- **A list of personnel** who may be able to fill in during an emergency, including the names, addresses, home telephone numbers and scheduled days off of:
 - drivers
 - mechanics
 - customer assistance operators
 - supervisory staff.

A similar list of retired staff and personnel on disability will also be valuable since they may be able to take over some responsibilities such as dispatching or customer information, thereby freeing other personnel for regular maintenance or operations duties. Finally, a list of potential job applicants will help identify individuals who are sufficiently skilled to be hired for the duration of the crisis.

- **The volume of fuel on hand** at dispensing facilities and in reserve tanks. The system's current supplier and local distributors should also be contacted to determine whether additional supplies will be available in a crisis. Similarly, discussions with the city and county, as well as major private users of fuel, may make it possible to arrange for joint storage or emergency supplies. In both cases, it is advisable to secure written commitments. Since gasoline will be needed to operate service vehicles, and - in an extreme crisis - to provide transportation for essential employees, attention should focus on gasoline as well as diesel fuel.
- **The reserve capacity in the system**, according to specific routes and the operating periods (peak and non-peak) when there may be additional seating and standing capacity available. Not only will this information help determine what can be done with existing service in a crisis, it will also identify where additional equipment may be required.

- **A list of major employers** (500 or more employees) including the location, number of employees at each site and work shifts. Locating these employers on a map will identify major transportation needs in the community as well as identify routes that any need to be augmented. In compiling such a list, it is a good idea to identify a contact person with each employer who can serve as a liaison in an emergency.
- **The names, telephone numbers and affiliations of energy emergency contacts** in the community, including those responsible for energy and transportation planning as well as emergency services at the city, county, state and federal levels. This list will be valuable both for coordinating the plan with others in the community and for its actual implementation.

STEP 3 - PLAN THE RESPONSE

After the crisis scenario has been prepared and a resource inventory assembled, the next step is to plan the actual response for dealing with the crisis. Since this process requires an initial creative effort followed by more critical analysis, developing the response in three stages is recommended.

- First, determine the possible actions that can be taken to meet the demands of a crisis situation.
- Then, rank the actions according to the level of crisis, e.g. mild, moderate, and severe.
- Finally, select the most effective actions within the resources available.

The goal of this step is to develop a plan that will provide practical, workable answers to these basic questions:

- How can the efficiency of the system be increased?
- What can be done to expand its capacity?
- How can a sufficient fuel supply, adequate financing, equipment and personnel be ensured to meet the demands of the situation?
- How will the public be informed?
- What can be done to mobilize support among local business and governments?

Determine Possible Actions

The best way to begin is to brainstorm, using the crisis scenario and the statement of purpose as guides to develop a list of the possible actions that could be taken to meet a crisis situation.

During this stage it is important to avoid being overly concerned with how practical an idea is ("But we don't have that many buses!") or how readily it can be put into action ("That will take months!") The point is for the planners to put their creative resources to work and to think of everything that could possibly be done to respond to a crisis. Don't immediately discard a wild, offbeat idea: It's quite possible that it may lead to a practical, workable plan.

Although it will be difficult not to glance at the resource inventory from time to time, it is a good idea to put it aside for the time being. Once a list of possible responses is assembled, the resource inventory will then be a valuable guide in sorting out those that are within the system's capabilities.

To help get the actual planning started, a list of possible actions to consider is included as Appendix A. This list of Crisis Response Alternatives has been compiled from a variety of actual plans and includes some of the more common responses to an energy crisis. Undoubtedly, additional ideas will come up.

Group the Actions According to the Level of Crisis

After the initial brainstorming, the next task is to take a critical look at the "shopping list" of crisis responses. Since this list will likely be made up of a variety of ideas appropriate to crisis situations of varying proportions, they should be grouped according to the level of crisis. For instance, some actions will be suitable for a moderate energy shortage, while others will be more appropriate for a "worst case" scenario -- the Armageddon that we inevitably think of in planning for a crisis.

The crisis scenario, which was prepared during Stage One, will serve as the most useful guide in grouping the actions. Assuming that it represents the moderate case, the ranking which most observers give to the 1979 crisis, the scenario can be used to determine whether an action would be appropriate for that level of crisis or for a milder or more severe situation. By looking at each action in this light, three groups of possible crisis responses -- mild, moderate, and severe -- can be developed.

Grouping the actions according to the appropriate crisis level is essentially an exercise in judgment and will likely differ from system to system. For instance, a system with a reserve fleet may determine that service expansion is an appropriate response for a mild crisis, while another with no reserves may feel that the work of acquiring additional equipment and developing supplementary runs should not be undertaken until a more serious situation develops. Since this process inevitably involves some policy decisions, it is important to keep the overall statement of purpose in mind as well.

While there are no firm criteria for determining the appropriate level of response, the guidelines below indicate some typical responses for three crisis levels.

● Level I - Mild

- Maintain existing service levels, relying on reserve seating/standing capacity to handle increased demand.
- Add trips to handle most serious overloads, as feasible within budgeted reserve/overload hours and available equipment.
- Intensify monitoring of ridership.
- Adjust maintenance to reduce spare ratio.
- Intensify monitoring of fuel supplies and consumption.
- Increase telephone information capability (new lines, expanded staff).
- Implement public information/marketing program to publicize transit information outlets, familiarize new riders with the system and promote flextime and ridesharing.

● Level II - Moderate

- Curtail low-demand, nonproductive service.

- Add trips to meet highest demand, using reserves, equipment reassigned from curtailed routes.
- Implement temporary fare increase.
- Adjust maintenance procedures to keep maximum number of buses in service and handle in-service maintenance (work bus).
- As necessary, begin draw down of fuel reserves and/or implement emergency fuel agreements with supplier.
- Continue Level II public information/marketing program, with focus on informing public of new service.

● **Level III - Severe**

- Expand service, using school buses and other sources of supplementary equipment.
- Establish emergency park-and-ride facilities (shopping centers, church lots).
- Increase system efficiency (centralized daytime storage to reduce deadheading, skip-stopping, shortening routes).
- Continue Level II fare increase and obtain operating subsidies from local/state government, local industry.
- Implement employee ridesharing program, using non-revenue pool vehicles.
- Continue public information/marketing effort.
- Obtain emergency support from local/state government (emergency fuel allocation, mandatory flextime/staggered work hours, restrictions on single-occupancy vehicles).
- Implement fuel conservation measures, (curtail weekend, off-peak service; switch to lower-grade fuel).

Operators with limited planning resources may decide to focus on a single crisis level rather than develop a response for all three. In this case, the recommended course of action is to select the middle level, keeping the less severe as well as the more drastic measures in reserve for future reference.

A multi-staged plan, however, has several advantages. Not only does it offer a range of possible responses, depending upon the severity of a crisis, but it also provides flexibility in developing the plan itself. For instance, a multi-stage plan enables an operator to develop the first stage as an immediate response plan, thereby allowing sufficient lead time to complete the succeeding stages if the crisis looks as if it will worsen. In addition, a staged response can enhance public acceptability, with the public recognizing the need for proceeding to more stringent measures as the crisis worsens.

Select the Most Effective Actions

With a list of possible actions compiled and grouped according to the level of crisis, the remaining task is to select the most effective actions. In making this selection, it is important to consider each action against the resource inventory so as to select those that are within the scope of available resources.

Though many good ideas will be available, selecting only the few most effective actions will keep the plan from becoming too diffuse and rambling. Keeping the plan as simple and direct as possible is a key consideration. The following factors will help the working group select the best actions for the plan:

- **Feasibility.** What additional equipment, personnel, financing, fuel and other resources will the action require? Are these resources available?
- **Appropriateness.** Is the action appropriate to the level of the crisis? Is it too drastic? Not far-reaching enough?
- **Acceptability.** Will the action be acceptable to the governing board, transit patrons, the general public? Will there be opposition? From whom?
- **Flexibility.** Does the action allow room for adjustment if the situation changes?
- **Cost.** How much will it cost to implement? Will it require additional funding?
- **Simplicity.** Will the action require extensive changes in operations? Will it create confusion for employees, riders, others?
- **Speed.** How long will it take to implement the action? Can it be put into effect on the short-term or will it require substantial preparation?

STEP 4 - DEVELOP A CRISIS MANAGEMENT FRAMEWORK

Once a set of actions for dealing with the crisis has been outlined, the next step is to develop a means for managing the response. Having a well-conceived means of crisis management is one of the essential elements of a successful plan. In deciding how the plan will be managed,

- First, determine the overall management of the plan.
 - What tasks must be carried out?
 - Who will be responsible for them?
 - How will the plan be coordinated with local and state governments?
- Then, establish a trigger mechanism for putting the plan into action.
 - What critical indicators will serve as early warning signs of a crisis?
 - At what point should the plan be implemented?
 - How will that decision be made?
- Finally, develop a strategy for financing the plan.
 - How much will the plan cost?
 - What sources of support are available?

Determine the Overall Management of the Plan

Clearly identifying the authority and responsibility for managing the crisis is a key element of crisis planning. To make certain that the plan will be smoothly and efficiently implemented, the working group will need to:

- Identify the basic tasks required to implement the plan.
- Determine the key actors and their areas of responsibility.
- Establish a means for coordinating transit actions with other plans in the community.

Identifying the basic tasks is essentially a matter of reviewing the planned actions and determining what must be done to implement each one. For example, if a key element of the plan is to add 15 peak-period trips using reserve equipment, some of the basic tasks required to implement this action would include:

- Identifying and scheduling 15 additional AM and PM peak trips.
- Preparing reserve fleet for service and ensuring an adequate supply of parts for maintenance.
- Providing additional operators and maintenance staff, using supervisory staff during peak period.

- Checking with fuel supplier to ensure adequate supplies and deliveries of fuel.
- Preparing public information and marketing materials to inform riders of added service.

Once the tasks required for implementing the plan are identified, assigning the responsibility for carrying out each one will in most cases be self-evident. The best way to decide who will be responsible for what is for the planners to review the proposed actions and tasks and determine what each department or division in the agency will be responsible for.

With tasks and responsibilities determined, the next matter to consider is who will be in charge once the plan is put into effect. In most cases, the planning organization, along with the list of tasks and assigned responsibilities, will form the basis of the crisis management organization. In fact, it may be possible simply to transform the planning group into the crisis management group, especially if key operational staff have been involved in the planning.

Basically, the guidelines discussed under Step One for getting organized also apply to effective crisis management. The crisis management group should also be simple, small, have clear authority for putting the plan into effect and include the basic functions outlined under Step One:

- overall policy and direction
- operations
- fuel, equipment, and other essential resources
- data analysis and budget support
- marketing and public information.

One of the best ways to make the organizational structure clear to all concerned is to prepare a "Big Board," which will graphically identify the chain of command, the key actors and their areas of authority or responsibility. The "Big Board" should also show the process, through a tree diagram or similar means, that will be followed in notifying people of the implementation of the plan. This chart can be mounted on a large board in a central location as well as reproduced for distribution.

An additional item to consider in developing the management structure is a central location or "Situation Room" where the crisis can be efficiently managed. A large conference or meeting room, with adequate telephones, several large tables and a blackboard will be ideal.

A final consideration in the overall management of the plan is the coordination of transit actions with local and state governments. It may be that the state, as well as the city and county, will have developed its own contingency plan. In that case it will be necessary to determine how the transit system's plan will fit into the broader community and/or state-wide plan.

It is just as likely, however, that no other plans will have been developed. In this case, local and state officials must be briefed about the transit system's plans and the kind of involvement that will be expected of them. For instance, an operator might request the mayor or county executive's office to help contact major employers for promotion of flextime and ridesharing programs.

Whether or not support is expected from local and state officials, it is important to establish contact with the following:

- **Local Government**

- City: Mayor's Office
Office of Emergency Services
- County: County Executive's Office
Office of Emergency Services
- Metropolitan Planning Organization
- Ridesharing Agency

- **State Government**

- Governor's Office
- Office of Emergency Planning
- Department of Energy
- Department of Transportation

- **Local Business and Industry**

- Chamber of Commerce
- Major employers

Identify a Trigger Mechanism

Another important element of an effective crisis management structure is the establishment of a mechanism for implementing the plan. Such a mechanism is made up of the following:

- A means of monitoring gasoline supplies, ridership levels and other critical indicators.
- A trigger mechanism that establishes a range of gasoline shortfall, ridership increase and other indicators at which point the plan will be put into effect.
- An individual or group with decision-making authority to implement the plan.

In developing a crisis monitoring system, the more indicators available, the more accurate the system will be in tracking a developing crisis. Reliance upon several internal and external indicators provides more accuracy than a single one and will also allow greater flexibility in determining a crisis situation. This flexibility will be valuable in assessing a potential crisis situation and deciding at what point to implement the plan. In addition, working with a range of indicators rather than a fixed number will increase flexibility in identifying the point at which the plan should be implemented or shifted to another stage.

There are two types of indicators to consider -- internal and external. The most common ones in each group are shown below:

- **Internal Indicators**

- ridership levels for peak/off-peak service
- operator reports on overloads and pass-ups
- volume of customer complaints regarding overloads and pass-ups
- volume of calls to customer information and, if identifiable, the percentage of new customers.

- **External Indicators**

- level of gasoline shortfall in the region, state, county
- consumer behavior (e.g. gasoline lines, restricted service station hours and sales)
- gasoline price increases.

Because internal indicators will be more readily available and reliable than external ones, they will be of greater value. In addition, data such as ridership levels are critical in indicating the point at which the system will experience stress. Though the level of gasoline supplies and similar external indicators will provide additional guidelines, this information has become difficult to obtain as a result of deregulation. However, some information will be fairly accessible, such as consumer behavior and gasoline price increases. The latter will be especially valuable since a steep, rapid increase in gasoline prices tends to predict surges in ridership.

The best guide for selecting appropriate indicators and determining the range of factors that signal a crisis situation is the research conducted during the development of the crisis scenario. That research will show what data is most readily available, what factors were the most important in outlining a past crisis and what the range of ridership increase or gasoline shortfall might be in a crisis.

If the planners have decided to develop a multi-staged plan, appropriate indicators should be selected to serve as triggers for each stage. Though in actual practice the decision to move from one stage to another will likely be on an ad hoc basis, a range of indicators for each stage will help guide this decision process. Again, working from the moderate-case crisis scenario, as was done in Step Three, indicators can be developed to serve as triggers for milder and more severe crisis levels. The following chart shows a sample range of indicators for a multi-stage plan designed to be progressively implemented in three stages.

Crisis Level - Mild

External Indicators

- Gasoline shortfall of 5-10 percent
- Increase in gasoline prices of 5-10 percent within a four-week period
- Reduction in service station hours
- Gas lines, tank-topping

Internal Indicators

- Overall ridership increase of up to 150 percent of system capacity
- Doubling of reported overloads
- Tripling of reported pass-ups and customer complaints regarding overloads and pass-ups

Crisis Level - Moderate

External Indicators

- Gasoline shortfall of 10-15 percent
- Continued rapid increase in gasoline prices
- Gasoline sales restrictions
- Widespread reduction in service station hours, some station closings
- Widespread gas lines, hoarding
- Implementation of voluntary fuel conservation measures by local or state government

Internal Indicators

- Continued ridership increase
- Continued increase in reported overloads
- Continued increase in reported pass-ups and customer complaints regarding overloads and pass-ups

Crisis Level - Severe

External Indicators

- Gasoline shortfall of 15-20 percent or more
- Continued rapid increase in gasoline prices
- Severe restrictions in gasoline sales, consumer panic
- Implementation of mandatory fuel conservation measures by local or state government
- Declaration of energy emergency at federal level.

Internal Indicators

- Continued ridership increase
- Continued increase in reported overloads
- Continued increase in reported pass-ups and customer complaints regarding overloads and pass-ups

Once a set of indicators has been established and a point identified at which the plan will be implemented, the next task is deciding who will have the ultimate responsibility for putting the plan into effect. Depending upon the organizational structure of the transit system, the executive director or governing council will likely have this responsibility. However, it is important to have the triggering procedure clearly defined and necessary authorization prearranged for acting decisively through an emergency powers resolution or similar authority. This trigger mechanism should then be incorporated in the "Big Board" crisis management network.

Develop a Financing Strategy

In most cases, implementation of a contingency plan will require additional operating funds. Although it is possible to develop a plan that will keep additional costs to a minimum - especially if the plan is for a limited crisis - the addition of extra service, equipment, personnel and other resources will mean more operating costs for the system. In addition, fuel costs are likely to skyrocket, thereby creating additional financial strain.

There are two schools of thought concerning these additional costs. One maintains that it is not necessary to locate funds beforehand, since in an emergency situation the operator will do what needs to be done and worry about paying for it later. The other school takes the opposite stance and maintains that the exact cost of the plan and a strategy for financing it must be worked out in advance.

Most systems will take a position somewhere between these two by preparing a rough estimate of the costs of implementing the plan and identifying one or more options for financing it. Understandably, cost estimates will be based on a variety of assumptions about future costs of fuel and equipment, duration and intensity of the crisis and other factors. However, preparing a rough budget for the plan is crucial in order to evaluate its overall feasibility.

Identifying potential funding sources is one of the more difficult problems a planner will face. However, there are a few possible strategies to consider:

- Use of budget reserves for extra service hours.
- Temporary fare increase, such as a peak-hour surcharge.
- Emergency subsidies from local, state and/or federal governments.
- Farebox revenue from increased ridership, especially if the plan provides for filling buses to capacity before new service is added.
- Subsidized support from major employers and businesses, similar to subscription service and employee pass programs.
- Use of no-cost public services, such as public service announcements in the media and donated park-and-ride space at shopping centers.
- Legislative action designating a portion of gasoline tax revenues, motor vehicle excise taxes or other sources for transit funding under emergency conditions.
- Curtailing weekend/off-peak service to reduce operating costs.

STEP 5 - ASSEMBLE THE PLAN

The final step in energy contingency planning involves looking ahead to ensure that when the need arises, the plan will be a useful document rather than a forgotten report gathering dust on someone's shelf. To make sure that the planning effort will be of value in a crisis:

- First, determine an appropriate format that presents the planning recommendations and assumptions clearly and concisely.
- Then, inform key actors of their roles so that when a crisis arises, transit staff will be familiar with the plan and the part they will play in it.
- Finally, provide for periodic review and update so that the plan is kept up to date with changes in the transit system, local and state plans and the general energy situation.

Determine an Appropriate Format

How the plan is presented will have a significant effect on how it is used. As with any planning document, brevity, simplicity and clarity are important qualities. A lengthy dissertation or a jumbled collection of memoranda and recommendations are likely to be of little use in the crush and rush of an emergency situation.

The key element in choosing the format for the plan is how readily someone other than the planners can use it, since it is likely that the people who developed the plan will not be available when a crisis arises. Thus, if the context of the plan and the recommendations themselves cannot easily be picked up by others, the plan itself is likely to be of little use. Similarly, the management mechanism by which the plan will be put into effect must also be clearly stated.

Taking these factors into account, the planning document should be made up of three basic parts:

1. **The recommended actions**, including the specific tasks and persons or departments responsible for putting them into effect.
2. **The crisis management structure**, including estimated costs, the trigger mechanism, and management responsibility for the plan (the "Big Board").
3. **The assumptions underlying the plan**, specifically the crisis scenario and resource inventory.

In keeping the document short and simple, the major problem will be deciding what to leave out rather than what to put in. While all the information assembled in the course of planning will be of value, the challenge will come in selecting the most vital information. A simple solution to this problem is to produce a two-part document -- the first is made up of the most essential elements of the plan and the second serving as an appendix containing the resource inventory and other back-up data.

Since the plan will be a working document, other practical suggestions that will enhance its usefulness include:

- A loose-leaf binding to facilitate periodic update.
- An action checklist for the plan, showing tasks to be completed and who will be responsible for them.
- A crisis management network chart, showing management responsibilities for major actions, with spaces for the names and telephone numbers of key staff.
- A flow chart, showing the sequence of steps in implementing the plan.
- A distinctive cover or design that will make the document instantly recognizable.

Inform Key Actors of Their Roles

Informing staff of the plan and their role in it is a critical element in assuring its usefulness. Though many of the actors are likely to have had a role in the development of the plan itself, there will be other personnel who need to be informed.

Before information about the plan is made available to general staff, it may be necessary to obtain formal approval from top management. This requirement will be more important for larger systems; smaller systems may find it unnecessary to make formal arrangements, especially if top management has been involved in the planning. However, most systems will need to consider at what point to arrange formal sign-off with union representatives, especially if the plan requires adjustments in existing contractual agreements, such as hiring temporary or part-time operating personnel during an emergency.

In the course of informing people of the plan, planners may also find it necessary to convince them of the need for and value of this kind of planning. For instance, some individuals may doubt the likelihood of a future crisis while others may think that the actions to be taken are self-evident and require no preparation. Thus, an important objective is to get people thinking ahead to a crisis in order to overcome the natural resistance to planning in advance.

The best way to inform agency staff and overcome resistance is to prepare a dry-run exercise. Not only will a well-conceived planning exercise show everyone their roles and responsibilities, but it will also demonstrate the value and usefulness of advance planning. Moreover, a dry run has the further advantage of affording an opportunity for identifying possible omissions and errors in the plan.

In addition to a full dress rehearsal exercise, there are other ways to inform agency staff, including:

- circulating a brief summary of the plan
- holding a series of briefings
- publishing feature articles in staff newsletters
- developing a graphic display of major actions
- arranging periodic sessions for review and update (see below).

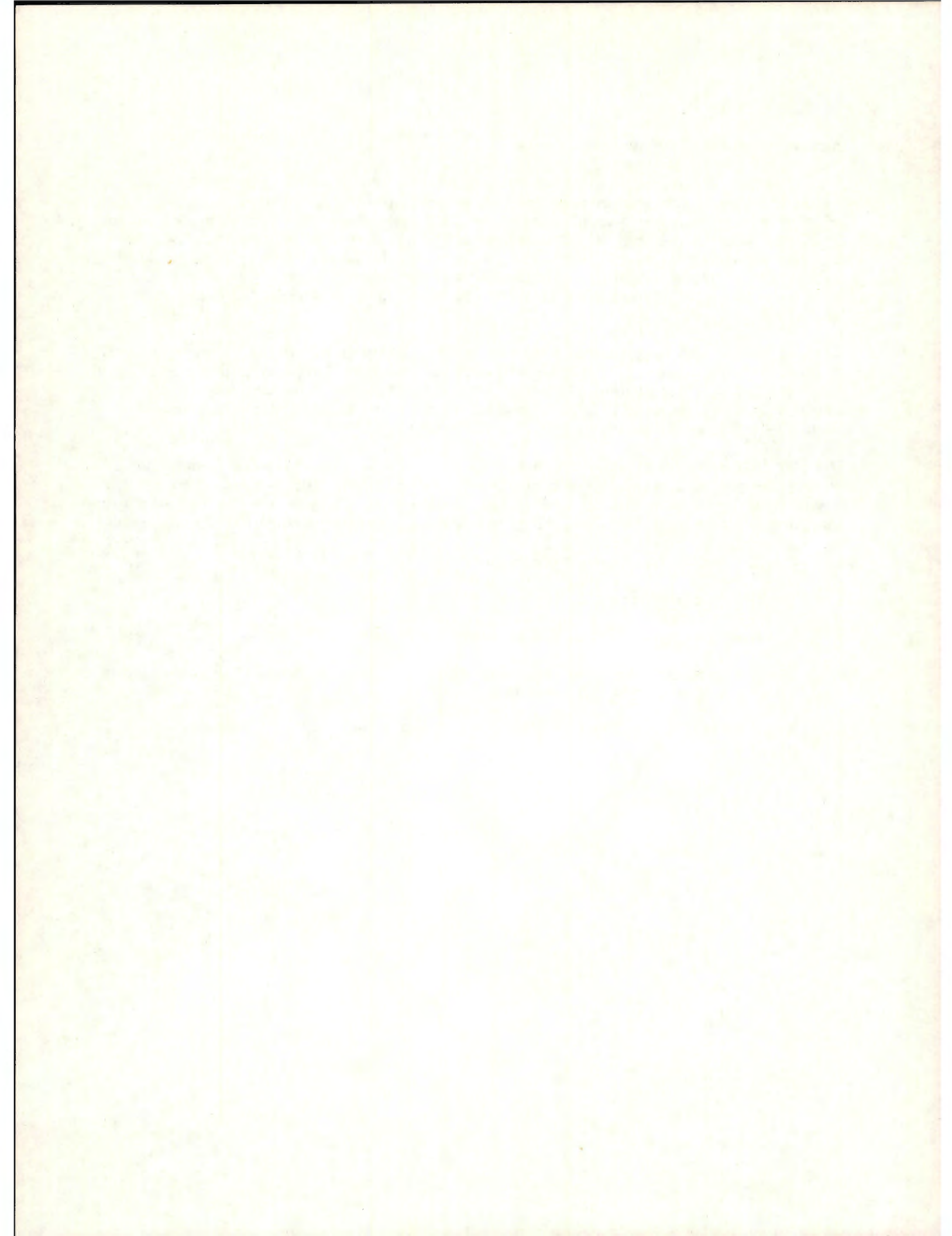
Provide for Periodic Review and Update

A third factor to consider in ensuring the usefulness of the plan is to provide for periodic review and update so it can be adjusted to changes in the transit system; in the local and regional energy picture; and in local, state and federal plans. For instance, a plan developed prior to deregulation that relies on Special Rule #9 and the State Set-Aside Program for security of fuel supplies will be seriously out of date as a result of the termination of these programs. Because of such problems, an out-of-date plan can in some ways be worse than no plan at all by providing the false security of being prepared for a crisis.

Keeping the plan up to date does not require a repetition of the original planning effort. In fact, periodic review of the plan will save time in the long run, especially if one considers that an out-of-date plan must at some future point be virtually redone. In addition, periodic review will also afford the opportunity to keep staff informed of the plan.

The plan can be kept current through a half-day review session at regular intervals, once or twice a year, with more frequent review if rapid changes in the system or the energy supply situation occur. During such review sessions, the planners and the system's key operating and administrative staff should look through the plan to determine whether:

- It is compatible with current operations.
- The resource inventory is up-to-date.
- It is in line with local, state, and federal plans and actions.
- The management roles and responsibilities are clearly understood and compatible with current administrative structure.
- Arrangements for emergency fuel supplies are in keeping with the energy supply situation.





Chapter III

Managing an Energy Crisis

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CHAPTER III MANAGING AN ENERGY CRISIS

INTRODUCTION

This chapter offers practical guidance to operators who find themselves caught in a planner's nightmare -- an energy crisis has developed overnight, and the operator is caught unaware with no plan for dealing with it.

It's not difficult to imagine being in such a predicament. In fact, many operators have lived through just such an experience in 1973-74 and again in 1979. Then, as now, staff limitations and the day-to-day demands of operating a system worked against the kind of advance planning that would adequately prepare an operator for a crisis.

CLEAR THINKING IN A CRISIS SITUATION

Although at first it may seem difficult if not impossible to develop a management strategy in the face of a crisis, it is possible to act quickly and effectively to meet crisis-generated needs. To help an operator face such a challenge, an action checklist has been prepared for managing an energy emergency over the short term.

The checklist provides a bare-bones approach to coping with a crisis. It is divided into five sequential steps and is designed to help an operator take immediate action while more long-term solutions to the situation are considered. Though lead time will vary from system to system, an operator should expect to be able to take effective, temporary action within a few days to a week and plan a more permanent response, if the situation warrants, within a few weeks. Since the checklist is basically a condensation of the planning guidelines found in Chapter II, it is a good idea to review the preceding chapter before proceeding with the following checklist. Finally, it is important to recognize that the checklist must be adapted to the specific circumstances and requirements of each operator.

AN ACTION CHECKLIST

There are five basic steps for managing an energy crisis:

- **Step 1 - Organize**
 - Who should be involved?
 - Who's responsible for what?
- **Step 2 - Take Temporary Action**
 - What can be done now to:
 - keep the system operating?
 - meet increased demand?
 - keep the public informed?
- **Step 3 - Determine the Need for Additional Measures**
 - Will the situation worsen?
 - How will it affect transit operations?
- **Step 4 - Prepare a Long-Term Response**
 - What additional actions can be taken?
 - What actions will be most effective?
- **Step 5 - Implement the Response**
 - What tasks must be completed?
 - How will the response be evaluated?

STEP 1 - ORGANIZE

- Who should be involved?
- Who's responsible for what?

Set up a Crisis Management Team.

- Select 5-7 key administrative, operational and support staff
- Provide broad operational authority

Assign team members to one or more of the following areas of responsibility. (Note: Some members may have overlapping responsibility.)

- Overall crisis management and policy direction
- Base and field operations
- Equipment, maintenance and fuel supplies
- Planning and scheduling
- Marketing, public information and customer assistance
- Budget and finance
- Personnel and labor relations
- Liaison with local/state government

Prepare a Crisis Management Network Chart ("Big Board").

- Show the organization of the Crisis Management Team
- Identify areas of responsibility for each team member
- List the home and office telephones of all key staff

STEP 2- TAKE TEMPORARY ACTION

- What can be done now to
 - keep the system operating?
 - meet increased demand?
 - keep the public informed?

Determine the immediate impacts of the crisis.

- Shortfall in fuel supplies
- Ridership increase (by route, service period)

Assure adequate fuel supplies.

- Draw down reserve capacity
- Contact supplier for additional deliveries
- Arrange for emergency fuel from other distributors and suppliers
- Contact local/state government for emergency fuel allocation
- Contact local industry for emergency fuel

Provide maximum level of service to meet highest demand, as identified by ridership levels, pass-ups, overloads.

- Use reserve seating, standing capacity
- Add trippers on heavy demand routes
- Use spares and/or reserves for additional trips

Expand available equipment.

- Reduce spare ratio
- Activate operable portion of reserve fleet
- Lease additional equipment from private carriers

Adjust maintenance program to meet increased demands on equipment.

- Relax cleaning, non-essential programs to release personnel for in-service calls, essential maintenance
- Establish 24-hour maintenance schedule
- Implement emergency program for in-service maintenance calls

Expand field operations to accommodate maximum service levels.

- Increase field supervision/service monitoring
- Increase radio dispatching staff

Expand overall manpower capabilities.

- Extend shifts
- Emergency cancellation of days off/vacation leave
- Assign supervisory/administrative personnel to operating duties
- Temporary loan of trained personnel from school bus operators, private carriers

Increase customer assistance capabilities.

- Acquire additional telephone lines and publish new numbers
- Prepare recorded message to refer callers to other information sources

Inform the public of actions and plans for meeting the crisis.

- Hold a press conference
- Arrange for public service spots on TV, radio

Implement marketing program directed to new customers

- Newspaper ads and public service spots with basic information for new riders:
fares, peak schedules on heavy demand routes, outlets for maps and schedules
(major businesses, public buildings, schools)
- Information on ridesharing programs in cooperation with ridesharing agency
- Community/neighborhood papers to distribute route information

Identify funding requirements and sources for interim actions.

- Reserve service hours
- Increased farebox revenues
- Shift funds from nonessential programs
- Subsidies from major employers

Establish liaison with appropriate local, state, and federal offices (Energy, Transportation, Emergency Services).

- Coordinate emergency measures
- Determine possible support, such as emergency fuel allocation, financing, promotion of flextime/ridesharing.

STEP 3 - DETERMINE THE NEED FOR ADDITIONAL MEASURES

- Will the situation worsen?
- How will it affect transit operations?

Make an overall assessment of the situation.

- ___ How long is the crisis expected to last?
- ___ Is it likely to worsen?
- ___ What will the effect be on local fuel supplies?
- ___ How will consumers be affected?
 - ___ gasoline lines
 - ___ restrictions on service station hours
 - ___ sales restrictions (flag/even-odd systems, minimum sales requirements)
 - ___ station closings

Contact the following sources for information about the crisis.

- ___ Local, state, federal governmental agencies
 - ___ Energy
 - ___ Transportation
 - ___ Emergency Services
- ___ Business and trade groups
 - ___ Service station operators trade association
 - ___ Fuel suppliers/distributors
 - ___ American Automobile Association (AAA)
 - ___ Chamber of Commerce
 - ___ Business/economics departments of local press

Determine possible supporting actions from local, state and federal governments.

- ___ Allocation or rationing of fuel
- ___ Availability of reserve supplies
- ___ Emergency financial support
- ___ Imposition of voluntary/mandatory shifts in working hours
- ___ Sales restrictions on gasoline
- ___ Cut backs in industrial/business activity

Determine need for increasing the frequency and scope of reports on critical internal indicators.

- ___ In-service reports on
 - ___ passenger counts
 - ___ overloads
 - ___ pass-ups
- ___ Transit fuel prices
- ___ Customer complaints on overloads and pass-ups
- ___ Volume of calls to Customer Assistance
- ___ Farebox revenues

Monitor internal indicators, as above, to determine effects on the system, specifically ridership increase by

- Route
- Service period

Assess the impact on transit fuel supplies.

- Determine volume of fuel on hand
- Determine likelihood and extent of shortfall in deliveries from the supplier
- Contact other suppliers/distributors to identify potential sources of emergency supplies

STEP 4 - PREPARE A LONG-TERM RESPONSE

- What additional actions can be taken?
- What actions will be most effective?

Review Appendix A — Crisis Response Alternatives — for additional actions to be taken.

- Expand the capacity of the system
- Increase overall operating efficiency
- Ensure sufficient resources
 - fuel
 - equipment
 - personnel
- Keep the public informed
- Mobilize external support from government and business

Select the most effective and feasible actions in terms of

- Appropriateness to the level of crisis
- Availability of fuel, equipment, personnel
- Costs and financing requirements
- Speed of implementation
- Acceptability to the public

STEP 5 - IMPLEMENT THE RESPONSE

- What tasks must be completed?
- How will the response be evaluated?

Complete the necessary tasks to implement the response.

- ___ Meet requirements for
 - ___ equipment
 - ___ fuel
 - ___ personnel
- ___ Arrange for adequate funding
- ___ Make scheduling and service changes
- ___ Implement marketing and public information program
- ___ Adjust maintenance program
- ___ Coordinate with local, state and federal actions

Continue to monitor critical data to evaluate the effectiveness of the response.

- ___ Fuel supplies and consumption
- ___ Ridership demand
- ___ Volume of customer complaints
- ___ Volume of calls to customer information

PHILOSOPHY DEPARTMENT

PHILOSOPHY 201

LECTURE NOTES

LECTURE 1: THE PHENOMENON OF CONSCIOUSNESS

1.1 THE PROBLEM OF CONSCIOUSNESS

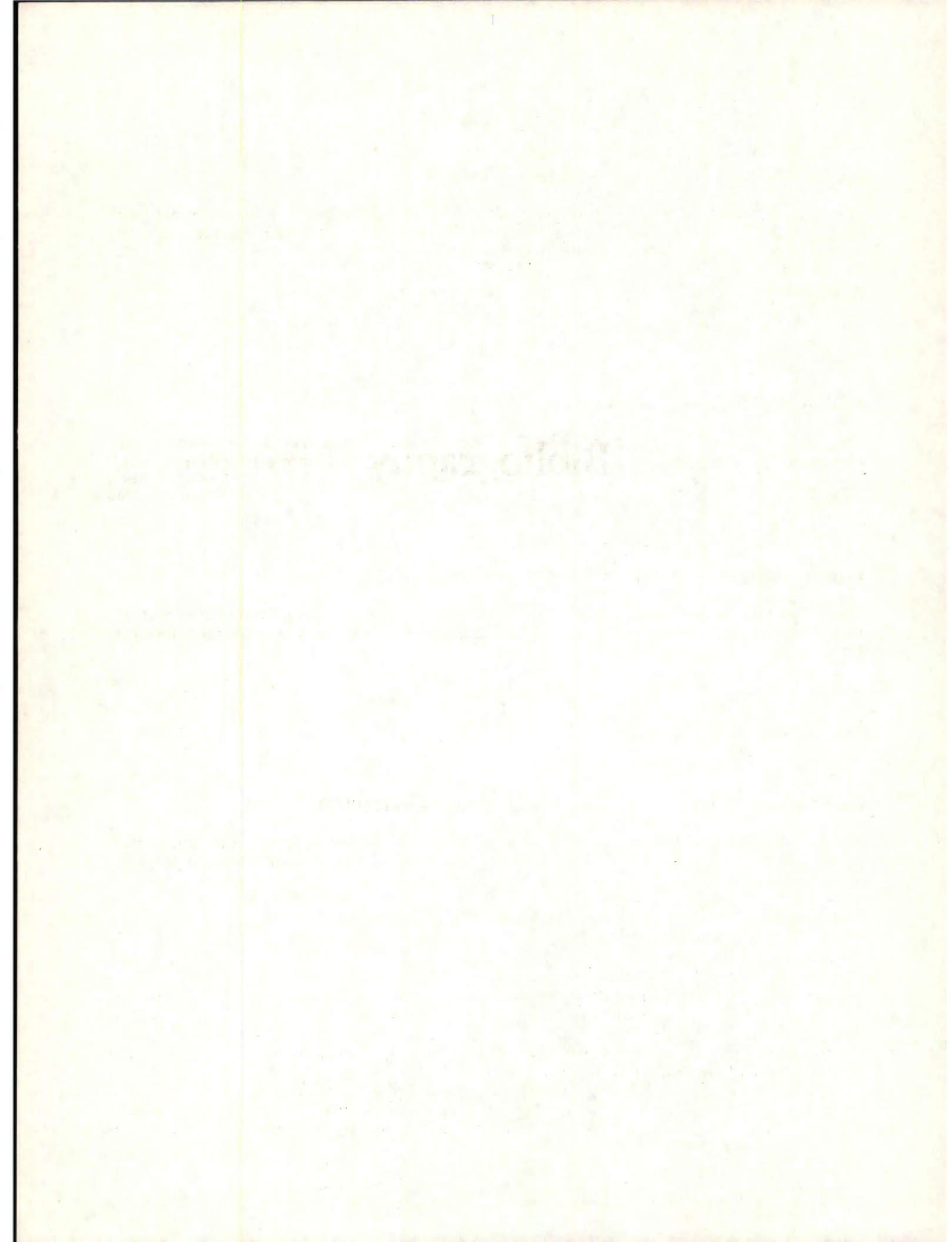
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PHILOSOPHY 201

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1225 Connecticut Avenue N.W.
Washington, D.C. 20036

Free upon request.

Federal, State and Local Responses to 1979 Fuel Shortages (1981).

This review of the experiences of six areas during the 1979 energy crisis assesses the effectiveness of the various responses to the crisis and discusses the most successful ones.

Available from: U.S. Department of Transportation
Office of the Secretary
Washington, D.C. 20590

Guide to Local Transportation Contingency Planning (1981).

Though written primarily for communities in Washington State, this guide outlines a step-by-step approach to community-wide contingency planning that will be a useful reference for planners in other states.

Available from: Washington State Energy Office
400 E. Union
Olympia, Washington 98504

Free upon request.

Guidelines for Transportation Energy Contingency Planning (1979).

Focusing on New York State, this report describes guidelines for state and local governments. It includes statistics on the 1973-74 energy crisis in New York and projects several crisis scenarios, with recommended actions for each.

Available from: New York State Department of Transportation
Planning Research Unit
Albany, New York 12232

Free upon request - PRR #157.

Local Government Role in Energy Contingency Planning (1979).

This report discusses possible responses at the local level to energy crises. It includes examples from four localities and a list of existing contingency plans.

Available from: Public Technology, Inc.
1140 Connecticut Avenue, N.W.
Washington, D.C. 20036

Free upon request.

Mass Transportation Energy Conservation and Contingency Planning (1980).

This report provides a brief overview of local actions that can be taken to encourage conservation in mass transportation and to develop contingency plans. It includes a bibliography and a list of contacts and programs involving contingency planning.

Available from: Public Technology, Inc.
1140 Connecticut Avenue, N.W.
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Transportation Contingency Plans for Future Gas Shortages Will Not Meet Commuter Needs (1981).

This GAO report is based on a survey of the status of contingency planning in seven metropolitan areas and concludes that new efforts are needed to encourage local planning.

Available from: U.S. General Accounting Office
Document Handling and Information Services Facility
P.O. Box 6015
Gaithersburg, Maryland 20760

Price: \$3.25

Transportation Energy Contingency Planning: Local Experiences (1979).

Portions of sample contingency plans from two transit operators and four metropolitan planning organizations are included in this report.

Available from: Urban Mass Transportation Administration
Planning, Research and Evaluation Division (UPM-13)
Washington, D.C. 20590

Transportation Energy Contingency Strategies (1980).

- Part One: The Planning Process - Roles and Responsibilities**
- Part Two: Synopsis of Actions**
- Part Three: The Case of the "Yourtown" Urbanized Area**

This three-part report provides a comprehensive treatment of local planning strategies, with special emphasis on the role of the transit operator. Part One discusses general approaches to contingency planning at the state, regional and local levels. Part Two outlines specific actions for transit operators, local officials and others to take in meeting the demands of crises of varying proportions. Part Three is a model case study of the planning process.

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Transportation Energy Contingency Strategies: Use of School Buses (1980).

This report discusses local experiences and operational considerations concerning the use of school buses in an emergency and includes a sample agreement between an operator and a school board.

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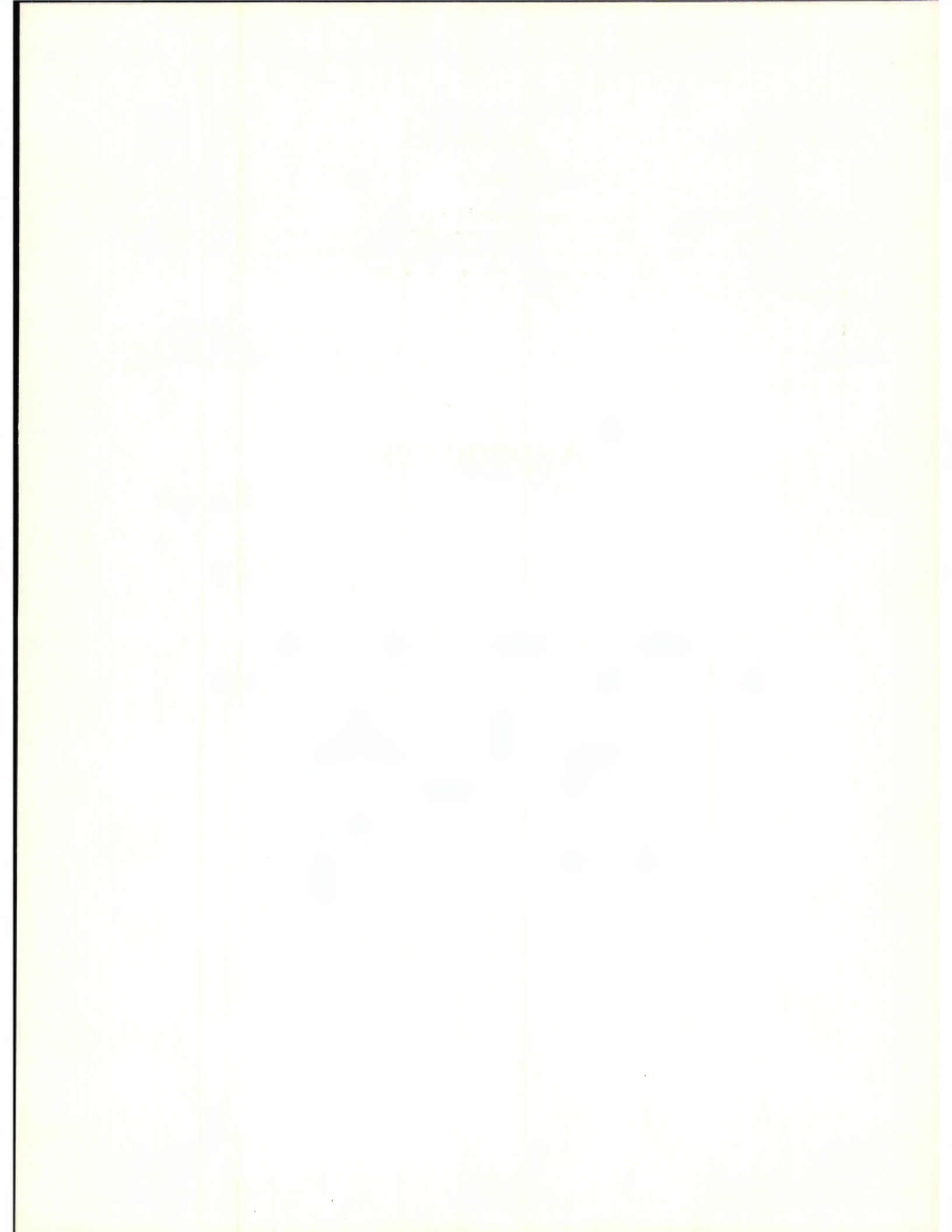
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Received of the Hon. Secy of the Interior
for the sum of \$1000.00
the sum of \$1000.00
for the sum of \$1000.00
for the sum of \$1000.00

Approved

Witness my hand and seal
this 1st day of January
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Appendices



APPENDIX A

CRISIS RESPONSE ALTERNATIVES

On the following pages is a list of possible actions to consider in developing an appropriate response to an energy crisis. The list has been compiled from actual contingency plans and planning documents and includes the most common responses as well as more innovative strategies. Consequently, each alternative should be considered in terms of its appropriateness to each system and situation.

The list is organized according to actions that might be taken under seven operational categories and is designed to provide a range of crisis response alternatives that can be selectively combined into an effective plan. Space has been provided under each category for expanding the list.

1. OPERATIONS/PLANNING

● What service changes can be made to improve efficiency, expand capacity?

- Add runs on high-demand routes.
- Cut back service during off-hours/weekends and on low-demand routes and substitute with paratransit service.
- Reassign equipment from low- to high-demand routes.
- Obtain central daytime storage facilities to decrease deadheading.
- Establish feeder networks, using emergency park-and-ride lots as collection points and providing express line-haul service to central destination points.
- Remove, rearrange seats to increase standing room.
- Reduce duplicating routes where possible.

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● Where can supplementary equipment be obtained to expand service?

- Activate the reserve fleet.
- Lease equipment from private carriers and churches.
- Accelerate preparation of new equipment to put into immediate service.
- Reduce the spare ratio.
- Arrange to use school buses by contracting with local school districts for equipment, fuel, maintenance and/or drivers (See Appendix C).
- Recall equipment on loan or lease.
- Reassign equipment from low- to high-demand routes.

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2. **MARKETING/CUSTOMER ASSISTANCE/PUBLIC INFORMATION**

● **How can more efficient use of existing system be encouraged?**

- Promote underused routes (e.g., reverse commuter runs).
- Broaden the peak by promoting flextime and variable work hours.
- Promote car pools, van pools and ride-match programs.
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● **What can be done to inform the public?**

- Acquire additional equipment, personnel for telephone information/customer assistance office.
- Establish/expand information outlets at major employers, chain stores, libraries, other public buildings.
- Develop mass media campaign.
- Hold news conference.
- Prepare posters, rider alert notices for bus stops, buses and information outlets.
- Publish schedules and route information in local news media.
- Use neighborhood/community papers to distribute schedules and route information.
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3. MAINTENANCE/FACILITIES

- How can the optimum number of buses be kept in service during peak hours?

- Reschedule routine maintenance to non-peak hours.
- Obtain temporary central-area maintenance.
- Expand maintenance to nights/weekends.
- Establish 24-hour maintenance schedule.

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- What can be done to increase maintenance to respond to service expansion and heavy demands on equipment?

- Relax non-essential maintenance to release personnel for essential maintenance.
- Set up emergency program to handle in-service maintenance calls.

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- How can additional equipment be accommodated?

- Use excess storage capacity.
- Obtain emergency storage capacity near operating and maintenance bases.

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4. **PERSONNEL**

● **How can manpower be expanded?**

- Accelerate recruitment and training programs.
- Work on overtime and extra shifts.
- Assign supervisory personnel to operating duties.
- Reemploy retired personnel on a temporary basis.
- Contract for loan of maintenance personnel and drivers from school bus operators, private operators, others.
- Use drivers on disability leave as telephone information operators.
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● **What personnel support services can be provided?**

- Institute emergency stress training program.
- Provide car pools/van pools, non-revenue fleet for employee transportation.
- Establish in-house crisis bulletins to keep personnel informed.
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● **How can collective bargaining and contract constraints affected by service changes and expansion be accommodated?**

- Make temporary modifications in contract.
- Involve union representatives in contingency planning.
- Negotiate emergency powers clause.
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5. **FINANCING**

- **How can additional revenue to support service expansion be provided?**

- Institute temporary fare increase (peak/express surcharge).
- Obtain subsidy from major employers.
- Obtain emergency funding from local, state and/or federal government.
- Shift funds from reserves, non-essential programs.
- Curtail weekend/off-peak service to reduce operating costs.
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6. **FUEL SUPPLY AND MANAGEMENT**

● **How can a stable, adequate supply of fuel be assured?**

Short-Term Actions:

- Use reserve supplies.
- Switch from #1 to #2 fuel (if more readily available).
- Emergency allocation from state/federal governments.
- Contact area suppliers, distributors for emergency deliveries.
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Long-Term Actions:

- Increase storage capacity through construction or leasing.
- Obtain long-range fuel contracts.
- Develop a cooperative bulk purchase or municipal petroleum reserve with local government for public mass transit, fire, police and emergency services.
- Cultivate relationships with several suppliers.
- Negotiate Assured Supply Agreement with supplier (See Appendix B).
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● **What can be done to conserve fuel?**

- Stress fuel-conserving driving techniques for operators - e.g., decrease warm-up period, shut off engines during layover.
- Increase tune-up frequency, check tire inflation, take other maintenance actions to conserve fuel.
- Switch from diesel #1 to diesel #2.
- Reduce frequency of stops through double or triple heading, skip-stopping on some routes.
- Cut back inefficient, low-demand service.
- Obtain central daytime storage to reduce deadheading.
- Shift from local to express service on some routes.
- Reduce idling, delay through acquisition of high-occupancy vehicle lanes, free-flow transit-only corridor.
- Concentrate articulated buses on highest demand routes.
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7. **EXTERNAL SUPPORT**

● **How can local government support and/or supplement transit operations?**

- Institute internal flextime, car pool programs.
- Expand ridesharing, ridematch, van pool programs.
- Promote flexible working hours programs.
- Discourage single occupancy vehicles in central, congested areas by parking limitation, preferential parking for car pools.
- Designation of high-occupancy-vehicle free-flow corridors.
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● **How can state government support and/or supplement transit operations?**

- Exercise emergency powers to require variable work hours.
- Provide emergency funding.
- Designate high occupancy vehicle lanes.
- Shorten school hours to make school buses available in the morning peak.
- Implement fuel allocation program.
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● **What support can business provide?**

- Institute variable work hour programs.
- Implement employee car and van pool programs.
- Subsidize transit costs through employee pass subsidies, subscription service.
- Set up transit information centers.
- Encourage reverse commute runs by outlying employers.
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APPENDIX B

SAMPLE ASSURED FUEL SUPPLY AGREEMENT

This agreement is entered into this ____ day of _____ 1981, by and between "X" Oil Corporation (hereinafter XCO) and the Municipality of Metropolitan Seattle, a municipal corporation (hereinafter METRO), upon terms and conditions set forth herein and for valuable consideration.

I.

XCO warrants that it will supply METRO approximately 1,000,000 gallons of #2 diesel fuel to be lifted ratably over a nine-day period in the event METRO's primary supplier is unable to supply quantities of diesel in accordance with the terms and conditions of the extant supply agreement between METRO and its primary supplier. The price for such diesel fuel shall be XCO's posted price F.O.B., XCO's facilities.

II.

In consideration of this warranty, METRO shall pay XCO the sum of \$400.00 per month commencing the ____ day of _____ 1981 and payable on the ____ day of each succeeding calendar month thereafter.

III.

The term of this agreement shall be twelve (12) months from the date of its execution. At the conclusion of the initial term, the parties may elect to continue this agreement on a month-to-month basis, under the same terms and conditions, by mutual agreement in writing. During this subsequent month-to-month term either party may terminate this agreement by giving the other party notice in writing at least thirty (30) days in advance of such termination date.

IV.

Extent of Warranty. XCO represents to METRO that it has approximately ____ gallons of diesel storage and/or diesel supply in or near the Seattle Metropolitan Area. At such time as METRO requires performance under this agreement, XCO shall accord METRO paramount status among its customers and shall allocate to METRO its entire diesel supply (if less than one million gallons) to fulfill its warranty to METRO.

V.

Limitation of Liability. The foregoing notwithstanding, the parties specifically agree that XCO shall not be liable for incidental or consequential damages suffered by METRO or third parties occasioned by XCO's inability to perform or non-performance of this agreement. In the event of breach or non-performance by XCO, XCO shall pay as liquidated damages and METRO shall be limited to such damages as follows:

- (A) In the event XCO is only able to provide 750,000 gallons of fuel to METRO, the sum of \$4,800 plus interest at the maximum rate allowable by law will be repaid to METRO.

- (B) In the event XCO is only able to provide 500,000 gallons of fuel to METRO, the sum of \$15,000 plus interest at the maximum rate allowable by law will be repaid to METRO.
- (C) In the event XCO is only able to provide 250,000 gallons of fuel to METRO, the sum of \$30,000 plus interest at the maximum rate allowable by law will be repaid to METRO.
- (D) In the event XCO has difficulty providing METRO with proportionate amounts of fuel, see above, on the subsequent month-to-month terms of this agreement, then the same penalties as indicated above will apply.

VI.

This writing contains the entire agreement of the parties and it shall not be modified or altered except by subsequent agreement of the parties in writing executed in conformance with the requirements of law.

Dated: _____

Dated: _____

MUNICIPALITY OF METROPOLITAN SEATTLE

"X" OIL CORPORATION

By: _____

By: _____

Title:

Title:

APPENDIX C

SAMPLE AGREEMENT FOR USE OF SCHOOL BUSES IN AN EMERGENCY

**EMERGENCY TRANSPORTATION SERVICES AGREEMENT
between
MUNICIPALITY OF METROPOLITAN SEATTLE
AND
"X" SCHOOL DISTRICT**

THIS AGREEMENT, made and executed this ____ day of _____, 1981, by and between the "X" SCHOOL DISTRICT, a municipal corporation of the State of Washington (hereinafter called the "District"), and the MUNICIPALITY OF METROPOLITAN SEATTLE, a metropolitan municipal corporation of the State of Washington (hereinafter called "Metro"),

W I T N E S S E T H:

WHEREAS, Metro has been authorized by public vote and Chapter 35.58 RCW to provide public transportation for the Seattle-King County metropolitan area; and

WHEREAS, patronage of Metro's public transportation system continues to increase at a rapid rate and is approaching the system's capacity, despite the purchase of new buses and introduction of new service; and

WHEREAS, a major reduction in fuel availability within the Seattle-King County metropolitan area could occur at any time which would place substantial additional demands on Metro's public transportation system; and

WHEREAS, the District is authorized by Chapter 28A.24 RCW to provide transportation of children to and from school and has acquired buses therefor; and

WHEREAS, pursuant to RCW 28A.24.180 the District may contract with metropolitan municipal corporations for the purpose of transporting members of the public through the use, in whole or in part, of the District's buses, transportation equipment and facilities and employees, provided the District is reimbursed for its actual costs and a reasonable value of the use of the District's buses, transportation equipment and supplies which are incurred or otherwise provided for such transportation; and

WHEREAS, Metro desires to contract for the use of the District's buses and employees to provide emergency public transportation services in the event of a major reduction in fuel availability within the metropolitan area and of emergent demands on Metro's public transportation system; and

WHEREAS, the District desires to cooperate with Metro to provide emergency transportation services with District equipment and employees at times when such buses and employees are not needed by the District for school purposes and provided the District is fully reimbursed for its costs related or incident thereto;

NOW, THEREFORE, in consideration of the terms and conditions of performance contained or incorporated herein, Metro and the District agree as follows:

Section 1. Scope of Service. In the event of a public transportation emergency as determined by Metro pursuant to Resolution No. 000, the District hereby agrees to provide public transportation services with its buses and personnel for and on behalf of Metro within the District's boundaries at periods of time such buses and personnel are not required for District student transportation purposes. The general hours of such services shall be _____ to _____ a.m. and _____ to _____ p.m. The District shall provide such service within the boundaries of the District along routes and at transfer points designated by Metro after consultation with the District to ensure such routes can be feasibly served by District buses and personnel. The District shall operate the routes in a safe, reasonable and efficient manner which is coordinated with other public transportation service provided by Metro. In the operation of the routes the District shall use responsible, qualified and properly licensed drivers. Buses used in such service shall be mounted with placards indicating the bus is in emergency Metro service and the bus drivers shall cooperate in distributing information provided by Metro on such service.

Section 2. Reimbursement to District. The exact hours of emergency service provided and buses and personnel utilized during any week period shall be mutually agreed between Metro and the District. In reimbursement for such service, Metro shall pay the District for its actual costs and the reasonable value of the use of the District's buses, transportation equipment and fuel supplies which are incurred or otherwise provided in connection with the transportation of the public for and on behalf of Metro at the following rates:

- (a) \$ _____ per mile for use of a bus, including fuel and \$ _____ per mile for a bus where the fuel is supplied by Metro;
- (b) The District's actual costs for personnel directly involved in providing service such as drivers, mechanics, dispatchers, etc. during the periods of time they are utilized for emergency transportation services for Metro; and
- (c) Ten percent (10%) of the total of rates charged under (a) and (b) above to cover administrative and indirect costs of the District incurred for the provision of such service.

In the event the District's actual costs for fuel increase because of conditions beyond the control of the District during the period of time emergency transportation services are provided for and on behalf of Metro, the District shall promptly notify Metro of the details of such increases and an appropriate adjustment shall be made in the rate per mile for use of a bus including fuel as set forth in (a) above when such increases total five percent (5%) of such rate and at each additional five percent (5%) total increment thereafter.

If during or subsequent to the term of this Agreement, it is determined that the percentage in subparagraph (c) above does not reasonably represent the actual administrative and indirect costs incurred by the District, then an adjustment shall be

made in reimbursement to the District. Any overpayment to the District shall be calculated and repaid to Metro within thirty (30) days of the date of invoice from Metro; any underpayment to the District shall be calculated and forwarded to the District within thirty (30) days of the date of invoice from the District. Any and all adjustments to reimbursement shall be made pursuant to Section 7 of this Agreement.

Section 3. Liabilities. Metro shall provide additional insurance as described on Exhibit A attached hereto covering the District's operations of emergency services and shall defend, and hold harmless the District, its board members, employees and agents, from and against any and all claims, loss, damage, cost, charge or expense incurred by the District because of bodily injuries, including death, or damages to property, including loss of use thereof, resulting from or arising out of the District's provision of emergency transportation services for and on behalf of Metro, provided, however, that Metro shall not have any responsibility to indemnify or hold harmless the District in the event of claims, loss, damage, cost, charges or expense for bodily injuries or death or damages to property which shall have been finally determined to have resulted from the sole negligence of the District or its agents or employees.

Section 4. Public Information. In the event Metro requests emergency transportation services from the District, Metro shall provide public information materials, route planning and signage, reasonable driver training, supervisory personnel for route coordination and public announcements in press and media concerning such service. All such public information and assistance to the District shall be first reviewed with the District to ensure accuracy and suitability and shall be provided at Metro's cost.

Section 5. Term of Agreement. This Agreement shall be effective as of the date executed by the parties and shall be implemented consistent with the terms hereof and the authorization of the Board of the District and the Council of Metro. This Agreement shall continue in effect for a sixty (60) day period, but may be renewed for successive sixty-day periods under the same terms and conditions as provided herein upon written agreement of the parties hereto. Either party shall have the right to terminate this Agreement upon breach of the other party of any of the terms hereof by giving five (5) days' written notice of its intention to cancel the Agreement and the reasons therefor. Either party shall have the right to terminate this Agreement with or without cause by giving thirty (30) days' written notice of such intention and the effective date of service termination. Upon such intention the District shall be entitled to receive reimbursement for its actual costs as provided above for any emergency transportation services satisfactorily provided under this Agreement prior to the effective date of termination.

Section 6. Notices. In the event written notices are given by the parties under this Agreement, such notices shall be delivered personally or placed in registered mail to the other party at the following addresses:

"X" School District
10050 Puget Sound Way
Seattle, Washington 98000

Metro Transit
Exchange Building
821 Second Avenue
Seattle, Washington 98104

Notices shall be deemed given the date of actual delivery.

Section 7. Amendment. This Agreement and any section hereof may be amended in writing by the parties hereto.

Section 8. Execution of Documents. This Agreement shall be executed in two (2) counterparts, either one of which shall be regarded for all purposes as one original. The parties hereby agree to execute any additional documents which may be necessary to implement the policies and procedures of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

"X" School District

By _____

MUNICIPALITY OF METROPOLITAN
SEATTLE

By _____
Neil Peterson,
Executive Director

ATTEST:

Clerk of the Council

EXHIBIT A

Metro will name the District as an additional insured under Metro's comprehensive liability insurance policies covering bodily injuries and death and property damage with current limits of \$55,000,000. Metro will self insure the initial \$250,000. Metro will maintain said insurance coverage during the term of this Agreement and any extensions thereto at Metro's expense and shall not cancel or modify same relative to the District's services without fifteen (15) days prior written notice to the District.

