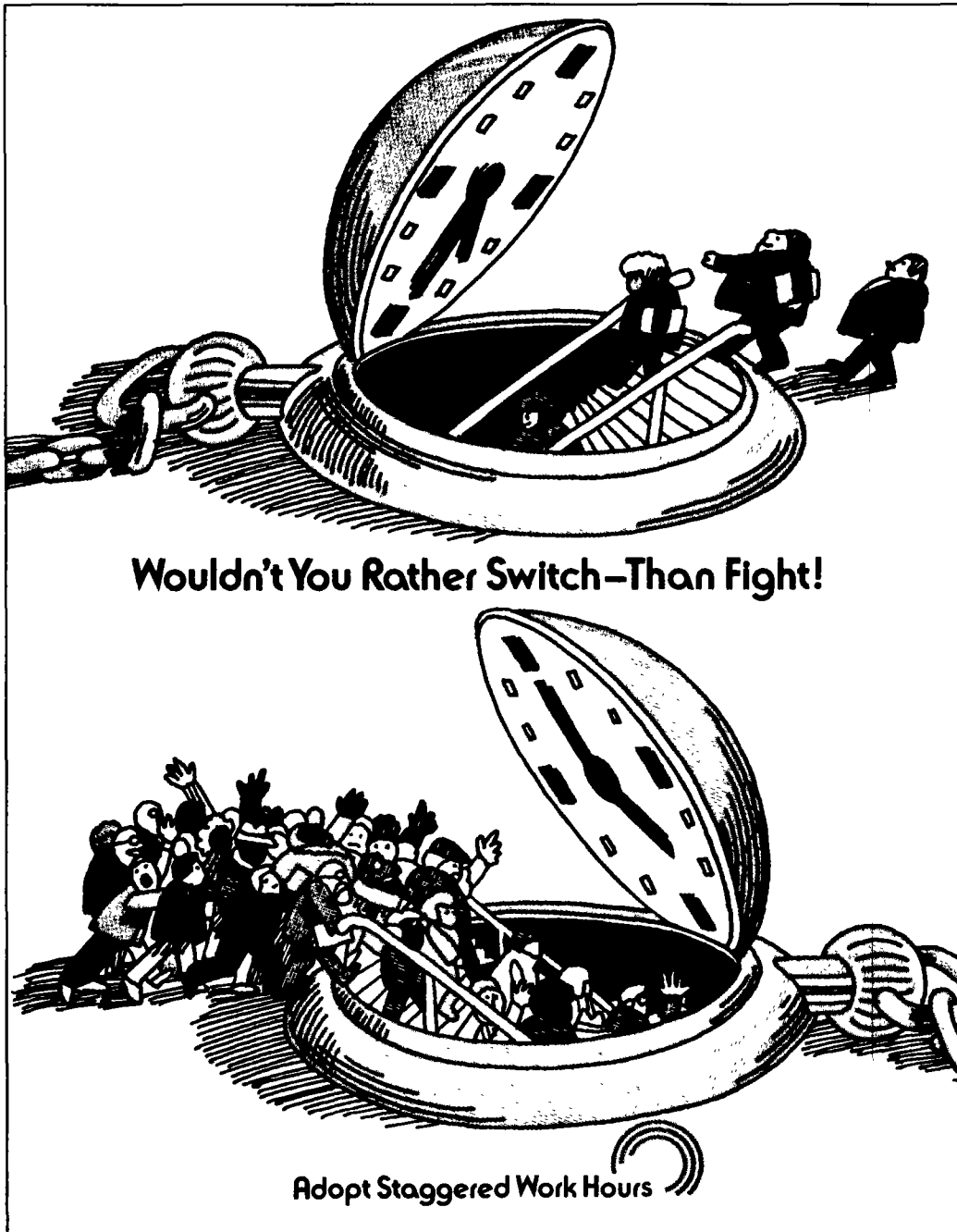


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STAGGERED WORK HOURS STUDY 2-7-79

Phase I - Final Report



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Vol. III - Staggered Work Hours Manual

THE PORT AUTHORITY OF NY & NJ

August 1977

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STAGGERED WORK HOURS STUDY

Volume III

Staggered Work Hours Manual

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STAGGERED WORK HOURS STUDY

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Staggered Work Hours Study

Volume III

"STAGGERED WORK HOURS MANUAL"

	<u>Page</u>
I. INTRODUCTION	1
A. Purpose	1
B. Use of the Manual	2
C. Organization of the Manual	2
II. IS STAGGERED WORK HOURS NEEDED IN YOUR CITY?	4
III. HOW TO CONDUCT A "WORK SCHEDULE SURVEY"	6
IV. DESIGNING RECOMMENDED STAGGERED WORK HOURS SCHEDULES	11
V. IMPLEMENTING A PROGRAM	13
VI. EVALUATION TECHNIQUES	22
A. Transportation Surveys	22
B. Attitudinal Surveys	24
VII. SUMMARY AND CONCLUSIONS	26

LIST OF EXHIBITS

<u>Exhibit</u>	<u>Page</u>
1. Model Work Schedule Survey Form	7
2. Transportation Survey Form (Front)	18
Transportation Survey Form (Back)	19
3. Model Office Hours Survey Form	21

STAGGERED WORK HOURS MANUAL

I . INTRODUCTION

In recent years there has been increasing use of Staggered Work Hours to help reduce transportation congestion in Central Business Districts throughout the world. While numerous plans had been introduced on a small scale during World War II, in most cases they fell into disuse at war's end.

More recently, traffic congestion -- both vehicular and on mass transit systems -- has become increasingly unmanageable during peak periods in urban areas as well as in some concentrated locations of industrial development. Simultaneously, relief through the construction of additional large-capital transportation facilities has become more and more difficult because of many financial, environmental and energy constraints. Accordingly, urban areas have turned to low-cost alternatives that show promise for reducing congestion. One such system is Staggered Work Hours. A complete background on Staggered Hours is contained in a report, "Staggered Work Hours Study", to be available from the Urban Mass Transportation Administration of the United States Department of Transportation.

A. Purpose -- The purpose of this Staggered Work Hours Manual is to present an overall methodology for designing, implementing and evaluating a Staggered Work Hours program in an urban area. There have been and are, of course, many variations of work staggering programs. They range from formal programs conducted in cities like New York, Philadelphia and Toronto, to comparatively simple programs. The scope of such efforts also varies widely ranging from a single company in a suburban area, where parking or vehicle access to the parking lots has become a problem, to a widespread effort to reduce congestion throughout an entire central city.

Efforts to utilize Staggered Hours have been made by individual companies, by governmental organizations for their own employees such as many Federal agencies in Washington, or by a government sponsored city-wide program involving hundreds of businesses as in the Manhattan Staggered Work Hours program. The Manhattan program is very comprehensive in its approach to design and implementation, and much of its methodology, embodied in this Manual, is felt to be applicable to other active Staggered Work Hours programs or to any city now considering such a program.

B. Use of the Manual -- This Manual is intended to provide the decision-maker with the guidelines and tools for determining the need for a Staggered Work Hours program in the area. If such a need is established, then the Manual will aid in designing and implementing the program. Since it has been organized to cover most of the important considerations involved with a Staggered Hours program.

Included is information on how to do work schedule surveys, transportation survey methods and guidelines for implementation and promotion of Staggered Work Hours. Once the applicability of a Staggered Hours program for a city is determined, the Manual lists and explains key steps to be followed to insure a successful effort.

Additional information on many of the topics covered, particularly those involving transportation aspects, can be found in a companion technical report for this study prepared by The Port Authority of New York and New Jersey.

C. Organization of the Manual -- Chapter 2 presents the basic considerations that must be made in determining whether there is a need for a Staggered Work Hours program in a given area. It shows how to discern whether transportation congestion is related to people following a predominant work

schedule, as opposed to congestion caused by other factors such as insufficient system capacity.

Chapter 3 describes how to develop and conduct work schedule surveys as the basic first step in identifying work schedule characteristics in the area. Discussed are such aspects as the design of the survey form, its distribution and return, and how to present and analyze the results.

Chapter 4 discusses the guidelines for recommending revised work schedules to reduce transportation congestion. Several aspects in designing new schedules include geographic and industry considerations, how spread out the new schedules should be and what impact the new schedules would have on present transportation services.

Chapter 5 describes how to implement the voluntary adoption of Staggered Hours within the business and governmental community. It covers the overall approach and specific promotional aspects necessary to entice enough participation in Staggered Work Hours in order to significantly improve transportation services.

Lastly, Chapter 6 covers the evaluation of the impact of a Staggered Work Hours program using transportation and attitude surveys. Such surveys can objectively determine the transportation benefits achieved as well as eliciting subjective perceptions of both employees and employers of the effect of Staggered Hours on their commuting, productivity at work and other factors.

II . IS STAGGERED WORK HOURS NEEDED IN YOUR CITY?

In examining the applicability of a Staggered Work Hours program for any urban area, two fundamental questions must first be answered:

- Is there a "peaking" problem on the city's transportation systems, such as on highways, trains and buses?
- If so, is this peaking directly related to the area's work scheduling practices?

Transportation peaking is a familiar phenomenon in many cities. It is characterized by travel demand into the Central Business District tending to concentrate during two very short time spans coinciding with the daily journey to and from work. For example, prior to the Staggered Hours effort in New York, PATH's World Trade Center terminal experienced some of the most severe transit peaking in the world. Within a brief eighteen-minute period between 4:54 and 5:12 P. M., PATH trains had to move 8,500 people, or about 45 percent of the 20,000 homebound commuters who travel during the afternoon peak hour. PATH's peaking difficulties, as well as those experienced on the City's subways and on principal highways serving the Central Business District, led to the Port Authority's investigation of the Staggered Work Hours concept.

The first step in identifying a peaking problem is to inventory and analyze transportation patterns on all major travel arteries, including both highways and public transit facilities. Data should be available for 30-minute time intervals -- and preferably 5 or 15-minute intervals -- so that the intensity of the peaking can clearly be discerned. While "peaking" may be a subjective concept, it is always evidenced by a maximum rate of flow during a time interval, while either just earlier or later, or on either side, a much lower rate of flow exists. Taking this a step further, in the case of public transport systems, peaking is evidenced when the transit vehicles are overly-congested for only a relatively

brief portion of the peak hour. Congestion may also exist without peaking due to insufficient service or a lack of capacity. This condition which shows a relatively "flat" or constant travel pattern throughout a peak hour should also be identified since it is a problem that should be looked into. Possibly, staggered work hours could help relieve the congestion by spreading the demand into another hour.

If serious peaking is found which causes congestion on transportation systems, then it is necessary to determine whether and to what extent prevailing work schedule practices are related to the peaking. This involves collecting and analyzing data on the characteristics of employee work schedules by conducting a "work schedule survey" of organizations. A more detailed description of how to conduct work schedule surveys is contained in the following chapter. Basically, the work schedule information will show the distribution of employees on various work schedules, pinpointing whether a large concentration of workers adhere to a single starting and quitting time. For example, in Manhattan the predominant schedule is 9:00-to-5:00, while in Pittsburgh, the hours are 8:30-to-5:00. This practice of adhering to one work schedule often can be correlated to transportation peaking and congestion.

After both of these procedures are completed and analyzed, a decision on the feasibility of undertaking a Staggered Work Hours program can be made. An alternative could be to upgrade or add capacity to existing transportation facilities.

III. HOW TO CONDUCT A "WORK SCHEDULE SURVEY"

It is necessary to determine the prevailing work schedule practices followed by organizations in the area under study before any judgement can be made about whether adherence to certain work schedules contributes significantly to the transportation congestion being experienced. This is usually done by conducting a formal "work schedule survey" of the private firms and public agencies located in the particular urban area. While work schedule data may already be available in some cities, it probably does not contain enough information for use in determining the feasibility of Staggered Work Hours.

There are a number of discrete steps in conducting a formal work schedule survey:

- Preparing a work schedule survey form
- Distributing the questionnaire to organizations
- Tabulating and analyzing the survey returns

Preparing a Work Schedule Survey Form -- The type of detailed work schedule information necessary to be obtained from each firm includes the total number of employees at each firm's location and the number of employees on each specified work schedule. Additional data may be important, such as the employees' residential distribution (by county or zip code), and their "major mode" of transportation to and from work.

Based upon a number of work schedule surveys conducted in the New York/ New Jersey area, a "model form" has been developed for general use, and is shown in Exhibit 1. Referring to this model, the first four questions elicit basic information about the organization's location, type of business and, of critical later concern, the name, title and phone number of a contact.

Questions 5-7 are important in order to identify the numbers of employees on particular work schedules at each office location in the area being surveyed (such as the Central Business District).

MODEL WORK SCHEDULE SURVEY FORM

The City of _____ is considering whether a Staggered Work Hours program would be beneficial to reduce transportation congestion. This survey is being conducted to determine current work scheduling practices in our city. Would you, therefore, please complete one questionnaire for your principal location and one for each subsidiary location, if any. Do not complete a questionnaire for subsidiary locations in which a relatively small number of employees are located, such as bank branches, small stores, etc.

Date: _____

1. Name of Company: _____

2. Address: _____

3. Type of Business: _____

4. Name of Contact: _____ Title: _____

Telephone Number: () _____ Extension: _____

5. Number of employees working at this location: _____

6. Do all of your employees work on the same time schedule?

Yes: _____ Schedule is: _____ a.m. to _____ p.m.
No: _____ Go to Question # 7

7. If the answer to # 6 is "No", how many different schedules does your firm work? _____
Please list the approximate number of employees on each schedule:

- (a) From _____ a.m. to _____ p. m. No. of employees: _____
- (b) From _____ a.m. to _____ p. m. No. of employees: _____
- (c) From _____ a.m. to _____ p. m. No. of employees: _____
- (d) From _____ a.m. to _____ p. m. No. of employees: _____

8. Would you please estimate how many of your employees live in:

_____ County	_____	City of _____	_____
_____ County	_____	Town of _____	_____
_____ County	_____	_____	_____

9. Only if such information is readily available, would you please estimate how many of your employees use these transportation systems as their "major modes" in their commuting to work:

	<u>Approximate Number of Employees</u>
Auto alone	_____
Carpool	_____
Bus	_____
Railroad	_____
Subway	_____
(Other appropriate modes)	_____

Comments: _____

Thank you very much for providing this information. Please return the survey forms in the enclosed postage-paid envelope by (date) We will send each respondent a copy of the tabulated survey results.

(Name and address of sponsor)

Question # 8 requests the residential distribution of employees. This is readily available in many firms where computerized records of employee residence are maintained by zip code. Lastly, Question #9 requests the approximate number of employees using "major modes" of transportation in their travel to work. Although this information would be valuable, it should be recognized that since most firms will probably not have it readily available, one should be careful not to jeopardize the entire survey return by insisting on it. That is the reason for the careful wording of Question # 9. A last question could elicit any comments from the organization.

The objective of the questionnaire is to determine the prevailing work schedule practices followed by organizations in the area under study, usually the city's Central Business District. While this model form should certainly be adapted to a particular situation in one's city, care should be taken in any major revision -- especially, additional questions -- to this format, which has evolved from a number of successful work schedule surveys.

Distributing the Questionnaire to Organizations -- A requirement of a successful survey is an adequate return. When requesting voluntary submission of potential sensitive information like work schedule data, it is important to:

- gain an influential sponsor.
- clearly state the need for the information requested.
- design the form so that it can be easily filled out.
- have a simple method of return.

Each element is crucial to the return of the survey form.

The importance of the work schedule survey can be conveyed in a cover letter from a well-known business or civic leader or politician. The survey form

itself should preferably be one page in length with very clear instructions. A good way to insure return is by making the survey form itself a postage-paid business reply form or by supplying a postage-paid self-addressed envelope.

It will be necessary to compile a mailing list to distribute the survey to the business and governmental communities. This can be done by combining the individual mailing lists of various business, governmental and trade organizations, including that of the local Chamber of Commerce. Securing a large response to such a survey may require either a follow-up mailing or phone call to those organizations not initially returning the survey form. A reminder such as this can mean a considerable increase in the response rate. Also, promising a copy of the tabulated results to organizations which respond would be an additional encouragement.

Tabulating and Analyzing Survey Returns -- Once the survey forms are returned, the data must be tabulated and analyzed. Basic tabulations involve the numbers of employees stratified by starting times, quitting times and (zip code) location. Other useful relationships involve work schedules with respect to residential and modal distributions. For eventual use with the prospective companies, the number of individual schedules which organizations followed may be of interest (in Manhattan, two-thirds utilized two or more work schedules).

From these tabulations one can determine if there is a predominant work schedule or if there are several popular schedules. Are patterns essentially consistent for the entire business community, or do work hours vary by industry groups, in certain geographic areas or on major transportation modes used? These characteristics, plus data on residence and mode of transportation, can provide valuable insights into the transportation and work habits of the business community. Further, comparison of residential and transportation data collected with other independent sources can ensure the statistical validity of the total responses received. A report on the

work schedule survey results should be prepared and made available to the influential business and civic sponsors as well as to all responding organizations. The data collected will be of great value in dealing with individual companies should a Staggered Work Hours program be undertaken.

There is no rigorous nor complicated analysis procedure in using the work schedule survey data to determine whether a Staggered Hours effort is warranted in a given city. Comparisons are made between the patterns of starting and quitting times and peaks on transportation systems. The extent to which a correlation exists between work schedules and the peaking patterns determines the extent to which a Staggered Hours effort can spread demand flows and lead to easing of congestion.

IV . DESIGNING RECOMMENDED STAGGERED WORK HOURS SCHEDULES

If a decision is made, based on the survey results, to proceed with a Staggered Work Hours program, it is important for the sponsor to design recommended work schedule revisions which will lessen transportation peaking while still being implementable on a voluntary basis. To do this the following questions should be answered:

- How much of a work schedule change is needed to shift people out of the peak hour?
- What starting and quitting times are currently less utilized?
- What kind of work schedule changes would both employers and employees be willing to make?

How Much of a Work Schedule Change is Needed to Shift People Out of the Peak Hour? -- Revised work schedules obviously should shift people to starting and quitting times that are less utilized than at peak travelling times. This can vary from city to city, and by the patterns exhibited on different transportation modes. It is also necessary to rearrange the work hours sufficiently so that people will, in fact, change their travel habits. In Manhattan, the peak congestion was found to last generally from 8:45 through 9:15 in the morning, and from 4:45 through 5:15 in the afternoon -- a result of the predominant 9-to-5 work scheduling. A thirty-minute change either earlier or later was found to be the minimum change necessary to remove commuters from this congested period. Further, when some firms shifted by only 15 minutes, they found that they did not move out of peak travelling times and, interestingly, many employees didn't change their travel habits at all.

What Starting and Quitting Times are Currently Less Utilized? -- Analysis of the work schedule survey data probably will show a predominant schedule as well as three or four other frequently used work times. After reviewing the work schedule distributions, it should be evident which schedules are relatively under-

utilized and could easily absorb heavier usage. By creating a more even use of these work times, the transportation peaking would be reduced and facilities would be better utilized. In the Midtown Manhattan Work Schedule Survey, for example, some 54 percent of the employees involved in the survey were scheduled to start at 9:00 a.m. and quit at 5:00 p.m. In contrast, only 8 percent began at 8:00, 3 percent at 8:15, 15 percent at 8:30 and 5 percent at 9:30. The 8:00, 8:15, 8:30 and 9:30 starting times, therefore, could be suggested as alternatives to those firms beginning their work day at 9:00 and considering a work schedule change.

What Kind of Work Schedule Changes Would Both Employers and Employees

Be Willing to Make? -- In order to recommend work schedules under a Staggered Work Hours program, the sponsor must determine which schedules would be acceptable to companies and their employees and, the converse, which are not. Both employees and their companies seem to universally prefer earlier hours, with employees generally willing to come in as much as an hour or more earlier if they could. However, in New York at least, companies generally resisted shifting their work schedules more than thirty minutes away from their 9-to-5 work hours. Depending on the particular business operations, schedule changes should be recommended which balance both the preferences of the workers and the office needs as viewed by management. Finally, it should be recognized that later hours are usually quite unpopular except among certain business operations.

* * * *

The design of recommended work schedule changes under a Staggered Hours program should, therefore, seek to spread out peak hour travel by redistributing work schedules to a more even balance, and identify what specific schedule changes would accomplish this with the least disruption to the organization and to its employees.

V . IMPLEMENTING A PROGRAM

The most crucial activity in a Staggered Work Hours program is implementing it -- for without enough voluntary participation, the potential transportation benefits simply will not materialize. These two areas of activity are essential to effective implementation:

- Promotion of the concept among the business and governmental community in order to create overall awareness, acceptance and support of the program.
- Persuading individual firms to make a work schedule change.

a. Promotion of the Concept Among the Business Community --

If maximum participation in Staggered Work Hours is to be achieved, the effort must have solid and broad sponsorship and must utilize as many channels of promotion as possible. Although potential gains in employee comfort and reduction in transportation congestion can be readily demonstrated, many Staggered Hours programs have not achieved satisfactory levels of participation because they have not been effectively promoted within the business community. Some elements of a broad promotional campaign should include the following:

● Support by Business and Government and Transportation Operators --

Some of the most influential and easily-obtained support and publicity can be gained by the enlistment of well-known business, government and civic leaders in the program. Such key people as the Mayor, the president of the Chamber of Commerce, corporate executives and the head of the local Transportation Authority are often instrumental in encouraging businesses to try Staggered Work Hours. Staggered Hours is a positive, popular concept that most such leaders will be happy to strongly endorse. It is important, therefore, to at least keep in contact with them and inform them of new developments, but, preferably, to carve out an integral role in the promotional program to utilize their considerable eminence.

- Promotional Materials --

In order to effectively sell Staggered Hours, a basic set of materials, such as brochures, pamphlets, "tear sheets," business cards and letterhead is needed. This material can then be sent to individual firms to familiarize them with the concept and hopefully instill a desire to try Staggered Hours.

- Mass Mailing of Materials --

It is important in promoting Staggered Work Hours to contact as large a group of organizations as possible at a minimum of expense and effort. This can be done most effectively through mass mailings with high-quality form letters. A mailing list can be developed in cooperation with the Chamber of Commerce and other similar groups. A technique used in the Manhattan program was to computerize address lists on mailing labels which were grouped by industries. Several copies of these lists were kept on hand, updated continuously, used frequently and were found to be an easy way to reach thousands of New York business firms and government agencies.

- Publicity Through Print Media --

Those responsible for promoting a Staggered Hours program should actively seek attention and publicity from all available print media, including newspapers, magazines and professional journals. Press releases should be issued when the effort is kicked off and as significant developments occur. The Manhattan program solicited and received repeated coverage from all major metropolitan-area newspapers, a national news magazine and a very influential article in a national trade personnel journal. The latter involved a round-table discussion of Staggered Hours among three personnel managers of prominent corporations participating in the program. Reprints of this article have been distributed as a promotional piece to many firms.

- Publicity Through Electronic Media --

Radio and television are extremely effective media today for promoting most things, including a program like Staggered Hours. These media should be pursued actively. Many times "talk shows" on radio and television will be anxious to discuss the subject. Public Service Announcements or station editorials can also be particularly effective.

Two effective examples of television and radio publicity used in the Manhattan program involved production of a television Public Service Announcement and a month-long drive broadcasting testimonials on radio. The 30-second television spot was prepared and produced by a major New York advertising agency which donated its time and effort as a public service commitment. The out-of-pocket production costs approximated \$11,000. Once produced, the Public Service Announcement was turned over to all local television stations which have been airing it frequently at no cost. Many inquiries from both employers and employees have been received as a result. The radio drive was conducted in connection with the official proclamation of "Staggered Work Hours Month" in New York City. Some 35 chief executive officers of firms participating in Staggered Work Hours taped 60-second testimonials which were run daily by a local all-news radio station. These testimonials were prepared and broadcast at no cost by the radio station, again as a public service. The actual tapes, as well as transcripts, have been used repeatedly in various promotions.

It should be noted that professional assistance should be secured in a promotional program involving print and electronic media. "In-house" capability available from one of the sponsors is desirable, although assistance can also be obtained on a public service basis from firms specializing in advertising and public relations.

- Special Events --

No potential means of promotion should be overlooked in implementing a Staggered Hours program. In any given urban area, the effective medium will vary

and, therefore, the promotional strategies should be tailored to fit each city's characteristics. Special promotional events can be utilized to capture attention and make a point. A number of such events in Manhattan have included luncheons, breakfast meetings, cramming subway cars, a city-wide "Staggered Work Hours Month," special buttons and posters, exhibits and other innovative ideas to highlight Staggered Hours.

b. Persuading Individual Firms to Make a Work Schedule Change --

Implementing Staggered Work Hours in a business community usually requires a significant amount of "selling" to individual firms. The following sequence of steps is illustrative of how to convince and assist a firm to try Staggered Hours.

- Initial contact and presentation to management -- After making an initial contact with a firm at the highest level possible, a strong presentation should be made to its management either individually or in a meeting with a group of firms. The presentation should involve audio-visual techniques such as slides, handout materials, testimonials of organizations already on Staggered Hours or other persuasive devices. At the end of the meeting, it is recommended to ask the representatives present to take some action -- complete a form, gather information or make some sort of commitment to seriously consider revising their work schedule.

- Conduct staff survey -- An excellent way to keep a firm involved is to assist it in conducting a survey to determine employee work schedule preferences. This has been done frequently in New York by major firms. The results have always been uniformly and overwhelmingly favorable to trying earlier Staggered Hours schedule. While such a preference survey will usually result in eventual participation of the firm, many firms may resist conducting such a survey fearing this very eventuality.

- Make work schedule recommendations -- The program staff should assist the firm by making recommendations of a revised work schedule or schedules ' that would be acceptable to its needs. This would be a direct outgrowth of a preference survey, if conducted, or be developed based upon the firm's business location or other factor. A most common recommendation is to switch almost all staff a half-hour earlier than their present schedule, retaining a small number on the old hours for coverage.

- Set a target date -- If at all possible, a timetable should be set up including a target date for beginning the new work hours on an experimental basis. It is important that the effort be viewed as an experiment (of 4-to 6-month duration) in order to leave flexibility for changes or, if unsuccessful, reverting to previous work hours.

- Inform staff -- Most firms simply post or circulate an office notice which tells staff of the experimental work schedule change and why it's being done. The sponsors of the program should have samples available.

- Begin experiment and evaluate staff's reaction -- The sponsor should work closely with the firm as it implements the new work schedule. Any immediate problems should be addressed, particularly those dealing with specific transportation difficulties. These difficulties should be solicited and efforts should be made to work closely with the appropriate operator to adjust services as necessary. A form used in Manhattan to solicit transportation difficulties is shown in Exhibit 2. Note that it is anonymous and is postage-paid. Analysis of returns with this method elicited specific problems which, when brought to the operator's attention, resulted in over a score of service adjustments.

Both supervisors and general staff should be canvassed for their reaction to the work schedule change after several months. This is an important part of the experiment because a favorable reaction to the new schedule will ensure its retention. Further, positive attitudinal results at a firm are very influential in convincing other firms to try a Staggered Hours experiment. A model form for

TRANSPORTATION SURVEY FORM - (Front)

Actual form is on one sheet and can be folded for postage-free return to the Staggered Work Hours Program.



**Midtown
Staggered
Work Hours Project
Transportation Survey**

To: Employees Participating in Staggered Work Hours
The Midtown Task Force on Staggered Work Hours desires to evaluate any transportation difficulties which you may have encountered because of your participation in the Staggered Work Hours Project. Your answers to the questions inside will help in making the analysis.

We will discuss the problem area you point out with the responsible commuter railroads, bus line operators, or transit system operators and report back the results to the Staggered Work Hours Coordinator within your company.

First Class
Permit No. 4284
New York, N. Y.

B U S I N E S S R E P L Y M A I L
No Postage Stamp Necessary if Mailed In The United States

POSTAGE WILL BE PAID BY

TO: Staggered Work Hours Program
The Port Authority
of New York and New Jersey
One World Trade Center—72E
New York, New York 10048

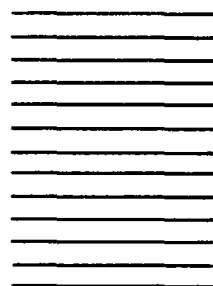


EXHIBIT 2 (continued) Transportation Survey Form (Back)

1 Where do you live?

Number & Street or Nearest Intersection City State Zip

2 Where do you work?

Company

Number & Street or Nearest Intersection City State Zip

3 A. What is your current working schedule?

8:00 am-4:00 pm 8:30 am-4:30 pm

8:15 am-4:15 pm 9:30 am-5:30 pm Other please specify

B. Which trip on this new schedule is less convenient?

a. Morning, (If a, answer question 4 only.)

b. Evening, (If b, answer question 5 only.)

c. Both (If c, answer both questions 4 and 5.)

4 Morning Trip. How do you get to your office? (If more than one mode used, please indicate order of usage.)

Example: **1** Railroad **2** Subway

Auto To Office To other mode of transportation

Bus N.Y. City Bus Line & Route PABT Bus Line & Route

GWBBBS Bus Line & Route Other Line & Route

What time do you board the bus?

Railroad

Penn Central N.Y. Central Div.

Pennsylvania Div. New Haven Div.

Long Island CNJ

Erie-Lack., NJ & NY S.I. Rapid Transit

What time do you board the train?

At what station do you board the train?

Staten Island Ferry. What time does your Ferry leave St. George?

PATH. What time do you board PATH?

At what station do you board PATH?

Subway. Indicate Division & Line (A, #2, RR, etc.)

IRT BMT IND

What time do you board the Subway?

At what station do you board the Subway?

At what station do you get off the Subway?

5 Evening Trip. How do you get home? (If more than one mode used, please indicate order of usage.)

Example: **1** Subway **2** Railroad

Subway. Indicate Division & Line (A, #2, RR, etc.)

IRT BMT IND

What time do you board the Subway?

At what station do you board the Subway?

At what station do you get off the Subway?

PATH. What time do you board PATH?

At what station do you board PATH?

Staten Island Ferry. What time does your Ferry leave Manhattan?

Railroad

Penn Central N.Y. Central Div.

Pennsylvania Div. New Haven Div.

Long Island CNJ

Erie-Lack., NJ & NY S.I. Rapid Transit

What time do you board the train?

At what station do you leave the train?

Bus N.Y. City Bus Line & Route PABT Bus Line & Route

GWBBBS Bus Line & Route Other Line & Route

What time do you board the bus?

Auto From Office From Other Mode of Transportation

6 Nature of transportation inconvenience resulting from your schedule change. Please give full details.

Thank you.

conducting an "office hours survey" is shown in Exhibit 3.

- Decision to retain new schedule permanently -- If the experimental period with Staggered Hours schedule is successful, the firm should be encouraged to formally announce its decision to retain the hours. If this occurs, excellent publicity can be obtained using a press release, which will reflect favorably both on the program and on the firm itself.

* * * *

In order to effectively implement a Staggered Work Hours program, therefore, the sponsors must seek community-wide support for the project as well as -- and this is critical -- persuading individual companies to change their work schedule. Unfortunately, while several cities have had extensive promotional campaigns, they have not supplemented it with close liason with firms to achieve actual schedule changes. The successful program requires close attention to both activities.

The costs of implementing a Staggered Work Hours Program are highly variable, depending upon the scope of the campaign, the amount of volunteer assistance from the business community, and the follow-up effort needed to implement the program. The duration of the Staggered Hours program is also dependent on the above factors. Discussions of both costs and duration have, therefore, been excluded from this Manual.

EXHIBIT 3

MODEL "OFFICE HOURS SURVEY" FORM

Staggered Work Hours Program

OFFICE HOURS SURVEY

We would like your opinion of the recent change in office hours which was instituted as part of _____'s participation in the Staggered Work Hours Program. The results of this survey will help to determine whether we will keep these hours or, instead, return to the previous schedule.

DON'T FILL IN BOXES-
FOR OFFICIAL USE ONLY

1. Department you work in: _____

2. Your work address _____ zip: _____

3. Your present work schedule: _____:_____ AM to _____:_____ PM

4. Your overall reaction to your present schedule:

___ I am strongly in favor of staying on it

___ I am somewhat in favor of staying on it

___ I have no preference

___ I am somewhat in favor of going back to the previous schedule

___ I am strongly in favor of going back to the previous schedule

5. Comparing your present hours with your previous schedule, please describe any change you have noticed in these four things: your trip to and from work; the elevator service in your building; your home activities; and your effectiveness at work.

	Much	Somewhat	No	Somewhat	Much	
	Better	Better	Change	Worse	Worse	

Your trip to and from work	_____	_____	_____	_____	_____	<input type="checkbox"/>
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Elevator service in your building	_____	_____	_____	_____	_____	<input type="checkbox"/>
--------------------------------------	-------	-------	-------	-------	-------	--------------------------

Your home activities	_____	_____	_____	_____	_____	<input type="checkbox"/>
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Effectiveness at work	_____	_____	_____	_____	_____	<input type="checkbox"/>
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6. Do you have any comments? _____

PLEASE RETURN THIS SURVEY RUSH TO YOUR OFFICE COORDINATOR...THANKS!

VI . EVALUATION TECHNIQUES

A fundamental part of any Staggered Work Hours effort is evaluating its impact on transportation systems as well as the attitudes of employees and managements toward the program. Evaluation through studies and surveys not only determines whether program goals are being met, but also provides extremely useful documentation for expanding the program.

The goals of most Staggered Hours programs involve reducing transportation system congestion due to peaking by adjusting employee work schedules while not adversely affecting employee attitudes or business operations. Therefore, at least two types of studies must be conducted to analyze the effects of such a program: Transportation surveys and attitudinal surveys.

A. Transportation Surveys -- A number of surveys can be conducted on transportation systems to discern the effect of Staggered Work Hours. The most common ones are passenger counts on public transportation systems and traffic counts on highways and other auto facilities. These surveys should be taken on a before-and-after basis by five or fifteen-minute intervals to be sensitive to whether travel patterns have changed in response to work schedule changes. All major systems should be studied, including public transportation lines, roads, pedestrian facilities and elevators in buildings.

An example of such transportation evaluation can be illustrated from the Staggered Hours program in Lower Manhattan. Noticeable changes in spreading of the demand patterns in three of the busiest New York City subway stations and at PATH's World Trade Center Terminal provided clear indications that Staggered Hours was achieving success in reducing congestion. Passenger or turnstile counts taken before and during the project indicated that passenger demand at these locations had been reduced by as much as one-quarter during the peak interval because of shifts to earlier and later time periods.

Another way of studying the effects on transportation is by looking at operations such as travel times. This can be done on both public transit and auto facilities.

Surveys on sidewalks, escalators and elevators will evaluate movement before and after the implementation of Staggered Hours to see whether these "modes" are positively affected. For example, counts taken in the lobby of a major Manhattan office building showed a significant reduction in the waiting time for elevator service after many people in the building adopted Staggered Hours.

Transportation studies can also be conducted to determine the effect, if any, that Staggered Hours might have on employee punctuality. Such a study would investigate the relative reliability and "on-time" performance of transportation systems during the morning rush hours. In New York, a "Transportation Tardy Study" showed that transportation service was significantly more reliable on earlier Staggered Hours schedules than for 9:00 A. M. start times. There were fewer and shorter train delays on earlier trains.

A different transportation perspective of the effect of shifting large numbers of people onto different work schedules can be studied through the use of a "transportation complaint questionnaire." This was discussed earlier as a feedback system to solicit problems experienced by those working on the new hours. This survey form can be given to the firms which change their work schedule in order to see where transit service is lacking, where auto bottlenecks or backups occur or to identify and illuminate any other transportation situation warranting attention.

In any Staggered Hours effort, therefore, it is essential to measure and study the transportation picture continually in that city. Surveys can show

whether any benefits once achieved increase, decrease, or stay the same over a period of time. Transportation surveys in the Manhattan program have been conducted about every two years, and they have shown that the reduction in peaking achieved has been maintained even after a number of years. This strongly suggests that once firms make work schedule changes, they tend to remain on the new schedules.

B. Attitude Surveys - Even though the underlying concern of a Staggered Work Hours effort is its beneficial impact on transportation systems, no program could succeed if it adversely affected employee attitudes and office operations. It is necessary, therefore, to find out how both employees and management react to a work schedule change, and this can be accomplished by conducting an "attitude survey." For clarity, the following discussion is separated into employee attitudes and those expressed by managements.

Employee Attitudes - After a firm has been on Staggered Hours schedule for at least two or three months, it is important to solicit their reaction to their new hours through an attitude survey (as discussed earlier). Several aspects should be studied: the overall reaction to the new hours, its impact on their trip to and from work, the effect on their "productivity" at work and their home life. While it is difficult to generalize, repeated attitude surveys conducted during the Manhattan program revealed surprisingly consistent findings. Most people involved shifted to a half-hour earlier work schedule. Based upon several of the surveys, a consensus of the results was:

- Regarding overall reaction to the program, some 85 percent of the employees' reactions were favorable.

- About half of the participants were "more satisfied" with their daily commute. In addition, about the same portion said they encountered less elevator congestion on their new schedules.

- While most people report "no change" regarding the effect on their

productivity at work, significantly more will note a positive impact than will report an adverse effect. (There might be a self-serving bias in this response in order to swing decision-makers to retain the new work schedule).

- In questions about employee home lives, respondents said that when changes did occur, they were mostly viewed positively.

- When asked about the length of the work day, it was interesting to note that three times as many responding felt the work day on Staggered Hours was "shorter" than "longer."

Management Attitudes - Regardless of how favorable employees are to Staggered Work Hours, such a program can not be implemented permanently unless managers are convinced that office operations are not adversely affected. Unfortunately, the initial reaction of many managers to staggered schedules is negative, based upon few facts but large uncertainties and suppositions. Their objective attitudes can be best determined by surveying managers who have a few months experience with Staggered Hours. Questions should cover some typical aspects of office operations that might be affected by a work schedule change such as employee punctuality, phone coverage, internal and external communications, productivity and the ability to work with the firms or clients on different schedules.

A number of attitude surveys of managers were conducted during the Manhattan Staggered Hours Program, some by the program sponsor and others by the individual firms. At the risk of oversimplification, the results generally show:

- When a change can be perceived, many more supervisors reported gains in productivity than reported losses under the new hours.

- The punctuality of employees increased, due in some measure by less journey-to-work congestion.

- When asked about the effects on communications, a majority reported that no substantial problems arose.

VII. SUMMARY AND CONCLUSIONS

This "Staggered Work Hours Manual" has sought to present the essential elements of undertaking a voluntary program in an urban area. This Manual should be supplemented by the comprehensive "Staggered Work Hours Study" by The Port Authority of New York and New Jersey prepared for the Urban Mass Transportation Administration. To summarize the key points discussed in this Manual:

- Determine the feasibility of a Staggered Work Hours program by correlating transportation "peaking" with work schedule characteristics. The latter may have to be determined by a "work schedule survey."
- If a Staggered Hours effort seems desirable, recommended work schedule revisions must be developed based on characteristics including transportation congestion patterns and the predominant work schedule.
- Implementing a voluntary program will require extensive overall support and publicity as well as an intensive personal selling campaign among individual organizations.
- The program should be evaluated using a series of transportation and attitudinal surveys.

Until recently, and even now, relatively few have grasped the potent benefits of a Staggered Work Hours program to reduce transportation congestion in an urban area. It is not only simplistically effective -- since it cures the basic problem of overly-concentrated demand -- but it entails minimal cost, can be implemented quickly, is highly popular among all groups and entails many spin-off benefits such as improved business operations.

So why -- one might logically ask -- hasn't the concept of Staggered Work Hours been utilized to a greater degree? Below are listed three major reasons, and they should not be overlooked in a Staggered Hours effort.

1) Resistance to change -- Humans, and the organizations which they form, are habit-forming creatures and resistance to any change can be enormous. One way to counter this is to always recommend adopting changed work hours on an experimental basis.

2) Enlightened self-interest -- Organizations will loath to adopt Staggered Hours unless they can foresee specific benefits to themselves. Such key benefits involve improvements in production, punctuality, morale and, to a lesser degree, concern for the preferences of the employees. Definitely on the low end of the influence scale is an appeal to change work hours based solely upon a civic responsibility to alleviate transportation congestion, although this is usually understood to be the reason for the program itself.

3) Selling a concept -- Staggered Work Hours is a concept, and not a piece of office equipment, let's say, whose cost and benefit can be closely scrutinized. It is a concept which conventional wisdom suggests will cause communications problems, erode supervision control and adversely affect one's personal commuting trip. It is seen as not workable in a particular industry, but okay for the "other guy" to do. These notions are only dispelled by hard, documented evidence from organizations which successfully adopt Staggered Hours.

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Hopefully this Manual will give urban areas guidance in undertaking a Staggered Work Hours program. As more cities are demonstrating in recent years, it can be done -- all it takes are the traditional ingredients of know-how and perseverance.

