

THE SAN FRANCISCO EMERGENCY TRANSPORT HANDBOOK: A PRACTICAL GUIDE FOR SMALL BUSINESSES

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1. Introduction

The primary intent of this paper is to present components of the *Emergency Transport Handbook for Small Businesses*,¹ a set of guidelines published by the San Francisco Planning Department. Consistent with policies of the *Transportation Element of the San Francisco General Plan*,² the principal objective of the project was to give businesses a simple, accurate set of strategies for mobilising employees in response to a disaster. The San Francisco County Transportation Authority (SFCTA) funded this project as part of its local, Mobility Management (MM) program.

In general, an emergency plan is an effective tool to have available in the event of an earthquake, a severe storm, a fire, flooding, a bombing, a riot, or some other unplanned event. An emergency management plan can limit damages and injuries, and help a business resume operations. Emergency preparedness is an ongoing process that involves planning, training and conducting regular evacuation drills; coordinating emergency activities; and developing maps, procedures, and informational resources.

Whilst many large corporations have developed emergency preparedness plans and mobility management programs for their employees, most small businesses cannot afford the time to plan, the resources to train staff, nor the expense to contract for such services. Nevertheless, experience has shown that contingency transport planning can help prevent small businesses from having to close for an indefinite period of time.

This *Handbook* encourages each small business to develop a post-disaster mobility plan for its employees. Such a plan is designed to inform employees of available transport to and from the work site and to provide them with options for limiting the number of employees at the work site until damages have been repaired. Whilst the *Handbook* may successfully convey the importance of developing and implementing an emergency transport plan, each business needs to tailor the plan to its own structure and set of work site conditions. Indeed, the collective development and implementation of such a plan presents an opportunity for the small business to define a set of mobility needs and to empower employees with the authority to assume key roles in executing the plan.

2. Transport Policy Setting

Ideally, the development of an areawide contingency plan for mobilising employees should be supported by local transport policies and institutional commitment. Any strategy to provide transport alternatives to a key sector of the population should be agreed upon by all responsible parties and represent one component of a larger, integrated set of transport policies. This coordination between businesses, service providers, and local government will ensure that a common strategy is followed to provide the necessary information and resources to individual employers, i.e., for use in the event of an emergency.

Since the late 1940s, the City and County of San Francisco has promoted long-range planning through its *General Plan*, a comprehensive set of elements and area plans guiding local development and the provision of urban infrastructure and open space. This document's Transportation Element, revised in 1995, comprises a set of objectives and policies that aim to effectively "meet the needs of all residents and visitors for safe, convenient and inexpensive travel" between points throughout the region.² This Element includes a set of mobility management (MM) policies that promote the use of public transport and other alternatives to the private auto, whilst encouraging the development of private-public programs designed to facilitate access to opportunities.

This policy focus on MM has led to the development of a number of employer-based strategies aimed at providing current information to commuters on mobility choices. In addition to the building-based MM requirements attached to building conditions in the downtown area, the San Francisco Planning Department has developed a number of projects aimed at providing useful transport information to all employers. In one such effort, the Department coordinated with other City agencies in the development of a set of guidelines for mobilising employees in the event of a disaster. Consistent with the Transportation Element, this program seeks to maintain mobility, enhancing business vitality at minimum cost.

3. Background Research

As the result of a comprehensive study to determine new ways to improve mobility in San Francisco, Planning Department staff chose to address the issue of moving people and goods during an emergency. Initial research on the subject included a literature search for existing emergency transport programs in the United States and Europe, and numerous discussions with experts in the field of emergency preparedness. Staff identified the need to develop a set of transport guidelines that could be used in conjunction with a more comprehensive emergency plan.

To this end, staff participated in a regional emergency management exercise and a series of transport issues workshops with other state and local agencies. In addition, staff consulted a number of large firms within and outside of California that had developed emergency transport plans as part of larger, comprehensive MM programs. These firms were helpful in describing their successes, failures, corporate philosophies and limitations. More importantly, they identified a set of activities that was considered central to the development of an emergency transport plan, including pre-planning, on-site housing, intra-company coordination, telecommuting and standard emergency management systems.

In an effort to assess the mobility needs of small businesses in San Francisco, the Planning Department conducted a survey of this group. A cross-section of employers, representing retail sales, food services, medical services, tourism, hospitality, finance and manufacturing, was interviewed. Respondents were asked to identify the most critical business resumption needs and concerns they believed were necessary to address during the first three days following a disaster. Survey results revealed that the most critical issues included:

- Transporting employees and goods to and from the site;
- Restoring power at the business site for food storage, computers and telecommunications equipment;
- Accessing cash or credit from suppliers;
- Accessing fuel for vehicles and back-up power supplies; and
- Maintaining communication with customers.

In response to the aforementioned concerns, the *Handbook* emphasised the importance of making emergency transport information readily accessible to all employees and of encouraging the establishment of alternative work arrangements. It featured a set of guidelines for developing a post-emergency, mobility management plan. It stressed the importance of coordinating travel alternatives to and/or from a work site, and provided employers with post-emergency strategies for maintaining vital communication links with employees and customers.

The survey also revealed that often, small businesses choose to empower their employees with the authority to make important decisions that can benefit the company. Indeed, employee empowerment is essential in an emergency situation, since decision-making must be shared among those with access to key resources. In preparation for an emergency, companies were encouraged to clearly define individual duties and responsibilities. The *Handbook* recommended that one or more employees be empowered to carry out one of the following emergency tasks:

- Providing useful transport information;
- Securing power and fuel;
- Restoring the company's communication system; and
- Assessing the condition of the building and equipment.

Clearly, greater employee involvement in mobility issues and their solutions is consistent with the South African government's broader emphasis on promoting greater economic empowerment. In addition, recent efforts to encourage greater public participation in the development of transport alternatives may result in the tailoring of services to better meet the needs of businesses and commuters. Ideally, the widespread development and maintenance of emergency mobility plans in cities such as Cape Town or Johannesburg could serve to establish bonds between many of the service providers and working-class commuters.

4. Areas of Focus

Based on the background research described above, staff decided to structure the *Handbook* around four major areas of focus: alternative transport services, alternative work arrangements, telecommunications systems and other information. In each case, the publication avoided prescribing a specific strategy, but rather, presented a number of different plan alternatives. These focus areas are presented in greater detail in the following subsections.

4.1. Alternative Transport Services

A number of alternative transport strategies were outlined for employees living in the City and County of San Francisco. Most of these recommendations addressed issues specific to small businesses, such as the limited number of work site employees and the need to seek updated information and assistance from city agencies and/or contingency professionals.

4.1.1. Emergency Response Transport Manager

It was recommended that in order to maintain some consistency in procedure, small businesses should designate a Transport Manager to perform a number of key functions in the event of an emergency. Theoretically, this individual would perform the following tasks:

- monitor the radio or television to identify the available transport routes/public transport lines, and report this information to company employees;
- establish a telephone tree of company employees, providing periodic updates; and

- respond to the situation at hand in a prompt and responsible manner (e.g., if a bridge collapses during an earthquake, the Transport Manager must be available to provide employees with rail, bus and ferry schedules and information).

As an added resource to small companies the *Handbook* provided a telephone listing of regional public transport operators and other regional transport providers. It also stressed the importance of seeking public transport information from such sources as the *San Francisco Bay Area Regional Transit Guide* and the Internet.

4.1.2. Transport Staging Areas

The *Handbook* suggested that companies listen for reports from the San Francisco Office of Emergency Services (OES), on staging areas where buses gather to collect and drop off passengers. The location of these staging areas would be announced over the emergency radio and television response system and OES would identify specific routes for emergency vehicles, public transport vehicles, bicycles, trucks and other vehicles.

4.1.3. Transport Brokers/Contingency Planning

A key element of the *Handbook* was its section on Transport Contingency Planning, an emerging field in which specialised firms provide pre-arranged mobility management services to businesses. Typically, these brokers provide logistical transport coordination in the event of a disaster and charter the appropriate transport carriers, such as buses, vans, trucks, trains, airplanes or helicopters.

Under this scheme, the broker meets with the company, formulates an emergency response plan and prearranges the number of vehicles necessary to transport employees from or to the work site. Transport brokers have been found to be of great assistance to small businesses or to clusters of businesses that choose to share the service. For example, a broker in Southern California charters helicopters, airplanes, and buses in response to emergency situations, working with each client to tailor a response to a particular set of mobility needs.

4.2 Alternative Work Arrangements

The *Handbook* identified the benefits of encouraging employees to seek alternative work arrangements, particularly in the wake of an emergency. Depending on the severity of disruption, some companies need to modify regular business hours and consider alternatives to the standard five-day, 40-hour work week for full-time employees. Following an emergency, the *Handbook* encouraged the establishment of new or temporary work schedules and arrangements, incorporating one or more of the following tools .

4.2.1. Alternative Work Schedules

Flex-time scheduling allows for flexible working hours, within limits set by management. Historically, many employers have required that employees work a fixed number of hours within a given time period, e.g., 40 hours in a five-day work week, but have allowed employees to choose their own starting and ending times. Flex-time allows for flexible periods of time to be arranged at either the beginning or the end of the day so that they do not conflict with the core hours (in the middle of the day), when all employees are required to be present. Flex-time has many variations.

A compressed workweek includes various scheduling options in which the standard 40-hour workweek is condensed into fewer than five days, but workers have a set schedule for entering and leaving the work site. The most common compressed schedules include four 10-hour days a week (4/40), three 12-hour days a week (3/36), or four 9-hour days and one 8-hour day in one week followed by a week of four 9-hour days (9/80).

Job-sharing is a work arrangement that allows for two people to voluntarily share the duties and responsibilities of one full-time job, with salary and benefits pro-rated. A regular part-time arrangement permits an employee to work a reduced schedule and may include job security and other benefits available to regular full-time workers.

4.2.2. Telecommuting

Telecommuting allows workers in certain fields to perform work at an off-site location. This may be an option to consider during an emergency to help a business stay in operation. Instead of requiring that the employee travel to the work site, telecommuting allows for work to be sent to the employee. However, it should be noted that some individuals have better access to telecommuting services than others. In general, off-site communication is more readily available to certain professionals, including accountants, architects, engineers, lawyers, software developers, and word processors than it is to support staff.

Telecommuting can benefit businesses, employees, and the community. Employers benefit by saving on the cost of office space, increasing productivity and improving staff morale. Employees enjoy the flexibility of managing their own time and save on the costs of travel, meals and clothing (e.g., employees with a long commute and/or children are able to perform tasks more efficiently). In addition, the community benefits from reductions in traffic congestion and air pollution.

4.2.3. Offices at Home

Many large employers have implemented work-at-home policies. Recent studies show that often, employees are as productive at home as they are at the work site, especially if they have direct access to the company computer system. Telecommuting is conducive to a wide range of work station alternatives -- from a pencil and paper to home offices with computers and automatic call-forwarding systems. In an emergency, it is essential that employees feel comfortable, working in an environment that is familiar to them.

4.2.4. Neighborhood Work Centers

Many employees who telecommute often split their time between home and the workplace, or have other arrangements that suit both employer and employee (e.g., reduced work week). Depending on the nature and severity of the emergency, a small business may find it advantageous to share facilities and equipment at a neighborhood work center.

One such facility is the Rohnert Park Telecommuting Center, located in the northern area of the San Francisco Bay Area region, which targets local residents that commute to other counties. Sonoma County Transit, a local public transport operator, and Sonoma State University established the Center to reduce commute traffic and improve both air quality and congestion management in the North Bay, a sub-region that has experienced explosive growth in the last 20 years. The Center is primarily open to Sonoma County residents interested in accessing it one or two days a week.

4.2.5. Satellite Offices

Many employers have sought to ease the commute of employees living far away from the principal work site through the establishment of satellite offices. Often, these facilities are located in areas that provide good access to employee residences. Whilst some large employers have purchased offices, many have chosen to rent or lease space in a building. Due to economic constraints, the latter arrangement would probably be the most popular among small businesses. Alternatively, they could also arrange to share space with other small businesses in the area, or temporarily coordinate work groups at the homes of section managers.

4.3 Telecommunications Systems

In order to facilitate the prompt resumption of business activities following an emergency, it is important that power surge protection equipment be installed on all telecommunications systems and that relevant employees be given instruction on how to access these systems from an off-site location. In the event of an emergency, the off-site resumption of business will depend heavily on easy access to these systems. The *Handbook* lists different types of alternative systems that can be acquired, in preparation for an emergency.

4.3.1. "Hard Wire" Systems

Pacific Bell, one of the local telephone utility companies in Northern California, will respond to a local emergency, however, power is first restored to local police and fire resources, hospitals, communications facilities and public transport systems. Once these agencies have been attended to, Pacific Bell will identify any system failures and dispatch workers to the affected area to repair system lines, or install emergency phone lines in publicly-accessible areas.

4.3.2. Cellular Systems

Cellular phone systems depend on the ability to send radio waves to a particular cell-site. Local cell-sites can be expected to overload and become blocked in an emergency, resulting in "traffic jams" on the radio waves. The Office of Emergency Services has instructed local cellular companies to block all cellular calls except for those connected to designated emergency personnel such as the Fire and Police Departments, ambulance companies and the OES. In the event of an emergency, the Mayor of San Francisco will declare a state of emergency and establish a priority access program for cellular companies to grant access to certain users.

4.3.3. Telephone Switch/Tellular Systems

Telephone Switch/Tellular systems also provide an alternate form of telecommunications in the event of an emergency. A Tellular system is a cellular system which will replace a damaged land-based "hard wire" line and send the signal to a distant switching facility which will connect the signal to a non-damaged land line. This switch from damaged land line to cellular signal back to a non-damaged land line is how the term "Tellular" is derived; it is a telephone with a cellular system back-up. A company may subscribe to this system on a monthly basis, and if activated, pay an additional per minute service charge.

4.3.4. Mayor's Emergency Telephone System (METS)

The Mayor's Emergency Telephone System, a stand-alone telephone system that is virtually unblockable, is activated whenever an emergency arises. The METS connects police, fire, and other emergency response personnel and is coordinated by OES. In an emergency situation, the METS is used to inform radio and television stations of emergency routes, staging areas, and other emergency services. Many cities in the U.S. have a similar system for informing residents of available resources.

4.4. Other Information

In addition to the transport and communications-related information described, the *Handbook* also provided key tips for securing employee safety and the timely resumption of normal business functions.³ The Planning Department provided this supplemental information to small businesses as a courtesy, in the event that they didn't have immediate access to a set of emergency preparedness guidelines; however, this material was not intended to replace the development of employer-based emergency plans.

4.4.1 Building Safety

Employees should be encouraged to return to work only after a determination has been made that the building is safe. If a small business does not have employees capable of assessing the condition of a building, outside resources should be contacted immediately. Building safety and repair specialists, such as structural engineers, electricians, and plumbers may help assess the safety of the building. As part of an emergency plan, building safety and repair specialists should be contacted and payment agreements negotiated ahead of time. In the event of an emergency, a small business may need to pay immediately for services and materials.

4.4.2. Securing Power

Securing power for light, refrigeration, telecommunications equipment, cash registers or computers may be difficult if a disaster has damaged utility lines in the neighborhood. To prevent the loss of valuable records, power surge protection should be installed for computers. In addition, a small gas-powered generator may be useful as a limited power source. Business should take precaution when storing fuel supplies, however, ensuring that storage areas are well ventilated, free of combustible materials, and that fuel lines are regularly inspected.

4.4.3. Communications with Customers

When the building is safe and power is restored, it is important to inform customers and clients that business has been resumed. Phone trees, FAX trees, mailings, press releases and paid advertising are effective tools for informing customers and neighbors that the company is open for business. This step may be crucial if a small business has had to relocate to another location, or has used an alternate telephone, e-mail or FAX number.

4.4.4. Emergency Radio/Television Stations

All designated radio and television stations broadcast emergency response information. In order to keep current on developments, small businesses should be equipped with a radio and a television. In addition, a portable radio should be kept available in the event that the business temporarily loses electrical power.

4.4.5. Mutual Aid Agreements

Often, similar businesses concentrate within an area for customer comparison, shopping convenience or because they have similar transport or other locational needs. It may be possible for these businesses to develop mutual aid agreements to share goods, delivery vehicles, employee carpool services, fuel, power and other supplies. In an emergency, a business that maintains a fleet of service vehicles may be able to offer a vehicle or fuel to another business on credit or in exchange for other goods or services. Many business associations can offer assistance in establishing mutual aid networks.

Prior to an emergency, businesses should consider making arrangements with a financial institution for short-term credit or cash to continue paying company employees or vendors who provide emergency services or supplies. Ideally, such items as cash, receipt books, public transport maps and timetables, and basic emergency supplies should be kept on hand.

4.4.6. Fuel Supply

Maintaining access to gasoline may be one of the most difficult tasks for a small business. Most gas stations in San Francisco keep no more than a one-day supply of fuel on hand at any given time. Many gasoline distributors enter the City from the Peninsula or the East Bay, to provide gas to service stations. In the event that access routes to the City are disrupted and gasoline tank trucks cannot enter, the City's Office of Emergency Service will arrange for fuel

delivery via barge or ferry. The OES will identify fueling locations over the radio emergency broadcast system.

In a crisis situation, emergency vehicles will be given priority access to fuel. For all other gas users, the Mayor will declare a state of emergency and will establish a priority access and rationing program until normal fuel access resumes. Most City Department heads will report to the OES for emergency response coordination and the Mayor will have additional staff to assist businesses at the "Alternate Staff Operations Site" at Moscone Center. The emergency broadcast system will provide instructions on how to contact the business assistance center for information on fuel access. Businesses should keep a full tank of gas in personal and company vehicles, and if possible, purchase a bicycle.

5. Conclusion

In retrospect, this project permitted the San Francisco Planning Department to explore a sub-area that should form part of any comprehensive transport plan, but that has often received very little attention: the inclusion of mobility management strategies in emergency plans. It is important to note that MM-related policies contained in the *General Plan* supported this project, effectively facilitating the necessary funding and coordination for its implementation.

Experience has shown that a disaster or catastrophe can arise at any time in any place. In the event of such an emergency, firms should be prepared to respond quickly and appropriately, so that employees are safe, are familiar with their mobility options, and business operations are resumed as soon as possible. Whilst the *Handbook* suggested strategies for improving communications, it emphasised the importance of transport in the movement of employees, residents and goods. Clearly, a small company must remain mobile if it wants to stay competitive.

The *Handbook* offered numerous ways of maintaining mobility in an emergency situation, including Transport Contingency Planning and employee resourcefulness, the utilisation of alternative work arrangements and the promotion of telecommunication systems. It also provided valuable, low-cost resources to businesses, such as telephone numbers for public transport agencies, a list of transport brokers/contingency planners, as well as references on telecommuting and cellular systems. Through the dissemination of these and other resources, and the empowerment of individual employees, a small business stands a better chance of recovering from a disaster.

This project attempted to inform small businesses of transport alternatives readily available to them. Many of these concepts were borrowed from other sources and as previously mentioned, are not solely applicable to San Francisco. Similar programs could easily be developed in other cities throughout the world, particularly in middle-income countries, such as South Africa, where some urban infrastructure is already in place and modern technology is accessible (e.g., communications networks). Certainly, the implementation of these plans has only just begun in California, and local planners could stand to learn a great deal from a similar effort in South Africa.

Small and medium-size businesses in the largest urban areas of South Africa would certainly benefit most from such a plan, however, local adjustments would need to be made in each case, based on the characteristics of each area (e.g., mode split, points of access, density, target group), and the resources available. For example, perhaps some businesses will want to explore the possibility of contracting with private entrepreneurs for contingency services, whilst others pool resources and rely on a collective development of strategies.

It is important to note that there are effective ways of disseminating emergency transport information to a wide variety of firms. A local handbook can be distributed through employers, business associations, economic empowerment fora and other entities. For example, in San Francisco, the local Transportation Management Association (TMA SF) agreed to place the *Handbook* on its web page, and to make periodic updates to the information provided. Perhaps, metropolitan governments and local associations in South Africa will want to work together to do the same.

Finally, handbooks can be modified to more closely reflect the mobility needs of small businesses in South African cities, and assist the latter in developing company-specific mobility management plans. Cities wishing to develop such a project should conduct a needs assessment of the target group they wish to address (e.g., small businesses) and find ways to best utilise the unique set of resources available to them. In the end, a better-prepared business sector will be less vulnerable to emergency situations and the adverse economic conditions that they often produce.

References

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