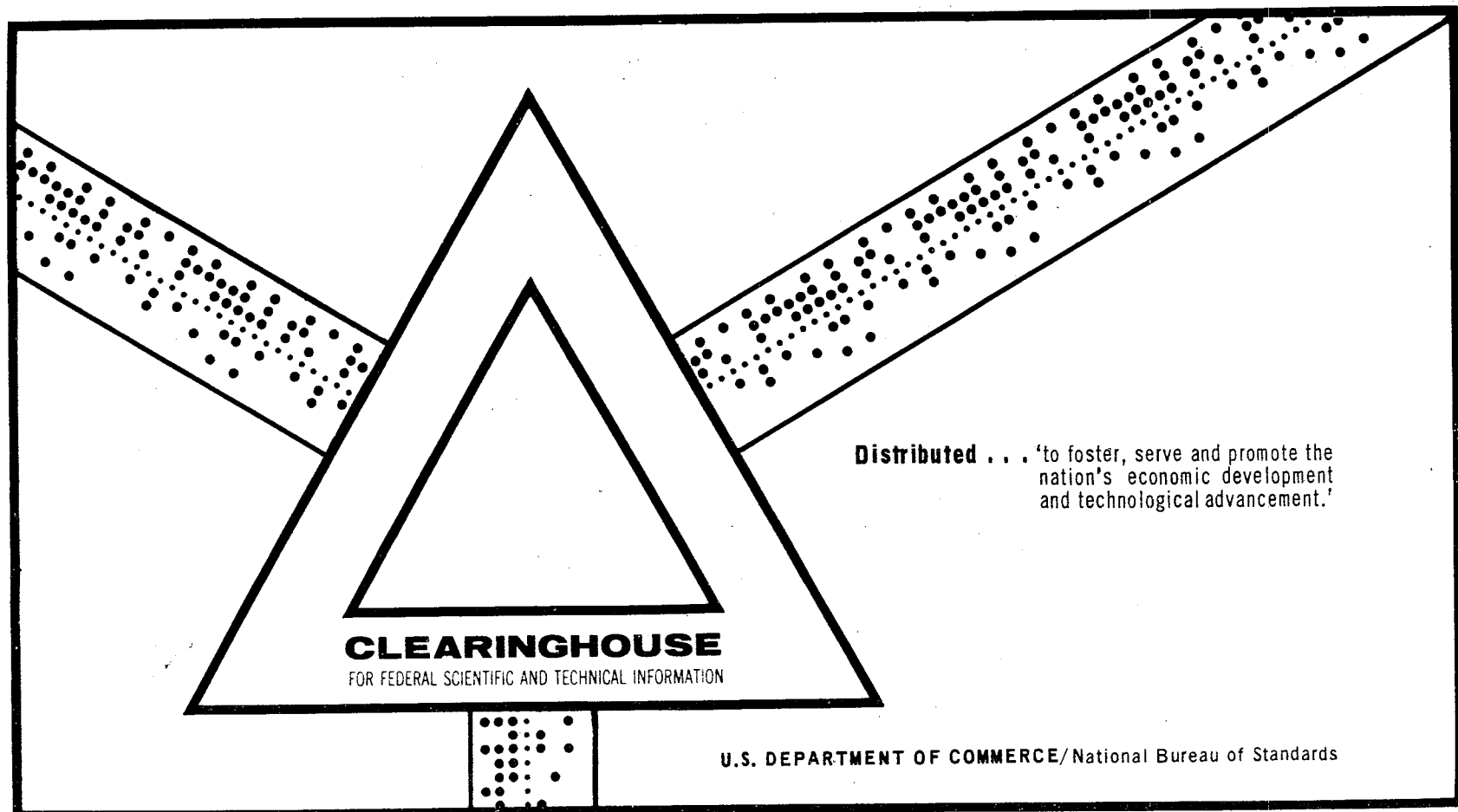A SURVEY OF THE DYNAMICS OF MODE CHOICE DECISIONS, THE
NEEDS AND DESIRES OF TRAVELERS IN THE NORTHEAST CORRIDOR

National Analysts, Inc.
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THE NEEDS AND DESIRES

OF TRAVELERS IN

THE NORTHEAST CORRIDOR

A Survey of the Dynamics
of Mode Choice Decisions

NATIONAL ANALYSTS, INC.
Philadelphia, Pennsylvania 19107

February 1970

Prepared For
Office of High Speed Ground Transportation
Federal Railroad Administration
Washington, D. C. 20591

SUMMARY OF MAJOR FINDINGS

I. THE PROCESS OF MODE SELECTION

Most mode choices are the results of routines, not
actual decisions.

When decisions are made, they usually involve choices
between only two modes, or three at most.

From the individual traveler's point of view, the mode
to use appears to be given by the nature of the trip,
since he seldom subjects his needs and desires to
conscious examination.

For all these reasons, conceptualizing a simple four-
way decision process, with the pluses and minuses of
using each of the four modes weighed against one another
simultaneously, is inaccurate.

Mode selections are usually better conceptualized as
routines that form around different kinds of trips,
codifying the traveler's value considerations and mode
evaluations.

II. THE INFLUENCE OF THE NATURE OF THE TRIP

A. Business versus Non-business Trips

1. Business trips

Business travel involves an employer's time and
money, in part, so that business travelers are
not entirely free to choose their own modes.

Company travel mode policies function more as
a set of customs and precedents than as rigid
rules.

Travel mode selections for many trips are influ-
enced by secretaries or other persons apart from
the actual traveler.

Most business travelers are satisfied with their
company policies, since they are usually consistent
with the travelers' own preferences and needs.

In fact, the accumulated practice of employees
may be what defines company policy, so such
policies will almost necessarily serve the needs
of employees.

Most company policies seem weighted toward quick-
ness in travel, even at considerable expense.

Quickness in travel may serve the employer by
"wasting" less personnel time.

Quickness in travel serves the employee by:

- Minimizing the time he is away from home.

- Bolstering his sense of status and importance.

The result of this concern with quickness is to
make flying the normal routine for business travel.

2. Non-business trips

Since non-business travelers pay their own way,
cost is much more important than with business travel.

One result of the great concern with cost is
heavy reliance on the private automobile.

B. The Distance of the Trip

For business travel, the longer the trip the greater
the inclination to fly, even within the Northeast
Corridor.

Varying distance has much less affect on mode choice
for non-business trips within the Corridor than on
business trips.

C. The Duration of the Trip

When there is any possibility of completing a business
trip in one day, returning home before night, there
is particular interest in quick travel.

Time spent in transit is regarded not only in absolute
terms but also in terms relative to total duration of
the trip. The longer a traveler is away from home,
the less important it is to him to save time in transit.

- The time advantage of flying becomes less compel-
  ling, so that other factors can work upon mode
  choice.

- The benefits of having an automobile become more
  important: carrying more luggage, and providing
  local transportation during the stay.

D. Specific Origins, Destinations, and Terminal Locations

The greatest source of overt complaint among business travelers concerned access to terminals, especially airports.

The interaction between specific origin and destination and the location of various terminals can be critical in choosing a mode.

Terminal locations serving center cities is one of the factors that can make public transportation more suitable for business travel than non-business travel.

E. Specific Destination

New York is a special case, different in many ways from the other major cities in the Northeast Corridor:

- Airport access and delay problems are of more concern here than elsewhere.

- Many who go everywhere else by automobile will not drive to New York, especially Manhattan.

- There appears to be much more non-business travel to Manhattan than any other center city, and more willingness to use public transportation.

F. Single Travelers versus Parties

Large parties in business travel seem to be rare. When they do occur, there may be a greater tendency to use an automobile:

- When the business traveler is not alone, seeking pleasure after work seems even more important, and is facilitated by automobile availability.

- Conviviality in transit may be fostered and enjoyed by automobile travel.

For non-business travel, as the size of the party increases, as with families, the economic advantage of the automobile over paying multiple fares becomes critical, tending to overwhelm all other considerations.

G. Combining Business with Pleasure

Many business trips have an element of pleasure added.

- There may be visiting or sightseeing at the destination, or at points along the way to the destination.

- His wife may accompany the traveler.

These factors tend to suggest automobile use, for reasons of ease in making intermediate stops and in local transportation, and cost.

H. The Number of Destinations

Trips with multiple destinations are almost invariably made by automobile.

- The salesman's swing through his area, the manager's visit to installations.

- Sightseeing tours, visits along the way.

Even when a business traveler goes directly to another city and then has multiple calls to make, he will often drive all the way, for the convenience, instead of flying and then renting a car.

I. Bulky Luggage

When bulky luggage is required, whether a salesman's samples or a family's vacation gear, the automobile is indicated. The luggage can be handled less, more can be taken, and packing need not be as careful.

J. The Special Purpose Trip

Non-business trips for special purposes include such things as weddings and funerals. There is a tendency to think of modes other than driving for these trips.

  - The timing is not of the traveler's choosing, so there is less time available.

  - The traveler may go alone, or only with his spouse, so multiple fares may not be necessary.

  - Flying, especially, helps to solemnize the occasion in the traveler's mind.

III. VALUE CONSIDERATIONS OF TRAVEL

A. Rational Value Considerations

1. Speed and time

Speed and time are the most salient aspects of travel to travelers.

Time and quickness are the dominant outward concerns of most business travelers, for reasons of efficiency, minimizing time, especially overnight, away from home, and affirming the traveler's sense of his own importance.

But the "goodness" of speed has been so thoroughly internalized that it stands on its own, with no need for justification. Quickness is valued for its own sake even when it has no functional value. Travelers even phrase other issues in terms of time, objecting to the time something takes when their annoyance really stems from inconvenience or aggravation, instead of time per se.

2. Cost

Cost of a travel mode is a minor concern of the business traveler. Neither he nor his employer is cost-oriented in this regard.

Cost is a major concern of non-business travelers, especially family travelers. And the automobile is seen as much the cheapest, within the Northeast Corridor, because fixed costs are not included in their thinking.

3. Convenience

The more work it is to use a travel system -- special plans, preparations, accommodations to the system -- the less convenient it is.

Convenience, in this sense, is a major travel concern and mode determinant.

The automobile is seen as especially convenient, since it avoids schedules, reservations, terminals, much baggage handling, etc. Convenience ranks with cost as a major reason for the automobile's established position for non-business travel.

4. Physical comfort

Such things as seating comfort, leg room, temperature, and freedom from jouncing are important concerns.

Lack of physical comfort can serve as a negative determinant, ruling out one or another mode, but less often as a positive basis of choice between modes being considered.

5. Security from attack or affront

Buses or trains are sometimes ruled out because of "dangerous" terminal locations and the incidence of "undesirable characters".

6. Safety from accidents

Fear of air travel is not uncommon. It is an emotional feeling that can persist despite accurate knowledge of low risk.

Conversely, few people feel afraid of automobile travel, although they know of its risk.

7. Reliability of schedules

Schedule reliability is an important issue, but since no one mode has any great superiority, it does not now function as a choice determinant.

Airline schedule unreliability is deplored without resentment, while railroad unreliability arouses heated complaint.

- Air delays are ascribed to factors outside the airlines' control: weather and congestion. There seems less reason for rail delays.

- Airlines explain and apologize for their delays.

- Air travel offers more comfortable settings in which to endure a delay.

However, many travelers seem now at the point of re-examining air travel routines, in view of increasing unreliability.

8. Using the travel time usefully

Planning to work while riding is important to some business travelers, and can affect the mode usage patterns of a few.

B. Non-rational, Attitudinal Value Considerations

1. The "aggravation" factor

The aggravation factor, which is the attitudinal aspect of the convenience factor discussed earlier,

is very important: mode routines are satisfying to the extent that they reduce aggravation and hassle, although travelers may never consciously consider this factor.

The aggravation and hassle comes from the impact of many tasks, choices, decisions, and things to worry about, involving reservations, planning, meeting schedules, and making arrangements.

When these "simple" tasks all impinge at once, they are likely to be experienced as a burden that produces harassment or anxiety.

Avoiding hassle is a major attraction of the automobile.

This factor also helps to explain the great importance of terminal locations, access, and facilities.

Travelers talk in terms of time when they really mean aggravation and hassle.

2. Waits and delays

Waits and delays can be functionally disadvantageous, if an appointment is missed or transit time is significantly increased.

But waits and delays arouse much more feeling than their functional aspects would indicate.

- Even waiting for a vehicle that is on time is distressing.

- Even very short delays can arouse intense impatience.

- Even scheduled interruptions of the trip, such as intermediate station stops, are felt as impositions on the traveler.

Waiting and being delayed are especially distressing to a traveler, who has adopted a view of himself and a way of thinking that stresses movement and progress.

3. Status and prestige

Feelings of status and prestige seem especially important for some business travelers, who value any confirmation that their role is important.

Non-business travelers would like prestige, but most of them are unwilling to pay for it very often.

4. Sociability and privacy

Different people, or the same people at different times, value:

- Chatting with strangers

- Solitary privacy

- Being sealed off with family from the rest of the world.

Travelers also differ on the extent to which various modes can satisfy these different objectives.

Some generalizations are possible:

- Bus travel is viewed as the mode where there is more socializing among strangers, and is preferred by some for this reason.

- Women seem to value chatting and socializing on vehicles more than men.

- The automobile's preservation of the family's privacy while fostering intimacy within the family is yet another important advantage.

5. Cleanliness

This factor exists primarily as a complaint about trains. Buses are also regarded by some as dirty, but it is not such an important part of their associations.

6. Food, drink, and other auxiliaries

Food and drink, as a functional matter of hunger and thirst, is not highly important for travel in the Northeast Corridor. Because of the relative shortness of most trips, this is one area where many travelers are willing to compromise.

As a symbol of hospitality, food and drink are more important.

7. Service, courtesy, and "feeling welcome"

Service and courtesy are valued for their own sake. In addition, they create a feeling of welcome that is highly appreciated.

The provision of food and drink is also seen by travelers as indicating welcome.

An advertising program which solicits passenger business is another factor that helps travelers feel welcome.

8. Freedom and flexibility

Moving by timetable, at someone else's discretion, is fundamentally disliked. It is felt as a lack of freedom.

The automobile traveler's lack of reliance on other people is widely appreciated, both for its actuality and for the feeling it permits.

The air shuttle partakes of some of these areas of freedom.

9. "Fun"

Riding in an airplane is "fun" for many people.

Driving is probably fun for most people some of the time, but not everyone sees all of its aspects as "fun", on balance.

10. Modernity

"Newness" is its own attraction. People enjoy
feeling modern and up-to-date, a part of the
Twentieth Century.

11. Information, familiarity, and knowledgeability

Knowing what to do and how to act, feeling that
no surprises are in store, can be pleasant, and
helps to explain the existence of travel routines,
and the importance of providing easy information.
Advertising can help to create a feeling of
knowledgeability and familiarity with a mode.

IV. EVALUATIONS AND IMAGES OF THE MODES

A. The Automobile

Advantages

- Economy

- For any destination

- For multiple destinations

- Convenience of no "transfers"

- Freedom

- Combining intercity with local transportation

- Luggage capacity

- Companionability

- "Fun"

Disadvantages

- Lack of speed

- Fatigue

- Traffic and parking

- Boredom

- Inability to work while driving

- Not high status

Summary position

- More different from all other modes than they are
  from one another.

- Offers compelling advantages on family travel.

B. The Bus

Advantages

- Convenience

- Service to points not served by other modes

- Economy

- Comfort and cleanliness

- Sociability

- Casualness

- Familiarity

Disadvantages

- Low status

- Danger of assault or affront

- Discomfort

- Dirtiness

- Fewest amenities

- Sociability

- Casualness and familiarity

Summary position

- Most ignored and overlooked mode.

- Few, if any, ways in which it surpasses all other modes. But its users seldom compare it with all other modes. In the more limited comparisons they make, it often seems to them to be superior to the realistic alternatives.

- Sharper cleavage of opinion between users and non-users than other modes. To non-users, the bus is the worst way, a last resort. Users, who relate it most often to rail travel, feel it compares favorably to trains.

- Ignored because of image rather than actual knowledge.

- Most completely ignored by business travelers. The features of sociability, casualness, and familiarity, which are advantages for the user, are disadvantages for the business man's role.

C. The Airplane

Advantages

- Speed

- Service and courtesy

- Cleanliness and appearance

- Feeling welcome

- Status

- Comfort

- Modernity

- "Fun"

- Lack of boredom

Disadvantages

- Cost

- Airport access

- Delays

- Fear

- Discomfort

- Status

Summary position

- The "blue ribbon" travel mode.

- The standard for business travel

- Too high in status for some people

- Airport access and delays are a major problem. Some travelers may be ready to change their routines for some trips on these accounts.

D. The Train

Advantages

- Convenience

- Time

- "An old favorite"

- Spaciousness

Disadvantages

- Dirty

- Discomfort

- Delays

- Slow

- Discourtesy and lack of service

- Feelings of unwelcome

Summary position

- Distinctly unpleasant image to most users and non-users.

- Some negative image due to generalization from local commuter lines.

- Turning out to be the most convenient for a given trip, in terms of schedule or time, is the basis of most usage, rather than any inherent attractions.

- Feelings about poor service are bitter.

E. The Metroliner and Turbotrain

Advantages seen by users

- Speed

- Comfort

- "Niceness"

- Service

- Convenience

Disadvantages seen by users

- Not different enough

- Still being run by railroads

Image to non-users

- Speed

- Secondarily, "niceness"

- Some cynicism about the project

Summary position

- Speed appears to have been the primary reason for using the Metroliner the first time.

- However, comfort and "niceness", rather than time saving, are the basis of most favorable reactions to it once it has been tried.

- Negative reactions to the Metroliner seem to involve disappointment that it was not more different. Some users seemed to have hoped it would feel as different from riding in a train as riding an airplane is, and were let down.

- Negative reaction was usually not directed at actual characteristics.

- Negative feelings about railroads in general do predispose some who have used it to criticize it for being "just a train".

- The consensus of users was generally favorable, varying up to the very enthusiastic.

V. REACTIONS TO THE FUTURE

Within the public's mind, travel in the Northeast Corridor has the status of a problem.

Travelers are resigned to many of the problems resulting from congestion.

Despite some resignation, they are ready for action on the problem.

A Federal Government role in this area is expected and appreciated.

The immediate problem that travelers see involves congestion and the intracity stages of trips, rather than the modes of covering distance between cities.

Still, they recognize that new mode development could, by changing demand and usage patterns, affect a solution of their problem.

National pride also demands progress in travel technology to keep up with other countries.

The public believes that high speed ground transportation is the best development for the future. Implicit in this belief are some assumptions:

- That our traffic congestion can only worsen.

- That air travel is inherently more easily saturated than ground travel.

- That convenient and numerous terminals are inherently easier for ground travel modes.

Most people envision a three-tier travel system for the future:

- Air travel for longer trips.

- High speed ground travel for the Northeast Corridor for trips when time is important.

- Automobiles for family travel, pleasure travel, and trips when economy is important.

IMPLICATIONS

This section of the report will present some of the implications of the findings for future development within the Northeast Corridor.

It should first be understood that not all research findings necessarily have any implications for future practice. Some things that are uncovered may not be amenable to change, or may not require change. Some findings only confirm what was already believed, and has already been acted upon.

It should also be pointed out that action implications of the research data require a creative leap, and therefore necessarily reflect the judgment of the research analyst.

1. <u>The time is right for programs of change in travel within the Northeast Corridor</u>.

   Travel in the Corridor is viewed as a pervasive problem. While travelers are generally resigned to the difficulty they encounter, most assume that travel conditions will progressively deteriorate. Highways and airplanes will become more crowded, with consequent delays and their attendant discomfort for the traveler.

2. <u>The traveler expects, accepts, and welcomes Federal Government leadership in resolving travel problems in the Northeast Corridor</u>.

   No other private or governmental organization is perceived as being as capable of taking the initiative. In addition, segments of the public are offended that High Speed Ground Transportation developments in other countries are usurping this nation's leadership role in transportation technology.

3. <u>It would be very difficult to reconcile the desires of business travelers and non-business travelers with a single mode of travel</u>.

   Because of great differences in trip situations and value considerations, business and non-business travel make very different demands.

4. <u>In view of anticipated future difficulties, business travelers are most receptive to the notion of innovative modes that approximate the portal-to-portal time of air travel, but avoid the inconvenience associated with airport facilities and locations</u>.

   To best satisfy the business traveler, these vehicles should include the following features:

   - Proceed just above (e.g., monorail), on (e.g., tracked air cushion), or just below (e.g., pneumatic tube) the ground.

   - Provide origin to ultimate destination elapsed times substantially faster than current ground modes, though not necessarily as fast as aircrafts.

   - On board comfort at least on a par with air travel, which is readily accepted as the over-all standard.

   - Amenities and status implications consistent with the importance that the business traveler assigns to his role.

   - Provide sufficient spaciousness to allow the passenger to stroll around.

   - Provide activities to absorb the traveler so that perceived elapsed time is shortened.

   - A fare schedule commensurate with these criteria would be little, if any, deterrent.

5. <u>Diverting even a small amount of non-business travel away from the automobile will be extremely difficult.</u>

The advantages of automobile, especially for family travel, are compelling.

6. <u>However, large fleets of bus-like vehicles with schedules sufficiently frequent that they are conceptually "scheduleless" may attract non-business travelers away from the automobile more effectively than anything else.</u>

To best meet the needs of the non-business traveler, these vehicles should include the following features:

- Low fare schedule

- Relatively small capacity permitting very frequent departures, especially during peak demand hours, providing the traveler a sense of flexibility

- More conveniently located urban and suburban terminals or "pick-up" stations

- Commensurate with low cost, a relatively low standard of amenities and service would be accepted.

While this concept seems to offer the best opportunity to switch automobile travelers, it is unlikely to move the committed automobile users.

7. <u>A major upgrading of the present rail system, say to the "Tokaido" level rather than to the Metroliner or Turbotrain level, would be considerably less attractive than an "innovative" system.</u>

It appears that present intensely negative attitudes toward trains and railroads would result in a predisposition to view negatively any "steel wheel on steel rail" system.

8. <u>If present rail service is improved as a temporary measure, the most important first step would be to provide clean, attractive trains.</u>

The image of rail travel was dominated by associations of dirtiness.

9. <u>Efforts to ameliorate intercity travel problems must encompass those intracity components that impede or discourage some modes.</u>

Air, rail and bus are all handicapped by slow, inconvenient terminal access, with rail and bus particularly suffering from dingy and "unsafe" terminals, and poor parking facilities.

10. <u>A preoccupation with time and speed to the exclusion of other factors would be a mistake.</u>

Even business travelers are not solely concerned with time and speed. Freedom from aggravation, comfort, luxury, and status would all be very important in affecting their travel mode usage.

11. Reducing the amount of aggravation and hassle involved in a travel mode should increase its usage.

The numerous tasks of travel add up to become burdensome, worrisome, anxiety arousing, and aggravating. Adopting the point of view of reducing aggravation would be an important strategy.

12. The most appealing merchandising platform in getting initial trial of a new system by the business traveler is a focus on saving his time.

Although other factors may be important determinants of repeat usage, business travelers can be expected to respond favorably to the promise of quick travel and saving time.

13. Changes in travel modes must be heavily publicized and merchandised to have a major effect, and information must be freely and easily available.

In the view of the traveler it is the responsibility of a travel mode to inform them. They will not seek out information themselves, and so unpublicized changes in travel modes could be overlooked.

14. An attempt to modify travel patterns by providing new modes or altering current ones must anticipate relatively slow adoption by the traveler, since these travel patterns tend to be very well established.

The mode choices of most travelers take place within a set of routines.

15. The value of time saved by faster travel cannot be expressed in a simple, direct fashion as money saved.

The situation is much more complex than a simple equating of units of time with units of money across all situations a traveler, even a business traveler, encounters.

16. Because of travelers' extreme impatience with delays, almost any effort to maintain schedules is warranted.

The importance of delays goes far beyond the actual time lost. They are very distressing to travelers who would be unconcerned with the same amount of additional time if it were spent "normally".

17. However, where delays are unavoidable, efforts made to ameliorate the traveler's annoyance and placate the more irate passengers would reduce the over-all level of passenger distress.

This may be done by:

- Providing the passengers with accurate and frequent information about the cause of delay and its likely duration.

- Reflect the concern of mode management and personnel by accepting responsibility, expressing apologies, and, where possible, giving the passenger something concrete, though modest, by the way of apology.

18. **Attempts to deal with family-size groups in public transportation may not be worth the effort.**

The economy and freedom of the automobile are very important for non-business travel in large groups.

19. **Increasing the amount of felt freedom in public travel modes should affect usage.**

Making public travel less dependent upon a rigid time-table, as with the air shuttle, could serve to attract many users, since freedom or flexibility in travel is highly valued.

Table of Contents

I. INTRODUCTION

Persons traveling within that section of the United States
that lies along the coast between Boston and Washington can
choose among four major modes of transportation: airplane,
train, bus and automobile. Large numbers of people use
each of these modes, and the resulting flow of travel is so
great that this portion of the country has been singled out
for special attention and designated as the Northeast Corridor.

The movement of so many people within such a confined area is
not without problems. Some streets and highways are clogged
with automobiles. Airport entrances may be jammed and air-
planes may arrive at a faster rate than they can be safely
landed. Meanwhile, the railroads complain that their pas-
senger service operates at a deficit, and the passengers
complain that the service is poor and inadequate.

Such problems, if left unchecked, could well increase in the
future, as an expanding population increases the amount of its
travel. Thus, there is ample reason for a serious consider-
ation of the travel system in the Northeast Corridor.

Changes in the travel system would appear to be indicated if
the future is to see the continuing movement of great numbers
of people without waste of resources and without undue loss
of time through delays and congestion.

Careful planning can be a major contributor to the process
of beneficial change. If the needs and desires of travelers,
the determinants of mode selection, and the satisfactions and
gratifications of travel by various modes can be taken fully
into account, it should be possible to attract travelers into
efficient patterns of mode usage that do not waste human and
material resources.

It was to provide information on the needs, desires, motivations, satisfactions, and dissatisfactions of travelers in the Northeast Corridor that the research to be reported was conducted. The goal was to make available to travel planners some information about the psychology of travelers, so that their plans and programs could be based upon an appreciation of the relevant human concerns.

This project could be called an exploratory study in depth. It was exploratory in that the first task was to identify the relevant areas of concern, rather than relying upon prior lists that could too easily omit important considerations. Consequently, an important part of the research strategy consisted of free-ranging interviews with travelers, conducted without a highly structured questionnaire. The goal was not to cover some previously established list of factors assumed to be important, but rather to let the respondents themselves reveal what is important, by what they chose to talk about.

The need for depth resulted from the assumption that travel mode selection and satisfaction is highly complex, involving large numbers of interacting considerations, some of which may not even be apparent to the individuals they influence. With such complexity of vague or even unconscious influences interacting with one another and with more observable considerations, superficiality is a clear danger. Respondents may, knowingly or unknowingly, give answers that are too easy when the questions are too difficult, and the format of a highly structured questionnaire, which permits those easy answers, could provide misleading and even incorrect information.

Because the research was defined as an exploratory study in depth, its major emphasis was upon probing questioning by skilled interviewers with qualifications as psychologists, leading respondents to look deeply into their motives. The corresponding analysis of this interview material was equally probing and unstructured, laced with judgments and inferences about the sources of behavior and attitudes.

This research strategy can yield insights of a sensitivity and depth that are difficult to achieve by means of structured questionnaires and numerical analyses.

The major disadvantage of this strategy, of course, is that concrete proof of its findings cannot be advanced; there are no scores or percentages to be quoted. As a result, the outcome of such studies is better considered as a set of hypotheses than as a list of firmly established facts.

The present study did include a stage of structured interviewing and numerical analysis. Even here, however, the procedures were not those of a rigorous survey. The aim was to examine the interaction of a large number of travel desires with one another and with some characteristics of travelers, not to document the extent of some previously defined characteristics. Although the analysis used mathematical procedures, it was intended to produce depth of insight, rather than certainty of documentation. Because of the nature of this goal and analysis, the expense of statistically meaningful sampling procedures was not necessary or included. In short, even the structured interviewing that was conducted was intended to produce hypotheses rather than facts.

Hypotheses are not the same as raw speculation, of course. The findings in this report are firmly grounded in the interviews that were conducted, and every attempt has been made to establish valid conclusions. But the research strategy that was deliberately chosen because of its potential for depth and richness in its findings has the disadvantage of not offering incontrovertible proof of those findings.

In summary, the research strategy that was employed is the best available for exploratory studies in areas of great complexity. To convert its hypotheses into facts of known validity, and to document the extent of various tendencies of travelers, a different kind of study would have to follow it, consisting of a survey of a large, scientifically and statistically sound sample of travelers.

II. RESEARCH PROCEDURES

The study was conducted in three phases, somewhat overlapping but with provisions for the trend of results in earlier phases to influence the operations in the later ones.

A. Group Depth Interviews

A series of twenty group depth interviews were conducted with equal numbers in the cities of Washington, Philadelphia, New York and Boston.

Each group depth interview was an approximately two-hour session, usually with about eight participants, all of whom had made recent trips within the Northeast Corridor. Separate sessions were held for business travelers and non-business travelers (although many participants were both, of course).

The group depth interviews were conducted by psychologist members of National Analysts' staff, skilled and experienced at provoking free discussion of the issues among the participants.

The sessions were tape recorded, and the tapes were the material for an intensive qualitative analysis. They were studied not only for the manifest content of participants' remarks, but also for clues about feelings that could be inferred from the tone of the remarks, their sequence, and even the absence of remarks when that seemed relevant. The moderators of the sessions contributed their own impressions about the needs, desires, and motivations of travelers.

The great strength of the group depth interview technique is that participants can often more easily "involve themselves" in a group discussion with peers than in a dialogue with an interviewer, and may be franker and more candid.

B. Individual Depth Interviews

Among residents of Boston, New York, Philadelphia, Washington, and their suburbs, 150 individual depth interviews were conducted with travelers in the Northeast Corridor.

The interviews were conducted by psychologists, half of them by members of National Analysts' staff, and the remainder by qualified psychologists recruited for this task.

The interviewers worked from a more detailed outline of areas to be covered than was the case for the group depth interviews, but still they conducted unstructured, probing interviews. These interviews ranged widely in length, but most of them were on the order of one hour to one and one-half hours.

The interviews were recorded on tape, but the interviewers also took notes that were used to write up each interview, summarizing not only the respondent's remarks, but also the interviewer's interpretation of the meaning and significance of those remarks. Since these interviewer report forms were prepared by psychologists experienced in interpreting interview material, the insights they contained were of particular interest.

C. Interviewing for Multivariate Statistical Analysis

As a last stage, a questionnaire was constructed containing a series of 75 statements about travel needs and desires, intended to reflect all of the potential influences upon travel mode selection and satisfaction that the depth interviewing had uncovered.

The questionnaire was administered to 256 respondents who were selected to include some travelers by all four modes, plus the Metroliner. They came from the same four cities and suburban areas previously listed.

The respondents stated the relative importance to them of each of the 75 statements, with regard to business travel, non-business travel, or both, according to their own travel situations.

These data were subjected to a Q-factor analysis which is a mathematical procedure that resulted in forming groups of respondents, each group consisting of persons who tended to be alike in their travel desires, and having different desires from the members of other groups. In other words, this procedure defined a set of orientations toward travel that accounted for the major similarities and differences among people. It segmented or grouped travelers according to the orientations that were established as being most important.

The questionnaire also included information about the respondents' evaluation of the travel modes, their travel behavior, and their demographic characteristics.

III. OVERVIEW AND PLAN OF THE REPORT

The goal of this study was to explain travel mode choice in the Northeast Corridor. The potential determinants of, or influences upon, the mode choice of travelers fall into three classes: (1) the nature and circumstances of the trip; (2) the traveler's needs and desires, the things he values, the attributes that are important to him; (3) the characteristices of the available travel modes, as perceived by the traveler. Travel mode choice should be explainable in terms of these three sets of considerations.

The three sets of considerations are completely interlocked. Travelers' needs and desires vary according to the nature of a particular trip; many respondents indicated that they could not specify the things that were important to them without also specifying the kind of trip that was being considered. And the characteristics of travel modes that are important depend, in turn, upon the needs and desires of the traveler, given a particular kind of trip.

In other words, travel mode choice is, as might have been expected, a most complex subject. It can be viewed as resulting from a very large number of different kinds of considerations, all interacting with one another. Individual travelers may be scarcely aware of some of these considerations, or of the way they interact.

The interacting nature of the considerations affecting mode choice makes it difficult to discuss them one at a time. For example, the influence of the nature of the trip can hardly be discussed in detail without at least implying something about the traveler's needs and desires. But the three considerations must be separated if this is to be a coherent report, dealing with one topic at a time.

The plan of the report is to discuss first, in the next major section, the nature of the mode selection process itself, showing how the three kinds of considerations -- the nature of the trip, the traveler's needs and desires, and his evaluations of the various modes -- combine to produce a selected mode for a given trip. In the three following sections of the report, the three kinds of considerations will be taken up in turn, and their content specified in detail. However, because of the interaction that has been noted, these sections will necessarily overlap with one another: all three kinds of considerations do enter into mode choice, and it is impossible to discuss one kind entirely by itself with no reference at all to the others.

The complexity of the issue does not end with the interaction among the kinds of considerations. A distinction between current and potential mode choice determinants is also necessary.

During the course of the interviews, it became apparent that many travelers may have strong needs and desires that are not necessarily influential on their current mode choices. For example, there were many respondents who were very concerned with physical comfort, yet were not selecting travel modes on that basis now. A business traveler might be highly preoccupied with the relative comfort of the different features of the different modes, while the actual reason for choosing to fly between New York and Washington is the time it saves.

In the example above, comfort is not a very important determinant of current mode usage. But it is readily seen as a potential determinant; all that is necessary is for the situation to change. Suppose a new travel mode is introduced, one that competes more closely with the airlines on time between his bases of operation in Washington and New York. If he now has two modes available with times roughly equivalent, he is in a position to make comfort his basis for choosing a mode.

Since one purpose of this study is to provide useful information to travel planners who are concerned with the future, it seems obvious that this report cannot restrict its focus merely to those things that are currently affecting mode choice. As situations change, potential determinants can become actual determinants, and so they must be included in this report.

The material on mode choice selection that is presented in the immediately following chapters depends heavily upon the non-structured depth interviewing, since those phases of the study were most sensitive to the complexity of the issue.

The focus in the depth interviewing and associated analysis was upon finding areas of consensus among travelers, and general tendencies among them, or among very broad groupings of travelers. The structured interviewing was used in an attempt to examine differences among travelers in their needs and desires, as well.

Given the somewhat different strategies of the non-structured and structured phases, they are reported in separate chapters. The structured interviewing and mathematical analyses are considered following the report on the depth interviewing.

IV. THE PROCESS OF MODE SELECTION

Virtually all travel in the Northeast Corridor is encompassed
by four travel modes: automobile, airplane, train and bus. The
most obvious and straightforward conceptualization of mode
selection, then, would postulate a four-way decision process,
with the pluses and minuses of using each of the four modes
weighed against one another simultaneously. However, such a
conceptualization is not descriptive of the actual choice
processes of the great majority of travelers.

In the first place, many trips are made without an actual
mode decision, in the purest sense of that word, ever being
made. Alternatives are never considered in any conscious,
deliberate manner. Rather, it seems to the traveler as if
the mode to use is given to him simultaneously with the de-
cision to make the trip.

For a great many trips, alternative modes truly do not exist.
Given the fact that airlines are available, a businessman in
Boston whose attendance is required at a three hour meeting
in Washington almost literally has no option but to fly. To
do otherwise would consume so much time for the sake of only
three hours of work that it could only be against the in-
terests of his firm, his job and himself. In fact, if air-
lines or something nearly as fast did not exist, his firm
would probably never have evolved ways of doing business that
suggested his attendance at the Washington meeting.

Similarly, a family in Philadelphia leaving on a tour of the
New England seashore and mountains will load the family car
without ever having deliberately "chosen" that mode. There

is no other way to make such a trip that is at all feasible,
and if automobiles did not exist, the idea of such a tour
would probably not even have occurred.

In these two examples, the availability of a particular
travel mode determined the trip, rather than the need for
the trip's leading to the selection of a mode. There are
many other instances where alternatives may be reasonable
in theory, but do not exist in the minds of the travelers.
And since our task is to explain the actual mode selection
process, alternatives that do not exist in the mind of a
traveler are not really alternatives, and, in a very real
sense, they do not exist at all.

For example, a Washington couple who regularly visit rela-
tives in Philadelphia could, in theory, use any of the four
travel modes, and examples could be found of people who do
fly, or take the train or the bus, in similar circumstances.
But there are many couples who never consider anything but
driving; indeed, who cannot consider anything but driving,
given their needs and life style. Should their car be un-
available to them, perhaps in need of repair, they would
never consider anything but postponing the trip.

There are, of course, times when real mode decisions are
made at the point of planning a trip. Even then, however,
decisions involving all four modes would be very rare.
Two, or at most three, modes may compete in a traveler's
mind, but one or two will almost always be so inappropriate
for him that they are ignored almost as thoroughly as going
by bicycle or horseback.

Many travel mode decisions are more properly seen as taking
place in two stages than as a weighing of several modes

simultaneously. The first decision is whether to drive or
to use public transportation. Then, a second decision may
be necessary as to which form of public transportation.

For the reasons that have been discussed above, a simple
four-way decision model of mode choice is not wholly accurate.
Instead of decisions, mode selections for particular trips
are more often the result of habits, routines that travelers
follow so that decisions are not really necessary for every
trip taken, as demonstrated in some remarks by respondents.

> "I wouldn't travel any other way than driving." (For
> family trips.)

> "I fly when it's business; the arrangements are made
> for me."

> "We would never think of taking the train. It's the
> car."

> "With one, it's routine. My choice is made. My com-
> pany feels flying is the only thing."

> "For pleasure, it's the car. For business, it's the
> plane."

> "I wouldn't think of going to New York any way but
> driving."

When respondents were asked directly whether their mode se-
lections involved decisions or routines, the almost unan-
imous answer was "routine". But the evidence that mode

selections are usually more like routines than decisions
joes beyond the direct, literal testimony of the respon-
dents. It was evident in the matter-of-fact manner in
which they categorized kinds of trips and assigned each
kind to a mode. When they were asked hypothetical questions
about how they would make a given trip, there was usually
no hesitation, no pondering of alternatives, in their se-
lection of a mode.

To report that most mode selections are the result of
routines is not to say that they are unchangeable, of
course. For the most part, the routines are not blind
habit, followed unthinkingly. They are merely an ex-
pression of each traveler's experience and beliefs about
what best meets his needs and desires. By codifying his
experiences and beliefs into routines, he saves himself
from having to make an evaluation and decision each time
he makes a trip.

In other words, travel routines are subject to exceptions,
and to change. Changes in the travel modes available may
give rise to departures from what had been routine, as
then confirmed flyers "give the Metroliner a try", or
drivers react to increasing traffic congestion and
parking problems by looking for another mode for trips
where these problems are greatest. The traveler himself
may change, as is the case when a man decides he is now
too old to drive longer distances. Such factors as the
weather can dictate exceptions to routine: some respon-
dents reported that they were less likely to drive on
certain trips in the winter, when road conditions were
less certain; conversely, one respondent who goes back
and forth to Atlantic City uses the bus only during the
hottest weather, because of the air conditioning. Finally,
nothing more than the desire for novelty and change can
lead to breaks in travel mode routines.

Despite some exceptions, as noted above, travel mode choices are based upon routines, and the routines are formed around the travel situations the traveler faces. When a particular kind of trip is upcoming, he will automatically select the travel mode that has become routine for that kind of trip. Thus, from the individual's point of view, the mode is determined by the nature of the trip. To be sure, the routines must have their source in his needs and desires, his life style, and his perception of the characteristics of the available modes. But he experiences these factors as background, if he experiences them at all, and his routines make the choice of a mode so quick and certain beyond doubt that it seems to him as if the circumstances of the trip dictated the mode.

The finding that most travel mode selections follow from highly developed routines, so that the full range of alternatives is seldom consciously or deliberately reviewed, has a number of implications that are worthy of consideration.

First, conceptualizing mode selection as a pure decision process in which the characteristics of all available modes are weighed against one another simultaneously is not truly descriptive of the actual psychological process that travelers go through. Perhaps this conceptualization is still useful for such purposes as mathematical modeling, in that it may represent an abstraction from reality that is a useful fiction. After all, the actual process, as described above, does depend ultimately upon the traveler's needs and desires, and his evaluations of the travel modes, and it may be a useful abstraction or simplification to assume that he examines his needs and desires and the characteristics of the modes each time he makes a trip. But this conceptualization does not adequately describe the selection process, and it could lead to a misunderstanding of the psychology of mode selection if it were taken literally.

ince travelers streamline the selection process, relying eavily upon codifications of their experience and beliefs, nd even upon routines, mode preferences must be marked by certain amount of inertia. It was pointed out above hat routines are not unchangeable, but neither are they ikely to change as fast as the characteristics of the modes hemselves might change. If people are comfortable in their outines, they will not seek out the latest information on ode characteristics, and even when they do become aware of hanges in mode characteristics, either planned or unplaned changes, there is probably some reluctance to change satisfactory routine merely to accommodate a small change n the modes. Therefore, while even a modest change in a ravel mode will immediately change the equations in a athematical model based upon pure decision theory, it may be hat actual travel behavior will change less quickly, or may ot change at all. On the other hand, when travel behavior change oes not follow immediately after a change in a mode, it oes not necessarily mean that the mode change was ineffecive. Because of the inertia of routines, it may take time or the impact of changes to occur.

ne reason to suspect that routines do have some inertia or esistance to change is the unwillingness of travelers to eek out for themselves information about travel modes. nd until they have such information, little effect from ode changes can reasonably be expected. The respondents n this study made it quite clear that they regard it as he responsibility of the mode to inform them; they should ot have to seek out information themselves. This viewpoint merged consistently on the subject of the Metroliner and urbotrain, and railroads in general.

"They don't publicize it."

"I didn't even know it was running."

"They never inform the public."

"Why spend money and not publicize it? Does it work or
doesn't it work?"

"You're not going to buy something when you don't know
what you're buying."

"When was the last time you saw a train ad?"

"You never see advertisements for trains."

(In answer to a question about the likely success of im-
proved rail service:) "Only if the advertising agencies
work for the railroads, to make the public realize."

"You still have to have mass advertising."

"I haven't seen any ads about the Metroliner."

"They should advertise it (the Metroliner) on television,
like the airlines."

Much more is involved here than a simple lack of factual
information. These respondents were also asking to be con-
vinced, to be reassured, to be supplied with reasons for using
a train, and this point will be touched upon later in this
report. But their comments also reveal that there is a real
"information gap", involving the railroads in particular.

The great majority of respondents were aware, at least in
some vague manner, that something was going on involving
new high speed trains. But for the most part, they did not
know how fast the trains were, what the schedules were like,
and how much travel on the new trains cost. In Philadelphia,
for example, there was some controversy at the time a new
Metroliner was added that ran from New York to Washington
without stopping in Philadelphia, and this seemed to be among
the most widely known information in Philadelphia about

the Metroliner. A great many Philadelphia respondents
reacted to a discussion of the Metroliner with the question:
"But they don't stop here, do they?".

The point is that most travelers who do not now use the
train who become aware that some new high speed train is
beginning to operate do not regard it as their responsi-
bility to call the railroad about schedules, fares, and
accommodations. Rather, it is the railroad's responsibil-
ity to take the initiative and inform them. The travelers
have routines that are more or less adequate, and if some-
one wants to change those routines they have to make the
necessary information easily available. We live in an age
of advertising; people have become accustomed to being
wooed and persuaded by marketers of goods and services, and
travel modes are no exception. The initiative to make facts
known belongs to the seller, not to the buyer.

V. THE NATURE OF THE TRIP

From the point of view of an individual traveler, the travel mode to use for any given trip is usually determined by the situation surrounding that trip. In the respondents' words, the selection of a mode "depends upon the kind of trip it is". (Obviously, the nature of the trip determines the mode only because the individual can take his own needs, desires and beliefs for granted; from the researcher's point of view these factors must be explored.)

It is impossible to create a set of trip categories that are mutually exclusive but contain all of the trips that can be made. There is virtually an infinite number of kinds of trips; and trip circumstances that are extremely rare over-all may be of overwhelming importance to at least one traveler.

For example, one of the respondents in this study was a gem salesman, who frequently traveled with very expensive diamonds and other stones. To this man, nothing was more important than the arrangements for handling his luggage. When he flew, he had special arrangements with the airlines that permitted him to carry his luggage to the plane himself and watch it being loaded, and the luggage was marked so that it could not be removed from the plane without his being there to order it. For shorter trips his choice was between the train and the bus, and he generally used the latter, because he could watch his luggage being locked away in the storage compartment, and he could stand outside the bus and watch every time the luggage compartment was open. On the train, however, the luggage stayed with him, which meant he was restricted in moving around on the train, and was afraid to sleep.

But despite the existence of many such idiosyncratic situations, there are some regularities in the kinds of trips that occur, and in the relationships between trip characteristics and preferred modes.

In this section of the report, the relationship between some of the more salient characteristics of trips themselves and mode choice will be examined. Some of these relationships seem so entirely straightforward and obvious that they may hardly be regarded as "discoveries" of this study. But they must be included in this report because (1) they are important in understanding mode choice; (2) this study has contributed to understanding their relative strengths and the nature of their place in the total process of mode choice; (3) the more profound, less obvious influences on mode choice are mediated by or filtered through these more superficial trip characteristics, so they are essential to an understanding of the whole process.

As was pointed out earlier, trip characteristics can be related to mode choice because travelers tend to codify their needs and preferences around the types of trips they take. Therefore, it is impossible to discuss trip characteristics and mode choice in this section of the report without at least implying something about traveler needs and desires. A detailed consideration of those needs and desires, however, will be presented in the next section of the report.

A. Business versus Non-Business Trips

The distinction between business trips and non-business trips is immediately apparent and very important. The two kinds of travel have very different considerations that are related to mode choice.

Business trips

At least two factors distinguish the business trip. First, the traveler's time is not entirely his own to do with as he pleases, and second is the fact that he is reimbursed for his expenses. These two factors serve to create a pattern of mode choice determinants that is quite different from that relating to non-business trips.

The fact that business travel takes place with the employer's time and money means that business travelers are usually not entirely free to choose their own travel modes. For the most part, the respondents in this study did not appear to be bound by rigidly stated company rules on travel modes. An employer who formally required the use of particular modes for certain trips would be an exception. In one sense, then, the travelers themselves do select the travel modes. But they do so in a context that stresses making efficient use of the employer's time and money. They know how other employees travel to the same or similar destinations. Even though formal rules seem usually to be absent, most business travelers live with a set of customs or precedents that have a great deal to do with their mode choices.

Sometimes the pressure to conform to an implicit company policy is even stronger than custom or precedent: secretaries, or in larger organizations, "reservations personnel" may make travel arrangements, and these persons follow routines. The individual traveler may well have the authority to decide for himself what travel mode he wishes to use, but to change the routines would require some effort -- special

instructions to the secretary, additional work by the reservations personnel who would have to depart from their routines -- and it is usually easier simply to go along with the functioning system.

In a very real sense, then, "company policy" does exist even if formal rules are absent, and it does influence if not determine the mode usage of business travelers.

Most business travelers are not chafing under the restrictions of company policy. For the most part, company practices seem to be consistent with the travelers' own preferences and needs, as an examination of those practices will show.

In balancing time spent in travel against actual expense, most company practices seem weighted toward saving time. Within perhaps surprising limits, cost is of little concern as long as time is saved. An employee who proposed an alternate travel mode from that generally used would encounter little difficulty if the departure was based upon potential time saving, but saving money on the fare would seem a much less appropriate reason for a change.

As will be seen, the situation is much more complex than a simple equating of time with money, and relatively few business travelers would include a simple calculation of hours of salary in determining the cost of a trip. While the business traveler does not equate time spent traveling directly to salary, he does value quick travel for its help in doing more work efficiently, however.

"My company made the decision on the mode -- the airlines."

"The company thinks flying is faster."

"My company feels flying is the only thing."

"It's invariably assumed I'm going to fly."

"We have a travel desk in my firm. All arrangements are made for me -- I fly."

In many cases, there are sound business reasons for favoring time over money. One way or another, the direct costs of travel are frequently passed on to customers or clients. Money is more easily recovered than personnel time; it is easier to increase a travel budget than it is to increase the size of the staff.

The emphasis on saving time also works to the advantage of the individual traveler:

- The amount of time he is away from home is minimized, usually to his satisfaction.

- The great emphasis on saving his time bolsters his sense of his own status and importance. There was an element of pride in the way many respondents spoke of the necessity for conserving their time.

- The emphasis on time results in much air travel, which many people feel offers the greatest comfort (in addition to the status feelings it confers).

It may even be that some aspects of "company policy" have come into being precisely because they do serve the individual desires of the traveling employees. After all, many company practices have their basis in precedent and

custom rather than in formal rules, and so employees as a group may sometimes determine "company policy". If enough employees follow a given routine, that routine becomes "company practice".

It is difficult to believe that all of the emphasis on saving time that the respondents reported directly serves their employers. It seems probable that not all of the time saved by using expensive travel procedures is put to productive use for the organization.

There is probably a tacit understanding at many organizations, one that remains implicit even in the minds of the employees, that travel is an imposition, since it almost inevitably cuts into the employee's own time, so he is entitled to more comfortable arrangements. Instead of making this understanding explicit, however, it may be rationalized into a benefit for the company, on the grounds that "time is money", or "A rested, relaxed employee is a more efficient and sharper worker".

Whatever the source, there are forces within the business travel situation that lead to the use of faster travel procedures. The result is that business travel is epitomized by the airplane. In most situations where the distance is sufficiently great to make the time difference meaningful, business travelers' normal routine is to fly. There are many exceptions to this generalization, of course, which are considered elsewhere in this report.

Non-business trips

The major outward difference between business and non-business travel is that, in the latter case, the traveler is entirely on his own time and pays his own way, a consideration that is even more significant when it is realized that much non-business travel is family travel, with multiple fares to be paid.

It is not true, of course, that time is of no concern
to the non-business traveler. But it is true that
his routines, relative to those of the business trav-
eler, are heavily influenced by considerations of
monetary expense. Even relatively affluent persons,
when traveling on their own money, are not so eager
to spend money to save time.

One major result of the importance of cost in de-
termining non-business travel mode usage is heavy re-
liance on the private automobile. If the airplane
epitomizes business travel, non-business travel in
the Northeast Corridor is epitomized by the automobile.

Probably the most important issue in understanding non-
business travel mode choices is to explain the use of
the automobile. It appears to be by far the most wide-
ly used mode, and the one that is least interchangeable
with other modes. Trains and buses can substitute for
one another, and in some ways either is a substitute for
the airplane, but automobile travel is a thing apart,
with a great many unique attributes. Much non-business
travel comes down to the issue of public transportation
versus automobile, and the often compelling advantages
of the automobile will be developed later in this report.

B. The Distance of the Trip

The total distance of a trip has a great deal to do with
mode usage, but it has a rather different impact on busi-
ness trips and non-business trips.

Business trips

The longer the trip the greater the inclination to fly,
simply because of the time saved. Business trips from
the East Coast to points as far away as Chicago will
almost always be by plane, and even within the North-
east Corridor the "normal" mode for trips between
Washington and Boston appears to be the airlines.

For shorter distances, the amount of time that flying
can save becomes less and less significant, and so
other factors have their chance to become more impor-
tant.

Many respondents in this study talked as if they had
a very definite cut-off point to determine whether or
not to fly. Statements such as "beyond 200 miles I
fly", were common, but the estimate of what the cut-
off point is ranged at least from 100 to 500 miles.
Further, it was apparent that the individual respon-
dents do not really follow such a rigid determination.
Many business trips in the Northeast Corridor fall
into a range where distance alone does not determine
the mode. Factors other than sheer distance, such as
terminal locations, may even affect the time that
trips will require by various modes, and they certain-
ly can affect the satisfaction of the traveler's other
needs. Nevertheless, it is true that the greater the
distance the greater the tendency to fly.

Non-business trips

Within the bounds of the Northeast Corridor the distance
of a trip is a less important determinant of mode choice
for non-business travel than for business travel. The
distance beyond which flying becomes the only alternative

is greater for the non-business traveler, so that only the longest distances within the Corridor incline many to fly who were not already disposed to do so on other grounds, such as comfort or prestige.

For the majority of non-business trips within the Northeast Corridor, the distance of the trip seems to have much less influence on mode choice than other factors.

C. The Duration of the Trip

The amount of time the traveler is away from home influences travel mode usage in some interesting ways.

Business trips

First, many business trips within the Northeast Corridor can be accomplished comfortably in one day by flying. To use another mode in some instances would require leaving home uncomfortably early and/or arriving back very late if an overnight stay is to be avoided. When the timing of a trip is such that the alternative to flying is either staying overnight or traveling very late, virtually all business travelers will usually fly, for both personal reasons and to reduce the number of working days that are disrupted by travel.

The effect of increased duration of a trip is to reduce the significance of travel time. Travelers seem to regard the time they spend in transit not only in absolute terms, but also in terms relative to their total time away from home. The difference between three and four

hours in transit may not seem very meaningful to a man planning a four-day trip, but on a 24-hour trip that difference can seem very important to him.

Thus, with the significance of travel time reduced for trips of longer duration, the advantages of flying may become less compelling. If the traveler has any reason to like travel by other modes, he may use them instead of the airplane for trips of this kind.

Not only does increased trip duration reduce the significance of time in transit, which is a major advantage of flying, it also increases the benefits of having an automobile available. During a stay of several days, the traveler will ordinarily have some free time, if only in the evenings, in which to sightsee or otherwise amuse himself, and having an automobile can facilitate his pleasure. He could rent a car at his destination, and many business travelers do so under these circumstances, but the question may then arise of whether the cost is appropriate for his employer, and whether he is willing to pay it himself. In many instances these considerations lead the traveler to use the automobile as the mode for the entire trip.

Thus, with trips of longer duration, transit time is felt as less important, and the benefits of the automobile are greater, so there seems to be some tendency to make such trips, even some that are relatively long in distance, by car.

Non-business trips

As with business travel, it appears that non-business

trips of longer duration are particularly likely to be undertaken by car.

- The longer the time spent away from home, the greater the requirements for local transportation. These requirements are sometimes met by friends or relatives with whom the traveler stays, but even then he could probably find his own car helpful if the trip is really extended.

- The longer the duration of a trip, the more clothing it is necessary to take, and the respondents were quite appreciative of the advantages of loading one's own car over managing large amounts of baggage through public transportation. Also, the question of what to take can be resolved by bringing everything one might want.

D. Specific Origins, Destinations and Terminal Locations

The interaction between the specific origin of the trip, the location and access of terminals, and the specific destination, has a great deal to do with travel mode usage.

Business trips

One of the most significant findings of this study concerns the importance of terminal access. By far the most common complaint of business travelers was "the time it takes to get to and from the airport". And although the complaint was usually directed specifically at airports, persons who use other modes of public transportation would agree.

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The complaint, as quoted above, was about the time it takes to get to and from terminals. Actually, it appears that stating it in this way is merely a reflection of a process that has made travel nearly synonymous with a concern with time, so that some people lack any other vocabulary with which to talk about travel problems. The real source of dissatisfaction is probably not so much with the time spent getting to and from terminals as with the aggravation, nuisance and even anxiety involved. This issue, which represents one of the most important conclusions reached in this study, will be developed at length elsewhere in this report.

In the present context, it is important to note that terminal access and egress situations are almost certainly the greatest source of overt dissatisfaction and complaint among travelers, particularly business travelers. Presented below are some examples of the way in which minimizing this dissatisfaction affects mode choices:

- One respondent who used the bus for many business trips, which was fairly unusual, was at a loss to explain why he used the bus instead of the train. He finally realized, during the interview, the significance of his being able to walk from his office to the bus station.

- Respondents living on Long Island stressed this convenience to the airports in explaining their liking for air travel. To use the train would mean getting in to Manhattan.

- A Philadelphia area resident traveled extensively on business. He almost invariably drove his automobile when his destination was Washington, but used other modes for his trips to other locations. This pattern had become such a routine that he was scarcely aware of it, and only after probing in the interview did the significance of his living south of Philadelphia near the highway to Washington emerge. He had literally never thought of getting in the car and driving north, away from Washington, which he would have to do to get to a public transportation terminal.

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- Persons living or working near a terminal for a
  given mode, such as an airport, are definitely
  more likely to use that mode.

- When the traveler's business is in the center of a
  city there is a real advantage to using public
  transportation with center city terminals; when
  the business is in an outlying area, the advantages
  of using the automobile and avoiding some local
  transportation problems may become significant.

Non-business trips

One of the reasons why the automobile is so appropriate
for non-business trips is that, unlike business trips,
the center of a large city is seldom the actual desti-
nation. When it is, such as with shopping, sightseeing,
or theater trips to Manhattan, public transportation
very often is used. But it appears that a much larger
number of non-business trips are made to visit friends
and relatives who seldom live near the center of a
major city. As the respondents put it, "When we go
by car, we can go right to their door".

It is probably also true that the fact that non-business
trips are almost invariably begun from the traveler's
home, unlike some business trips which originate from
center city offices, has something to do with the routine
of automobile use, because of the locations of public
transportation terminals and local transportation systems
serving them.

Many non-business trips have a resort area as the desti-
nation. Direct public transportation to areas at the
seashore or in the mountains is often scanty. Even when
it does exist, there are compelling advantages to making
the trip by car: being able to carry all the clothes
and gear that go with a resort vacation, and having a
car available for local transportation and side trips.

E. Specific Destination

No two cities or towns are exactly alike with regard to
the mix of size, layout, terminal locations, local
transportation systems, etc. These differences seem
bound to be related to the efficiency of using different
modes to travel to these places, but this study has
naturally focussed upon generalities instead of such
special situations.

It should be mentioned in passing, of course, that a
great many trips, both business and non-business, are
made to points that are not served by all travel modes.
Travel to small towns removed from larger cities is
almost necessarily by automobile, in many cases. While
bus and/or train service may be available, infrequent
schedules and the necessity of transferring from express
to local vehicles practically remove them from consider-
ation for an automobile owner.

Business trips

There is one instance in which the special characteristics
of a particular city are so important they should not be
passed over: New York is a special case. Even business
travelers going to New York may find their mode choice
influenced by such factors as their specific destination.

If their business is anywhere on Long Island, they may
fly, while some travelers who never even consider the
train for any other trips use it when they have business
in Manhattan.

Non-business trips

There is probably more non-business travel to Manhattan
than to any other center city in the Northeast Corridor,
because of its theaters, restaurants, galleries, museums,
shops and night life. Many people who "spend the week-
end in New York" probably seldom go to any other center
city away from home. This is especially true of persons,
such as those in Philadelphia, who live relatively near
New York.

For many of these visitors, driving to New York seems out of the question, because of traffic and parking problems. Even people who drive on all their other non-business travels in the Northeast Corridor may use public transportation to go to New York.

Of course, some people do drive to Manhattan, and many more will drive if their destination is outside Manhattan.

F. Single Travelers versus Parties

The great majority of business trips seem to involve one person, or two at most. However, some trips do involve larger parties, and this sometimes has implications for mode choice.

Business trips

Specifically, it may be that the automobile becomes a more appropriate mode for business travel as the number in the party increases. Instances of large parties in business travel seemed to be rare, so that it is necessary to generalize from only a few cases, but it does appear that a large group of men traveling together on business may consider driving.

Saving money may be offered as a justification for driving, since multiple fares would be required otherwise, but that is probably only a rationalization, rather than a truly important determinant. A

more powerful reason is probably the automobile's potential to facilitate some kinds of travel pleasure.

- A group of friends, or even just acquaintances, traveling together are probably more inclined than a lone traveler to turn the trip into an occasion for fun. Having company, the idea of going out at night, after work is done, is even more attractive, and is facilitated by an automobile.

- The time in transit itself can be pleasantly passed in conviviality with friends in the same car.

Non-business trips

Unlike business travel, non-business travel very often involves two or more people. Practically all married people are accompanied by their families on the great majority of their non-business trips. It is in this context that the economics of travel become very important

For persons traveling alone, the cost of transportation fares may not be great, perhaps not much greater than the cost of fuel and tolls. But for the family traveling, where several fares would be required, the cost factor is compelling. In the final analysis, whatever visionary changes in travel modes were proposed to the respondents in this study, the private automobile was seen as having no equal for family travel, in large part because of its economy.

Saving money is not the only reason why the automobile is so strongly preferred for family travel. A great many aspects of convenience are also important, as are some feelings and emotional consequences of family travel. These issues will be taken up later in this report.

Many of the attributes of automobile travel commend it to lone travelers and not just to families. But under some circumstances, persons traveling alone do use other modes, while such is more rare for families traveling within the Northeast Corridor.

In the first place, of course, public transportation simply costs less for an individual than for a family, and the savings if the trip is made by car is much smaller. Thus, other factors, such as comfort or time, can enter into the mode selection more easily.

Also, it appears that people without immediate families are less likely to take those kinds of trips that almost require an automobile: tours to see the countryside. Much of the pleasure of such a trip would probably be absent if it were undertaken alone.

On the other hand, the person who travels alone because he is below the age to have acquired a family, may be more likely to travel to areas near center cities, where the terminal locations of public transportation are relatively convenient. The cultural attractions and night life of the big cities are probably more likely to be sought out by the young unmarried, and they may even have friends living in apartments near center city.

Women, whether married or not, often avoid driving when traveling alone, because of their feelings of insecurity or even personal danger. Even groups of women traveling together will often use the bus or train instead of a car, although in this case it may be as much a matter of their destination as of feelings of insecurity: many such trips are sightseeing, shopping or theater expeditions to center cities.

G. Combining Business with Pleasure

Many business travelers arrange some of their trips to achieve some personal ends as well. They may have friends or relatives to visit in the destination cities, or somewhere along the way, especially since points in the Northeast Corridor are relatively close to their homes. Or perhaps they just want to sightsee. Whether visiting or sightseeing, they may be accompanied by some or all of their families.

The impact of these considerations upon mode choice is to increase the number of "business trips" that are made by automobile. Having the car facilitates the pleasure aspects of the trip; indeed, if the visiting or sightseeing is to be done at points along the way to the final destination it is the only way to make that trip. And if his wife accompanies the traveler, her transportation is free if the trip is made by car.

H. The Number of Destinations

Business Trips

Business trips that involve multiple destinations almost invariably and inevitably are made by car. There is almost literally no other way for the salesman to make his periodic swing through the stores in his area, or for the manager to visit all the operations under his

control if they are numerous and close together, or
for the construction supervisor to monitor progress
at all the building sites.

Further, even when a trip from the traveler's home
base to a distant city is involved, there are many
instances of multiple calls to make in and around
that city. For example, sales personnel may go from
New York to Boston and then call on a dozen accounts
in the Boston area. Under such conditions many might
fly to Boston and rent a car, but others prefer to
make the whole trip by automobile, perhaps because
the difference in time and convenience amounts to
less than the cost of renting a car.

A related consideration is the way in which many
businessmen who have regular calls to make optimize
their use of travel time: "I could fly to Boston and
rent a car to visit the dealers in Boston, Cambridge,
and Brookline, but if I drive, I can get the calls in
New Haven and Hartford out of the way on the same trip."

Finally, some business travelers of this type can profit
from the flexibility of automobile travel. Perhaps they
learn something while in Boston that indicates a trip to
Springfield would be valuable; if they are traveling by
car they can reschedule themselves with relative ease.

Non-business trips

A relatively common type of non-business trip is the
tour. If the goal of a trip is to see the countryside
and visit many points of interest, using scheduled
public transportation is obviously nearly impossible.
And even some trips that have as their ultimate goal

the home of relatives or friends may also include some
sightseeing along the way.

I. Bulky Luggage

Business trips

Business travelers who must take along large or large
amounts of samples, goods, instruments, gear, etc.,
may use automobiles for this reason. In extreme cases
of weight or bulk, there may be no real alternative.

Non-business trips

Considerable luggage is almost always involved in
family travel if it is to be overnight, because of the
number of persons involved. Even single non-business
travelers may have more luggage than a business travel-
er, because of the necessity for casual as well as
dressy clothes, sports equipment, cameras, etc.

Large amounts of luggage are yet another reason for the
automobile's wide usage for non-business travel.

- Larger amounts of luggage can be taken, including
  all the kinds of clothes and equipment one might
  need.

- Packing need not be so careful.

- Much of the luggage need be handled only upon
  loading and unloading; no "transfers" within
  terminals, at taxicabs, etc.

J. The Special-Purpose Trip

A tendency was noted among the respondents to think
in terms other than the automobile when non-business
trips undertaken for some specific occasion were being
discussed. Specifically, flying often emerged as an
appropriate way to travel to attend such occasions as
weddings or funerals.

There are some plausible reasons why this association
should emerge. Trips such as these are often under-
taken at times not of the traveler's choosing, when he
may want to accomplish the trip as quickly as possible.
For the longest distances within the Northeast Corridor
flying may save sufficient time to be significant, if
the entire trip must be accomplished within a weekend,
or during time taken off from work.

Also, at least some trips of this nature, the children,
and perhaps even the spouse, do not go, which make
the economics of flying more feasible.

It appears, however, that the association between fly-
ing and special occasions may be based upon more than
these factual matters. A plane trip, with its associa-
tions of importance or even urgency, may make an occa-
sion more of an occasion. Some travelers may uncon-
sciously lean toward plane travel in the situations
specified for this reason. It may help to solemnize
or distinguish the event being attended. A person
attending such an event is on a mission, and people
who are on a mission are not thought of as driving along
in the family car, perhaps over the same roads that they
have traveled so often and so casually before.

VI. VALUE CONSIDERATIONS OF TRAVEL

The preceding section of this report discussed the situational
characteristics of trips that, to the respondents, determined
their mode choices. Implicit in much of that discussion was
the existence of a set of value characteristics of travel.
That is, to take a ludicrously obvious example, to report that
one reason for using the automobile for family travel is to
save money, is to imply that saving money is valued.

In this section of the report, the value considerations of
travel will be examined explicitly.

To some extent, the value considerations that were uncovered
in this study can be separated into two classes. In one class
is a set of considerations that are obvious and straightforward,
such as speed, cost and comfort. These are "real" character-
istics of travel, the characteristics that an economist or
engineer would probably find most compatible with a "hard-nosed"
analysis of travel. In the other class is a set of considera-
tions that are defined as much as by the attitudes and beliefs
of the traveler as by the manifest characteristics of travel
modes, things such as status and prestige, fun, and familiarity.
In a sense, these are psychological value considerations.

One way of summarizing the dichotomy is to distinguish between
rational and non-rational value considerations, but it must be
understood that non-rational does not mean irrational. These
values are non-rational only in the sense that they are more
attitudinal than cognitive, functioning as more subtle in-
fluences than the rational values.

A. Rational Value Considerations

1. Speed and time

The most salient, obvious, and talked about value
aspect of travel is time and speed. It was the
first thing that most respondents talked about
and, in many ways, was the easiest thing for them
to talk about. It, more than any other considera-
tion, could sometimes sum up a whole trip all by
itself.

"I enjoyed it because it was quick."

"Time is very much important to me."

"I just flew to New York. It was nice. By
the time we were offered a cold drink, we
were there."

"It would be pretty rough to compete with
the airplane. You'd have to get a train
that goes 600 miles an hour."

"I wouldn't take the train to New York be-
cause of the time it takes to drive to the
train station."

"It only took two and one-half hours. That
was great."

"I don't mind it, because it's only about
three hours."

"I take a plane if the trip is over 200 miles.
Less than that, you can drive as fast."

"My favorite way is to fly. It took 35 minutes
to get to Syracuse. There's nothing like it."

Time is important to both business travelers and non-
business travelers. The major difference is that
time more often comes first with the business trav-
eler. The non-business traveler may place other
things before time in importance, things such as
cost and ease, but these are things he takes for
granted; things he does not find it necessary to talk
about. Within their context, he is often just as
concerned as the business traveler with accomplish-
ing the trip quickly.

As discussed earlier, many non-business trips are
of the nature of tours, where the travel itself is
an integral part of the total pleasurable experi-
ence. In such circumstances, of course, travel
time is an irrelevant consideration.

But with this exception, the equation that a good
trip equals a fast trip, seems to have been thorough-
ly internalized by travelers. Ask a person why he
described a certain trip as a "good trip" and his
first answer is very likely to be, "Well, it only
took two hours". In his mind, "quickness" is fre-
quently interchangeable with "goodness".

It is true, of course, that felt time is different
from actual time. Time does "pass more slowly" when
the traveler is uncomfortable, or when he is annoyed
by waits or interruptions in his movement. Thus,
a trip that is comfortable and free from delay will
be experienced as quicker, which can help to explain
the tendency of respondents to describe a "good"
trip in terms of time.

Time is important, on the most realistic, logical,
reasonable grounds. For business travelers, extra
time spent in transit is either time away from their
homes and personal life, or time that could have been
used more directly on their jobs. The non-business
traveler naturally wants to arrive at his destination,
which must have some positive value for him, as quick-
ly as possible.

A few business travelers may literally equate time
spent in travel with a money loss. This is especial-
ly likely to be true for salesmen working on commis-
sion, who can see more customers if they can reduce
the time spent in transit. Some self-employed busi-
nessmen and professionals are in the same position,
and may, with good reason, figure in the cost of
their time when planning a trip.

For most business travelers, however, the situation
is much more complex. In the first place, much of
their travel may occur outside normal working hours.
And even when they do travel during working hours,
most of them do not explicitly feel that a given
amount of time on a vehicle has wasted for their
employer the corresponding amount of money in salary.
In their thinking, travel is a necessary part of
their work, and the hours spent traveling are pro-
ductive work.

It is still true, of course, that most business
travelers feel that the situation can warrant the
expenditure of considerable money in order to save
time, which is frequently the justification for
flying. But in their minds, the issue is more
likely to be cost in terms of the additional work
they can perform by saving time, rather than in
terms of their hourly cost to their employer.

When the transit time consumes only a few hours, as
is true of most trips in the Northeast Corridor,
equating time directly with a money loss is even
less likely. In a trip from Philadelphia to Washing-
ton and back in the same day, for example, the only
"work" that will be performed will take place in
Washington, whether the traveler flies or goes by
train. If he chooses to fly, it must be for other
reasons. Perhaps he needs the extra time to spend
at his duties in Washington. Perhaps, for personal
reasons, he wants to be home early rather than late.
Perhaps he simply enjoys air travel. Only if he
sees his choice as between flying down and back the
same day or taking the train and staying overnight
does he begin to balance the cost of fares against
other costs to his employer, and then it is over-
night accommodations rather than his salary that
most concerns him.

Thus, it appears that, while business travelers may
deliberately oversimplify the issue by asserting that
there is a highly direct relationship between the
time they spend in travel and the time their em-
ployer is paying for, the influence upon their travel
mode selection is, in reality, much more complex.

To fully understand the implications of the concern
with time, a distinction must be made between a con-
cern with time per se, and a concern with being late.
No one likes to be delayed beyond the time of
scheduled or anticipated arrival, for a number of
quite sound reasons. But there is more to the con-
cern with time than merely wanting to arrive on
schedule, or even to be at the destination as soon
as possible.

Speed in travel has become a value in itself, needing
no justification beyond its own existence. It exists
as a "given factor", a factor so basic that it seemed
almost nonsensical to many respondents to ask, "Why
is time so important?".

Some examples will demonstrate the way in which speedy
travel has become a goal in itself.

- Many businessmen with a full day's work in
  another city will travel there the evening
  before. On arrival, they plan to do nothing
  but while away a few hours and then go to
  bed. If they are comfortable during the trip,
  there would appear to be no real reason why
  the time spent in transit should matter very
  much, within rather broad limits. But it does

matter, and these men are often concerned with
finding the fastest way to make such trips.

- When traveling by automobile, it seems to be
  common to keep a quite accurate account of the
  time a trip takes, and many drivers seem to
  feel a great sense of accomplishment when
  they reduce the time it takes them to drive
  between two points. This concern is present
  even when any obvious reasons for it are not;
  when there is nothing in particular to do
  upon arrival, when there is no one waiting
  for the travelers, when they are not tired or
  hungry; when driving conditions are good and
  will remain so. In short, given the kinds of
  conditions under which they may sometimes
  deliberately "take a ride", just for the sake
  of riding, if they are on a trip there is a
  desire to make it quickly.

- Many respondents, particularly those for whom
  air travel was new, described their first
  flights in terms suggesting great pleasure,
  even exhilaration. When asked to explain why
  it was such fun, a common answer was, "I was
  there before I knew it. It seemed we had
  barely gotten started and we were landing."
  There is a paradox here: an experience that
  is fun is usually valued for a long, rather
  than short, duration.

- Many respondents phrased certain issues in terms
  of speed and time when they really intended some-
  thing else. For example, a very common complaint
  from the respondents was, "It takes too long to
  get in from the airport". On probing, it became
  clear even to many of the respondents themselves
  that it was not the time lost that was truly
  significant -- after all, what does 45 minutes
  in an airport bus matter after a 2,500 mile trip
  accomplished in five hours? The real source of
  their concern was in such things as aggravation,
  uncertainty, or expense. But they are so ac-
  customed to thinking and talking in terms of
  speed and time that they adopted this usage to
  talk about their problems.

A few respondents seemed to recognize that the extent
of the concern with time and speed was not wholly
justifiable on logical grounds.

"There's something about man; you want to get
where you're going as fast as you can. Speed
is something that man is always after. Knowing
that I'm going 600 miles an hour...."

"I went to Brooklyn on business, and took my wife
and kids with me. I rushed all the way up there,
and then I was in the man's office exactly three
minutes and I was done for the day. I don't know
why, but I rushed."

"I'm not sure I have any motivation for getting
there quickly, but when I'm in the car I just
want to get there quickly; I don't like to stop
on the way but get there as fast as I can, even
if I'm not in a hurry."

Reasons for speed's becoming so central to the think-
ing of travelers are not hard to find:

- In the first place, there can be no question-
  ing the fact that it often is very important,
  on the most logical and rational grounds,
  some of which have been spelled out above.

- The history of travel is, itself, a record of
  increasing speed. While a good case could be
  made that the progression from the stagecoach
  to the train to the airplane has been marked
  by steady increases in comfort, it is the in-
  crease in speed that is paramount and is the
  yardstick of progress. So it is natural that
  many individual travelers have adopted speed
  and time as their own yardstick with which to
  assess travel.

- Further, speed and time make an easily used
  yardstick. They are measurable in certain
  terms. Whether one trip or another was more
  comfortable may be arguable, subject to indi-
  vidual and, perhaps, idiosyncratic preferences,
  and there is no guarantee that one comfortable
  trip on a particular mode will be followed by
  others equally comfortable. But times of
  departure and arrival are beyond argument, and
  time is, therefore, a criterion of value that
  is easy to use.

- To a considerable extent, the faster the travel
  system, the more it costs to use it. There is,
  therefore, an inevitable association in the minds
  of travelers between value and speed, which
  insures that speed will be important in their
  thinking.

- Western culture, particularly American
  culture, has been characterized as being
  obsessed with time, relative to some other
  civilizations which have a lower level of
  concern with measuring, allocating, and con-
  serving time. Certainly the tendency for
  respondents in this study to focus upon this
  one issue, sometimes to the exclusion of nearly
  anything else, is not inconsistent with that
  characterization.

In summary, without denying the existence of many
good and soundly logical reasons for valuing time
saved in travel, it appears to satisfy travelers
in additional ways that are not always so practic-
ally functional. For business travelers, it is
very often the primary basis for their travel mode
routines. Non-business travelers very often have
given precedence to other considerations, but
within the limits thus marked off for themselves,
time remains a major preoccupation.

2.   Cost

There is no single concern of the non-business
traveler that is as dominant as the business
traveler's preoccupation with time. It may be
that cost is the closest parallel, however.

For the most part, cost has very little to do
with the travel mode routines of business
travelers. That is not to say that there are
no limits on their travel expenses, of course,
in such areas as meals, lodgings, whether they
use first class airline accommodations, and what
local transportation facilities they use. But it
would be a rare business traveler who used a

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particular mode primarily because it was less ex-
pensive. As long as a business traveler believes
his mode choices conserve time, cost is of little
consequence.

The same persons, traveling for other than busi-
ness reasons, when it is their own money they are
spending, often make cost the major consideration.

In fact, the importance of cost was so taken for
granted by many respondents that they sometimes
saw no need even to bring it up for consideration
during the interviews. They simply assumed that
the interviewer was fully aware of its impact.
Sometimes probing was necessary to elicit com-
ment on the subject.

"Economics is first on pleasure, last on
business."

"The car is cheaper."

"I use the car for travel with the family,
because of the expense factor."

"It only costs $20 for the four of us to
go by car." (New York to Washington)

"Financially, the car wins out."

"Let's don't kid ourselves, the reason I
don't fly with my family is the cost."

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"For short distances, the average man will probably take his car. It's much cheaper for me."

"For personal travel we go the cheapest way, not the way we _want_ to go."

"I drive to New York to visit my family. I have a wife and three kids. If I flew them all, I'd be broke."

"It's very expensive to travel with a family."

In the thinking of travelers, the cost of a trip by automobile includes, primarily, gasoline and tolls. They may pay lip service to including wear and tear, but even if they do, it is considered to be very slight for any one trip. Costs such as depreciation, insurance and licensing are almost never included, on the grounds that they continue whether or not the car is driven. Implicit in the reasoning of most people is an assumption that owning a car is necessary for reasons of _local_ transportation, and so the fixed costs of ownership are not properly part of the cost of an intercity trip. If this reasoning is sound, and it appears to be, family automobile travel is, indeed, very inexpensive compared to the cost of three, four, or five fares on public transportation.

Given this background, the conclusion is that cost is very important, perhaps the most important consideration for family travel within the bounds of the Northeast Corridor. And the automobile is seen as the cheapest way, by far, for a family to travel distances of up to a few hundred miles.

For a single traveler, of course, the difference in cost between the automobile and other modes is smaller, and other factors can become more important: time, ease, security (especially important for women traveling alone). Even then, however, it is not that cost is unimportant, but simply that the comparison does not favor the automobile so markedly.

3. Convenience

"Convenience" is a word that respondents used very freely and very loosely. They all valued convenience and they very often offered as an explanation of their mode choices, "It's convenient". But they themselves often seemed unsure of just what convenience means.

The core meaning of the word seems to imply a travel routine that can be followed with a minimum of fuss, special plans, preparations, and accommodations to demands imposed by the system. In other words, the _more work_ it is to use a travel system, the _less convenient_ it is.

Thus, a system is not convenient if:

- It takes a long time to get to the terminals, or a lot of effort in heavy traffic.

- Parking at the terminals is hard to find, or non-existent.

- Baggage must be carried a considerable distance into or away from terminals, and inside the terminals.

- Buying tickets, checking or claiming baggage and boarding vehicles requires waiting or standing in line.

- Obtaining necessary food and drink while traveling requires special effort.

- One has to compromise his desired times of departure to adjust to the availability of schedules.

Factors such as these are very important in determining mode choices. In the first place, it can readily be seen that, in many respects, driving one's own automobile is the most convenient mode of all, since it avoids entirely most of the problems listed above.

"I loaded my car with all kinds of things I couldn't take on the train or plane. Plus, I had the convenience of going and stopping when I want."

"One reason for driving is to get right to the destination. You don't have to take two or three means of transportation to get there."

"I drive to New York. It's a matter of convenience; no connections to make. If you fly, have to worry about ground transportation."

"You can't beat the convenience of a car."

"The problem is getting to the bus. There is
nothing as convenient as driving. You only have
yourself to contend with."

"There is nothing more convenient than loading up
at your front door and unloading at the front
door of the motel."

"Until mass transportation is as convenient as
your own car...it doesn't equal."

"With the family, you put the luggage in the
trunk of the car and you don't have to keep
shuffling it around."

It appears that convenience is second only to consider-
ations of cost in explaining automobile usage, and, in
many instances, it may even be more important than cost.

When the choice is among the public transportation modes,
the ease of access to terminals is very important. If
it is easier (less work, fewer "arrangements") to get
to one terminal than to another, that is an important
positive factor for use of that mode.

Many factors enter into the idea of convenience, and
sometimes one single factor is sufficient to determine
mode usage.

  - In Washington, many respondents reported they
    could not use the train because there was no
    parking at Union Station.

- New York area residents who live on Long Island
  are more likely than those who live elsewhere
  to fly, because of the relative ease of getting
  to the airport.

- Earlier in this report, it was pointed out that
  whether or not one's ultimate destination is in
  the center of a city has a lot to do with choos-
  ing between driving and other modes.

During the course of the interviews, it was sometimes
difficult to be sure a respondent was talking about
convenience, because they often phrased their remarks
in terms of time. The time it takes to get to the
airport, the time spent standing in line to board, the
time spent waiting for luggage, the time it takes to
find a parking place.

In fact, inconveniences do consume time, and thus con-
tribute to a longer trip. But probing during the inter-
views, and careful consideration of the latent content
of what was said, demonstrated that the real source of
the negative feelings was not lost time, itself, but
the effort or even anxiety involved.

To illustrate this point, it appears likely that if
access to airports and on to the airplanes could be
made more effortless, satisfaction would be considerably
increased even if no reduction in the time required
took place.

The factor of convenience is so important, and so
easily misunderstood because of the way travelers talk
about it, that it will be examined with a different
focus in the next section of this report, under the
heading "Non-Rational Value Considerations".

4. Physical comfort

Physical comfort, in the pure sense of making
the body comfortable, is probably not now a
major determinant of travel mode choice. There
are probably only a few instances when the prox-
imate cause for choosing one mode over another
is a more comfortable seat, a smoother ride, or
better air conditioning.

Physical comfort serves more often as a negative
factor in mode choice. An individual traveler
may avoid one or another mode because he finds
it uncomfortable, but his choice among those re-
maining is largely made on other grounds.

- The bus was the travel mode that was
  ignored by more respondents than any
  other, in part, because of its reputed
  discomfort.

- A lack of comfort was prominent among
  the reasons given for not using the train:
  too hot or too cold, jouncing, uncomfort-
  able seats.

- Many travelers find long automobile
  trips tiring and uncomfortable. This
  consideration may not induce them to
  use something else for family travel,
  because of cost considerations, but
  it undoubtedly is a reason why auto-
  mobiles are not used more widely than
  they are for business travel.

Although physical comfort seems now to function more in a negative than positive fashion as a determinant of mode usage, it is potentially a positive influence. Given a changed situation, one in which no one mode was judged both fastest and most comfortable, as air travel now is by many people, or one in which the differences in physical comfort among the the modes were greater, many travelers might well choose a mode for some of their trips primarily because of its greater comfort. But for now, comfort appears to have a great deal to do with the satisfaction with modes that are chosen for other reasons.

What, then, are the aspects of physical comfort that are important? Most often mentioned or implied by respondents were:

- A seating position that is not cramped. Sufficient room to change position, particularly of the legs.

- A temperature that is not too cold or hot.

- Less often mentioned was a ride free of jostling and harsh bumps.

- Being able to leave the seat and walk around to avoid becoming cramped.

5.   Security from attack or affront

Some travelers are frightened or distressed by the possibilities for assaults on one's person or sensibilities during travel. The potentiality for such problems seems great enough at some travel terminals so that it can be called a determinant of mode usage.

Complaints about dark and deserted parking lots and unsavory people were directed at train and bus terminals, and almost always concerned women.

- Many Philadelphia women would not use the train because the station most appropriate for them, North Philadelphia Station, is "in a bad neighborhood, I'd be afraid to go into that parking lot at night."

"I could never have my wife pick me up at that train station and feel comfortable. It's the same with the down-town bus station. Undesirable people hang around these places."

- Young women may be forbidden by parents to use the bus or perhaps trains because of fears concerning attacks or affronts in the terminals.

Thus, in some instances, such concerns are strong enough to rule out the use of some particular mode.

6. Safety from accidents

Safety is undeniably a concern of travelers,
but there is probably only one way in which
it is a determinant of mode choice: many
people are still afraid to fly.

This fear is not so much a mistaken belief
about actual risk as an emotional feeling of
danger that comes from being off the ground.

Even many people who do fly often have a sense
of fear during at least part of the experi-
ence. Most people who have occasion to fly
probably succeed in rationalizing away the fear,
but some persons do avoid air travel on this
account.

It may be that women are more likely than men
to fear flying, but the evidence is inconclusive.
It may simply be that the demands of business
travel force more men to overcome their fears.

It also appears that flying may seem more natural
to younger people, who have grown up in a time of
mass air travel. Fears of flying were more often
voiced by older respondents.

A different situation applies to automobile travel.
Most people are aware of its relatively high risk,
but few are dissuaded from using it on that account.
They know of the danger, but they do not feel afraid.
They know they are "fooling themselves", but they
feel confident in their own or their spouse's driv-
ing ability.

Thus, it appears that the effect of travel
safety upon mode choice is emotional, rather
than being based on a dispassionate consider-
ation of facts.

7. Reliability of schedules

The reliability of keeping to schedules is very
important to travelers, and it would probably be
a greater determinant of mode choice if the dif-
ferences among modes were greater, or if one mode
achieved near-perfect reliability. As it is, de-
lays can occur with all modes, so it is more diffi-
cult to use this as a basis for choosing among them.

There were some respondents who said they would
not use the train, or the bus, because they were
too often late, but it appears that these people
probably have other reasons for not using the
modes that are more important than schedule re-
liability. In fact, some of them probably based
their comments about being late upon a general
negative image of the mode rather than any
knowledge of a high incidence of lateness.

It was interesting that many respondents talked
about schedule unreliability of the airlines
without much real resentment, while the subject
of late trains often provoked heated complaints.

In the case of the airlines, the travelers have
been supplied with reasons to account for de-
lays: weather conditions and air traffic con-
gestion, coupled with air traffic controller
slowdowns. They tend to accept the delays.
They are upset by them, but they do not blame
the airlines.

With the railroads, however, delays are seldom explained to the satisfaction of the travelers, and they do blame the railroads. It may be that travelers believe that there can be no excuse for late trains, since they are in a position to control their traffic perfectly, and only the most extreme weather should affect their operations. Or, perhaps, their dissatisfaction simply comes from the railroads' practice of not bothering to explain the reasons for a delay.

It is probably also true that the conditions under which one waits during delays affect the feelings about schedule unreliability. If the temperature is pleasant and there is a comfortable seat, perhaps with the opportunity to read, and the personnel are sympathetic and courteous, the traveler may find himself tolerating the delay in relatively good spirits. Since air travel seems to offer a higher standard of such amenities, that could help to explain the tendency of travelers to dislike the railroads more than the airlines for delays.

However, despite the airlines' success up to now in having their delays accepted with good grace, there are signs that some travelers may cut back on their air travel because of too many delays. While travelers are not yet angry about being put in holding patterns over airports and having flights delayed or even cancelled, they are beginning to ask, realistically, whether air travel can be counted upon to save them the time that has been a major reason for using it. If air schedule reliability continues to deteriorate, many air travelers will probably change modes for some of their shorter trips.

8. Using the travel time usefully

Many business travelers place some value on being able to work while riding, and for a few of them it is very important. Even though some respondents claimed that it was a reason for using the train instead of the bus, it appeared likely that these men would not use the bus even if it were much better for working, so this factor does not appear to be a major mode choice determinant in many cases.

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It can be a reason for using the train or airplane instead of driving, however. And it can even help to equalize the efficiency of rail and air travel, according to a respondent who reported that air travel really did not save productive time since he could use the extra time on the train to prepare for his meeting, and sometimes chose the train for this reason.

A related issue is the scenery that is available while traveling. There are some non-business travelers who choose the bus over the train because they believe it offers superior views of the passing scene, a belief that is widespread. Even outside the towns and cities, trains are believed to offer less attractive scenery, at least in the Northeast Corridor.

Although it is seldom a strong determinant of using air travel, many persons greatly enjoy the view when flying. Especially to those who fly seldom, seeing the ground from such a vantage point is exciting and even clouds offer a unique viewing experience.

One of air travel's more important satisfactions, in fact, is that time does not drag on so boringly. In the first place, of course, it is quicker so there is less time to occupy. But even beyond that, the time that is to be spent is "used up". Takeoffs and landings offer their own excitement (not necessarily pleasant) and especially interesting views. Refreshments or meals are served, the pilot makes announcements. Stewardesses may stop to chat. In other words, something is happening during most of the trip; travelers are distracted by the activity, and there is less of a sense of waiting or sheer boredom than on a train, bus, or even, perhaps, automobile trip.

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B. Non-Rational Value Considerations

1. The "aggravation" factor

Perhaps the most important finding of this study
concerns the "aggravation" factor. It is important
because it was not anticipated, and because the
respondents themselves were scarcely aware of its
influence, so that it had to be inferred from the
contents of the interviews.

Travel itself is basically a source of aggravation for
most people. Many of its aspects have a high nuisance
value. The process of travel consists of a number of
tasks.

   - Looking up schedules, choosing a time,
     making reservations, buying tickets.

   - Deciding what clothes to take, packing,
     carrying luggage (perhaps many times),
     checking luggage, claiming luggage.

   - Deciding how to get to the terminal,
     deciding how much time is necessary,
     worrying about making it on time, getting
     transportation to the terminal if not
     driving, worrying about parking if driving,
     finding a place to park.

   - Finding the right vehicle, waiting to board
     the vehicle, worrying about arrival time if
     an appointment is waiting.

   - Planning how to get in from the destination
     terminal, looking for transportation and com-
     paring times and costs, worrying about missing
     a connection.

None of these tasks, by itself, would be very disturb-
ing, but taken together, they do call for a considerable
amount of planning and effort. Not everyone is actual-
ly irritated by all these tasks, and a few people may
even enjoy those connected with planning a trip. But
most travelers dislike them, and considerable anxiety
can be involved in worrying about them.

In short, many travelers can feel harassed, beseiged
by details to attend to, anxious about making the
proper choices, and worried lest things go wrong.

A word that describes the situation even better than
aggravation is "hassle". Travel can be a hassle.

The respondents in the study often did not talk direct-
ly about this issue. Many of the factors contributing
to it, as listed above, are not issues that anyone could
do anything to change, so travelers accept them without
complaint. Schedules do have to be consulted, luggage
does have to be packed and carried, local transportation
does have to be arranged, and so on, and it is no one's
fault that these details must be attended to, and nothing
could resonably be done to change them, so why complain?

When respondents did complain, they tended to phrase
their comments in terms of time. It was the time it
takes to get to the airport, the time spent waiting,
etc. But it was clear even to them, after probing,
that it was the aggravation and hassle that really was
the issue. After all, if it were just the time that
was at issue, why should 45 minutes to get to the air-
port bother a man who spends that long commuting to his
office every morning? Yet the evidence is that such a
man would resent the trip to the airport.

The earlier discussion of convenience as a value consideration is relevant here. Ultimately, such factors as convenient terminal location and access are valued because they reduce hassle. They help to reduce the total amount of aggravation involved in making a trip.

Hassle is more an emotional than a rational factor, which is one reason why the respondents talked about it relatively little. On rational grounds, the tasks listed above are not so difficult, but they combine to produce a vague, unpleasant feeling, sometimes a kind of generalized, seemingly sourceless, anxiety.

The impact of the aggravation factor upon mode choice is very great. It, redefined as "convenience", is a major advantage of automobile travel. When the respondents talked about being able to pack and load their automobiles casually, being able to take everything they needed, leaving when they wanted to, not having to make connections, not having to wait for things, they were often really saying that automobile travel is the least aggravation and hassle, especially when a family is traveling.

It is this factor that seemed to account for so many respondents' feelings that, whatever changes in time, luxury, or even cost might occur, "there is nothing like your own automobile".

The automobile has its own potential sources of aggravation, of course: driving, finding the way, traffic jams, paying tolls, stopping for fuel, parking. But for a great many travelers, these tasks are somehow less worrisome than those connected with public transportation. Perhaps it is because the automobile traveler can always hope that he will find the way easily, find easy parking, and not encounter traffic jams, while some of the nuisances of public transportation can be counted upon to occur. Perhaps it is because with automobile travel he does not have to solve these problems according to a timetable, but at a more leisurely pace. Whatever the explanation, the automobile is experienced as involving less hassle.

Other mode choices are also explainable in these terms. In fact, any time a traveler talks about doing something for the sake of convenience, he is probably saying that reducing hassle or aggravation is important to him.

Another aspect of this issue is probably reflected in the tendency of many respondents to say they wanted to "try the Metroliner". There is no need to try it to see how fast it is; that is printed in the schedule. Cost is also a matter of record, as is terminal location and times of departure and arrival. The facilities for comfort were known to many of them, and were described during the interviews. Still, a common response to questioning about it was, "I'd like to try it to see if it's good".

It appears that by trying the Metroliner, using it once, a traveler can feel for himself how much of a hassle it is to travel that way. And since hassle is a vague feeling, made up of a multitude of individual considerations, it may be that there is no other way to evaluate it than by direct experience.

Generalizations about which public transportation mode has the least amount of associated hassle are difficult. Much depends upon where the respondent is relative to the terminal, whether he will be met and picked up at the destination terminal, whether he is familiar with the arrangements that must be made, how much luggage he must take, etc.

Individual respondents, in developing a routine for their trips, implicitly put a great emphasis on reducing hassle, but the comparison does not often favor a single mode over-all, even for an individual traveler. As noted before, much "depends upon the kind of trip it is".

Except for problems of airport access and egress, it may be that air travel involves less hassle than the other public modes. The airlines are in no better position than the railroads inherently, but they seem to <u>work</u> at reducing hassle.

- Plentiful parking is usually available.

- There is no shortage of information; flight arrival and departure times and gate numbers are widely displayed.

- Assistance in handling luggage is available, and there is no problem finding <u>how</u> to check and claim luggage.

- Ticketing arrangements are often streamlined.

- Special airlines personnel are on duty at counters to assist with problems.

The potential impact of the aggravation factor upon mode choice is even greater than the current impact. All travel modes now involve considerable hassle (although that of the automobile is a special case), but to the extent that systems could be developed or modified in ways that sharply reduced aggravation, the directly resulting usage should be considerable.

2. <u>Waits and delays</u>

Waiting and being delayed are part of the "aggravation factor", of course, but are sufficiently important and interesting to warrant separate consideration.

Obviously, there are many rational reasons for disliking waiting and delays. Waiting often means standing, which is simply uncomfortable. Delays can make a traveler late for an appointment, or otherwise upset his plans, and really lengthy delays can increase the travel time significantly.

But the dislike of waiting and delays goes beyond such rational considerations.

- There is no "rational" reason why waiting for a train or plane to arrive should seem unpleasant, if the vehicle is on schedule and the traveler is a few minutes early. But it seems clear that many travelers do experience this period as unpleasant.

- A two-minute wait in line to buy a ticket is hardly a meaningful loss of time, but travelers react negatively to it.

- Five minutes waiting for a cab seems to be a greater irritant than rational considerations of time conservation would warrant.

- The respondents quite often objected to frequent
  stops at stations that buses and trains make.
  Their objection implied more than simply a longer
  time in transit. The stops were _interruptions_
  in progress, and were experienced with great _im-
  patience_ and _irritation_. It is as if a voice
  inside each traveler's head were saying, while
  the vehicle was standing still, "Let's get _moving_,
  let's get _moving_".

- One further example almost perfectly exemplifies
  the issue. Stopping to pay tolls on a highway
  greatly annoys automobile travelers. They may
  not like spending the money, and frequent tolls
  rather than a larger single toll may emphasize
  the expense. But even more important is the
  sense of interruption in progress.

It is certainly true that no one likes waiting, in
any situation. Almost by definition, having a period
of time with nothing to do but wait for something is
unpleasant, whether it is waiting in a doctor's office,
a supermarket check-out line, or in one's own home,
waiting for his wife to get ready to go out. But
waiting seems _particularly_ resented in the travel sit-
uation.

The person on a trip has a has his mind set for _movement_
and _progress_. He has defined himself as a person on
the move. With this orientation, it is not surpris-
ing that interruptions in his progress strike with
such force. He literally _feels held back_, even when
rational considerations tell him he is actually being
delayed insignificantly, if at all.

"I'm not in such a hurry. I just want a steady
gait, and not get bogged down."

"I would rather keep moving even if I fly 200
miles out of the way than to land at an air-
port, wait an hour, then catch another flight.
Constant movement is more appealing than paus-
ing."

"The constant stopping and starting for pas-
sengers is annoying to me."

Resentment of interruptions in one's _sense_ of prog-
ress probably plays a minor role when actual mode
decisions are made, since travelers will probably
often disregard such a clearly non-rational consid-
eration. But this consideration can contribute to
feelings of satisfaction or dissatisfaction, and
like all feelings, it can influence travel behavior
in more subtle ways, through a generally negative
image of a mode that leads to its being _dropped_ from
consideration.

3. Status and prestige

There are very sharp differences among the public travel modes in the status or prestige that is seen as accompanying them. Air travel ranks highest, bus travel lowest, and rail travel is in between. Automobile travel comes closest to being "status-less".

The evidence for the high ranking of air travel is clear. All respondents agreed that "higher class" persons were more likely to use air travel.

> "People who take the plane are usually dressed better."

> "When I was young, I had the image of wanting to be the harried executive running all over the place. When I get on the plane, I feel I've made it. The bus or the train sort of lowers you."

> "It's class. The train is going second class."

> "Some people just like to say, 'I travel by plane'."

On the other hand, the difference between the train and the bus is less clear. It appears that in the past, the bus has been a lower-status travel mode, but that that situation may now be changing, as rail service "deteriorates" and the bus lines deliberately

upgrade their service. The respondents differed as to which was actually the lowest class way to travel now, but their comments reflected actual standards of service as much as status image; on this latter ground the bus is probably still perceived as a travel mode for "poor people, kids with little money, and servicemen", as many respondents said or implied.

The status difference between flying and the other modes results from, or is associated with:

- Higher fares for air travel

- The solicitude and "pampering" that air travelers receive from the airlines.

- Heavy air travel use by businessmen.

- A feeling that air travel implies people in a hurry, and thus, important people.

There is little doubt that status and prestige function as mode determinants in the case of business travel. The businessman's sense of his own personal importance and that of his work is bolstered by air travel, and this factor must influence him in those cases when he has a choice to make. His very rationalization for using air travel, that it saves him time, feeds back into his sense of status and self-importance.

The influence of status and prestige upon non-
business travel mode choice is more doubtful.
Non-business travelers would like the prestige
of air travel, of course, but it appears that
many, if not most, of them are unwilling to pay
the cost in money and inconvenience, especially
when family travel is involved. Persons travel-
ing alone for non-business reasons probably are
moved by status considerations, however, to fly
"if they can afford it".

However, sometimes the status considerations work
in reverse, actually deterring its use for family
travel. As one respondent put it, "The atmos-
phere on an airplane full of businessmen who don't
want kids running...the atmosphere is one of being
on your best behavior, with strangers".

There is a suspicion, difficult to verify, that
travelers of "lower class" background can feel un-
comfortably out of place in airports and airplanes,
unsure of themselves and afraid of behaving in-
appropriately, almost embarrassed. Since such
persons probably only fly when time is really im-
portant, however, because of the cost, this is
unlikely to be an important mode determinant for
them in actuality.

At any rate, the formality of air travel -- dres-
sing up and "being on your best behavior" -- makes
it suffer in comparison to the automobile for
family travel. Keeping the children quiet and
clean while traveling certainly can be a major
part of the "hassle factor" that has been dis-
cussed.

4. Sociability and privacy

The question of sociability and privacy divided
the respondents.

  - Some travelers especially value automobile
    travel with their families because it main-
    tains the family as a unit, fostering intimacy
    within the unit and privacy against other
    people. One respondent told the story of
    his drive to Canada, when his wife said,
    "This is the longest discussion we've had
    all year". Other respondents also suggested
    that travel, and automobile travel particu-
    larly, often turns out to be an especially
    good time for families "to be together",
    with no intrusions from their normally busy
    schedules.

  - Some respondents objected specifically to
    the loneliness of driving with no companions,
    while others specifically valued this time
    to themselves. The former may even pick up
    hitchhikers for company, while those in latter
    groups would sympathize with the clergyman who
    reported of a recent automobile trip, "I could
    have had company but I preferred to be alone",
    and with the respondents who reported that a
    drive alone offered them a pleasant opportun-
    ity for meditating and communing with them-
    selves.

- Many travelers enjoy a free and easy travel situation that encourages chats between strangers, while others find the lack of privacy associated with public transportation mildly distressing.

- There was little agreement on the extent to which the various travel modes foster or discourage sociability. To many, talking to fellow passengers was something to do on buses, to others, it was trains; many felt that it was less common and less appropriate on airplanes, but there were those who said they found it as easy on a plane as anywhere, and others who pointed out that on airplanes the stewardesses are available for chatting.

Despite such great differences, a few generalizations are possible:

- Bus travel is, on balance, by most regarded as the occasion for more socializing among strangers than the other modes; and bus travel is preferred by some of its users for just this reason.

- Women seem to value socializing while traveling more than men.

- The automobile's preservation of the family unit with privacy is an important reason for its solid position as a preferred family travel mode.

5. Cleanliness

This factor emerged almost exclusively as a complaint about the railroads. A few respondents also criticized bus travel on this score, but it was the railroads that bore the brunt of the displeasure. The number of respondents who used the word "dirty" or even "filthy" in talking about train travel was so large that no list of selected quotes could express the extent.

In the group depth interviews particularly, any mention of dirty trains often called forth a chorus of agreement. Dirty accommodations -- floors, seats, windows, etc., -- are a definite part of the image of train travel.

In the sense that people are thereby discouraged from using trains, cleanliness is a factor in mode choice determination. A mode may not be deliberately chosen for this reason, but it appears that this is one of the factors that has led many travelers to omit the train from their list of psychologically available alternatives.

That trains are perceived as dirty probably comes as no surprise to any observer of the travel situation; what does seem important to underline is the extent to which this perception comes close to dominating the image of rail travel. It was the first association of many respondents. Further, the reaction of some respondents was very intense. They "joked" about not caring if they had to stand for lack of seats, because the seats were too dirty to sit on anyhow. Some said that riding on a train made them feel like they needed a bath. Some of

them obviously suffered from feelings of depression when put down in the dingy and tattered atmosphere of some trains; their emotions were thereby affected.

In large part, the issue is one of simple cleanliness, but other things were also involved, sometimes inextricably. Faded, dull paint and tattered upholstery are not necessarily dirty, but such things combine with smeary windows and unswept floors to create the over-all impression. A simple sweeping and washing would probably help considerably, but not be sufficient by itself to reverse the image of dirtiness.

An attempt was made in some of the interviews to distinguish dirty trains themselves from dirty terminal facilities. It appears that travelers are more willing to tolerate dingy stations than dingy vehicles. Unlike airports, with their more elaborate check-in procedures, a train station is viewed as a place where little time is spent, and it seems somewhat less important for that reason.

However, railroad stations are perceived as being dirty or dingy, and while the dirtiness of the trains themselves may be more important, it is certainly true that dirty stations are resented, and contribute to negative feelings about railroads and rail travel.

6. Food, drink, and other auxiliaries

This study did pick up some complaint about the cost and quality of food and drink in terminals and on vehicles. However, the shortness of most trips in the Northeast Corridor probably prevents this factor from being more important in the travel situation. Only on the very longest trips in the Corridor would more than one meal be necessary, and even one is usually not essential during most trips. Travelers seem willing to accept compromises in this area of service.

The issue is not totally unimportant, however. The airlines' practice of serving "free" snacks and beverages even on short flights is much appreciated, even though it is often realized that this service may be indirectly affecting fares. As will be seen, its influence is probably due more to the impression it creates of caring for the passengers than for its functional value in relieving hunger or thirst.

The easy access to snack foods and beverages and to alcoholic beverages on the Metroliners was a point of satisfaction among many of its users. For trips within the Northeast Corridor, it does appear that this type of service is satisfactory.

There is, however, one detail that may be important, even though only a few respondents specifically mentioned it. It appears that the cost of drinks on the train, including the Metroliner, is higher than that charged on the airplane, and air passengers get free soft drinks. This provides such an easy and explicit value comparison that it may contribute to a feeling that the railroads are still not serious about competing with the airlines in the area of passenger services.

7. Service, courtesy, and "feeling welcome"

When the respondents talked about "service", they often seemed to be talking about how well they were treated, rather than about specific services offered. Thus, service and courtesy go together.

It comes as no surprise that travelers want to be treated with courtesy, to have their role as paying customers acknowledged with some respect. Every service industry, not just travel, knows the importance of treating its customers as important people.

This issue emerged most often in the interviews in the form of complaints about the railroads and praise for the airlines. First, the railroads:

"On a train you're on your own."

(About the Metroliner) "Do they smile when they punch your ticket? In the matter of courtesy, trains don't treat you well."

"On the bus or train, if you get hung up, they don't even want to talk to you or give you a civil answer. That's one reason I prefer to fly. Around the railroads, normal services bring the grasping hand out. Feel raped or robbed."

(If the high speed trains are to be successful, the railroads must not continue to) "Handle people like cattle."

"I used to like the train so much because of the element of personal attention. Now you have to fight to find redcaps...conductors just put up with your being there, like they're doing you a favor."

"'Please' is gone from their terminology altogether."

About the airlines:

"They sort of cater to you."

"I have always been treated with the utmost respect. They want me to be comfortable, want me to have good food and drinks."

"They're more courteous, they care about you."

And some comments comparing the two:

"Railroad employees are inconsiderate, arrogant, sometimes even dirty. It's the exact opposite of the airlines, where people are helpful and you can get information."

"The airlines are the ones that are catering to the people. The Metroliner is trying to get this back. But call Union Station and try to get information about the trains, you get spotty information, even gruff treatment. Train and bus people aren't nice and helpful. You're just an annoyance to them."

One aspect of service, then, is the courtesy shown by personnel in dealing with the passengers and meeting their requests. The importance of this issue can be very great, because in addition to being valued for its own sake, courtesy combines with such things as the provision of clean, well-kept vehicles and facilities and the amenities of food and drink to let travelers know they are important to the travel company, to make them feel welcome.

Advertising also serves to make travelers feel welcome. The feeling that the airlines advertise their passenger service while railroads do not was cited by the respondents as a clear indication that the airlines value their patronage much more. Thus, advertising not only can supply needed information on such things as schedules and fares, it also functions as a sign of welcome.

Many respondents made it clear that they prefer to use a mode that values their patronage. They enjoy their role as a valued customer of the airlines, and are uncomfortable in what they interpret as the railroad's lack of concern about them. It may be going too far to say that the railroad makes them feel like intruders or unwelcome guests, but there is an implication that something of that nature occurs.

The belief that the railroads do not want passenger traffic, that they would prefer to get completely out of the passenger business, is widespread. Many respondents mentioned newspaper or magazine articles quoting railroad officials to this effect. Some respondents even felt that the railroads deliberately provided poor service, to force passengers away, so they could justify dropping their passenger operations.

It is not surprising that many travelers are taking the position that, "I won't go where I'm not wanted".

In contrast, the airlines' deliberate catering to passengers, through courteous, deferential personnel, with the provision of personal service of food and drink, which is a traditional sign of welcome to friends or strangers, with facilities planned to look "nice" and be comfortable, with stewardesses to perform such minor services as hanging up coats, are valued not only

for their own sake, but as a sign that the traveler is an important person to the airline. Many travelers are fully aware that such service is merely a strategy to obtain their patronage and money, but they feel that their purchase of a fare does make them important, and that they are entitled to feel that way.

In short, "service", courtesy, and amenities are important, not only in their own right, but because they signify something about the attitudes of the travel mode; and a vigorous advertising program enters into the same factor.

8. Freedom and flexibility

Earlier in this report, there was a discussion of the "aggravation factor" in travel, pointing out that travel seems almost inevitably to involve some "hassle". The imposition of schedules and timetables is a major contributor to that hassle.

The dislike for living by a schedule seems to be such a fundamental human trait that its sources need not be examined here. It removes from an individual his sense of being in control of his own life; it restricts his freedom.

At any rate, a major disadvantage of almost any public transportation system is that the individual is told by a schedule when he leaves on his trip, and after he does leave, the progress he makes is out of his hands.

Like so many of the issues that have been discussed,
this one has both a rational and an attitudinal,
non-rational aspect. Obviously, there are situations
in which the dislike of traveling by someone else's
schedule is entirely rational. If an individual
wants to be in another city for a 1:00 P.M. appoint-
ment, and the only available transportation will
put him there at either 10:30 A.M. or 2:30 P.M.,
his dislike of that schedule is entirely understand-
able.

But the dislike of schedules goes beyond such
"rational" considerations. Even if there is a train,
plane, or bus that will arrive at just the right time,
the process of consulting the schedules to find it,
and being forced to follow the schedule, is somehow
distasteful. And if the best available departure and
arrival time is not quite what the traveler hoped for,
so that he must adapt himself to the schedule, the
distaste is much greater.

A related factor is not being able to interrupt
the trip on the traveler's own desire or whim.
Even after he boards the vehicle, the schedule
still has its own way. Stops are made, not at
his desire, but according to the schedule.

This factor might be of less consequence, since
practically all public transportation shares the
problem, except for the fact that the automobile
offers such a clear advantage.

    "We can go at our leisure, stop and
    do some sightseeing."

    "With the kids, we can stop when we
    want."

"I like to drive; start any time I
want, and return when I want."

"For pleasure, there is nothing like
the automobile. Stop where you
want...."

"You always have the feeling you can
go when you want, stop when you want."

"I can stop any time I want."

"You make your own schedule with
a car."

"The car is still the best -- you
have freedom."

"The convenience of going and stop-
ping when I wanted."

"People won't give up their cars, with
the freedom to leave at ten minutes
after five if that's when they want to
leave."

"I have a lot of freedom. I'm not
tied to a routine. I stop when I
want to, do what I like."

(Declined to use a bus tour because:)
"We didn't want to be pushed around,
told when, where, and how to go.
With a car, we went to the same places,
but on our own time. You go to the
airport, somebody tells you gate
number so and so, you become a member
of a mass, you're no longer an indi-
vidual."

A critical point to be understood is that the
feeling of freedom and control is at least as im-
portant as the actuality. To be sure, the actual-
ity is sometimes important. Sometimes there is
no public transportation leaving at anything approx-
imating the right time. Automobile travelers often
do make unplanned stops when they come upon a place
of interest. If there are children, the ability to
stop frequently, for toilet facilities or to work off
some energy, can be a very real advantage.

But the sense or feeling of freedom is prized
beyond its actual usage. The traveler who
does not really make any unplanned stops values
the knowledge that he could do so. And even
if he leaves in his car at the exact same time
a public vehicle left its terminal, he would
enjoy the knowledge that no one told him when
to leave. Automobile travel lets a man feel
that he himself is in control of his own life.

In some ways, the sense of freedom that is
being discussed is the reverse side of the
"aggravation factor" discussed earlier.
The aggravation results from feeling weighed
down by a mass of details to attend to; the
absence of those details can contribute to
feelings of freedom.

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The tasks that contribute to the aggravation
factor are felt as impositions, and it is
precisely the absence of imposition that de-
fines freedom.

Thus, being able to stop and start when the
individual wants to are not the only contri-
butors to the sense of freedom that automobile
travel brings. Not having to make so many
hard decisions on what clothing and gear to
take, since the automobile can carry more,
not having to worry or plan how one gets from
the destination terminal to the actual destina-
tion, and many other things can make an auto-
mobile traveler feel more free, less imposed
upon by things and circumstances, less weigh-
ed down.

The tasks that are involved in automobile travel,
such as driving in congestion, finding the way, and
parking, are somehow felt by many people as less an-
noying than public transportation. It appears that
the sense of freedom of automobile travel may offer
some explanation: the problems of automobile travel
are faced and solved at the traveler's own pace, he
is not simultaneously worried that delay will make
him miss a connection, get behind the timetable that
dictates to the user of other modes.

One public transportation mode that does offer some
aspects of freedom is the air shuttle, and it appears
likely that some of its usage results from this factor.
Many respondents who used the shuttle regularly seemed,
in describing its advantages, to imply more than mere
practical convenience; they seemed to feel freer on
the shuttle:

"The shuttle is good because there are no
reservations, no advance tickets, every
hour on the hour."

"Go when you want to go."

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Many respondents talked about the shuttle
policy of putting on another plane if the
first one filled up, and some of them said
that at times they could not tell if they
were taking the second or third stage of
the eight o'clock flight or the first stage
of the nine o'clock flight, it was just a
continuing flow of departing airplanes.
And they seemed to find some satisfaction
in this evidence that things were not pro-
ceeding according to a rigid schedule.

By freeing travelers from the necessity to
consult schedules, to make advance reserva-
tions, and to catch a certain flight, the
shuttle increases their freedom.

But the automobile is still the last word in free-
dom to many travelers. Something about the way
respondents said "my car" or "our car" revealed the
importance of freedom from imposition by other
people that comes with automobile travel.

It could be argued that there are actually
severe limits on the freedom of automobile
travel, but very few of the respondents would
be impressed by such an argument. True,
traffic regulations direct speed and driving
procedures -- but much less directly and cer-
tainly than the hand or foot of an airplane
pilot, a bus driver, or a railroad engineer.
True, when in a traffic jam one's trip is
being affected by other people -- but at
least the individual drove into that traffic
jam himself, and he will get himself out of
it.

9. "Fun"

Travel itself, apart from the pleasure of being
at a destination, can be fun. People will pay
money to ride on various vehicles in amusement
parks. Before the days of air transportation,
people paid money for an airplane ride. Today,
the motivation to "take a ride in the car" is
not entirely to look at the scenery. There is
sometimes pleasure in being in a moving vehicle.

For many of the respondents, riding in an air-
plane is fun, in just this way:

"The plane is very exhilarating."

"I enjoy flying. I like airports,
I go to watch the planes take off."

"I am like a child when it comes to
travel by plane. All excited about
it. I would rather fly than anything
else."

"I enjoy the excitement, rather than
just sitting down in a train."

"It was a thrill to be up there. It
was my first time. I really enjoyed
it, up there in the clouds."

"I am looking forward to riding in an airplane."

"I had a treat last summer. I always wanted to fly, and I got to go on two field trips."

"More people enjoy traveling by air, even if it does take the same time. I enjoy the excitement, rather than just sitting down in a train."

"I enjoy looking at the clouds. I don't get up there too often."

The experience of flying as being so pleasant it is "fun", is probably related to some of the issues discussed above, such as status and service. But there does appear also to be an element of sheer pleasure in the mere knowledge that one is doing an <u>exciting</u> thing: going 600 miles an hour, miles above the ground.

The fun of flying itself seems to wear off with continued experience. Those respondents who talked of it as fun seemed to be, for the most part, those who had flown relatively little. Some respondents with more experience alluded to this process:

"As I listen (to other participants in a group depth interview), I wonder how many airline trips you have to make before the honeymoon is over? After a while, it's just another mode of transportation."

"I don't like to fly much anymore. After awhile it's the same as driving: you feel the law of averages will catch up with you."

"I feel excited, like a kid. Maybe when I get these gentlemen's ages (other group depth interview participants), I'll feel it's just another way of transportation."

While the excitement of flying means fun to some people, it simply makes other fearful.

"I don't like airplanes. I've never flown...I'm afraid of it."

"I've never flown. I have a fear of planes."

"I'm always glad to get down once I get up."

"But it's nice to be on the ground again."

So while the unique attributes of flying itself seem to attract some people to use it, others are discouraged from usage by what appears to be the same thing. And many heavy air travelers seem to become indifferent to the "fun factor".

Another travel mode that has some elements of fun involved is the automobile. For many people, driving a car is pleasurable, although presumably not in the same way as riding in an airplane. In the case of the automobile, the pleasure seems to come from the experience of controlling a powerful and speedy vehicle.

> "I enjoy a good open road.... Fly right along."

> "I leave early, and the road is mine."

> "I just enjoy driving."

> "I really enjoy driving, barreling around just for the ride, an emotional kick."

> "I like to drive."

The statement, "I like to drive", can refer to a number of different factors, of course. But most drivers seem to enjoy, sometimes, the controlling of the car, and some drivers seem to enjoy this almost all the time.

Other drivers react negatively to the same situation.

> "I don't like to drive."

> "I find driving fatiguing. When you get there, you're exhausted."

> "I don't like driving at all."

> "Driving is not relaxing, because of the traffic."

> "I just don't like driving. It's a chore."

Even those who do find pleasure in driving a car probably do not enjoy driving under all conditions. "The open road", and "speeding along" are important parts of the imagery of pleasure associated with driving; traffic congestion can depress the pleasure. It appears likely that most drivers can find it enjoyable under the right conditions, but that almost no one finds it pleasurable to drive extensively in city traffic. Some people, weighing these factors, enjoy the "open road" so much they end up characterizing driving as a whole as being fun, while for others it is summarized as a chore.

In summary, "fun", in the sense that it is being discussed here, is a positive factor for airplanes and automobiles for some, but not all, travelers, while it seems to have little implication one way or the other for rail and bus travel.

10. Modernity

The comments of some respondents comparing rail and air travel seemed to suggest that "newness" is a value in its own right, independent of the material benefits it brings. That is, an older vehicle will almost necessarily present a less attractive appearance, be more prone to malfunction, offer fewer "modern conveniences", etc. But the preference for the new has some additional implications of valuing modernity for its own sake.

Things that are new make their users feel up-to-date, "with it", a part of the happening world. There is glamor in "the latest thing", as a great many people are well aware, including clothing purveyors, Detroit automobile designers, and hobby or amusement equipment manufacturers. Not surprisingly, then, air travel, as the newest mode around, can impart to a user the feeling that he is "Twentieth Century Man", progressive and forward looking.

"The train doesn't have the glamorous image of the planes."

"I don't know why we want to go backward to trains, when we just got rid of them. Go forward."

"About trains, we should have something new -- faster and better."

"My opinion of a train is an old thing, that takes a lot of time."

"Trains are old -- wear and tear. Planes are new."

Comments such as these, and many other remarks that also were related to such factors as time, and fun, and status, suggest that one reason for flying is the feeling of being up-to-date, using the "last word" in transportation.

The opposite of modernity is not entirely negative, however. A few respondents valued trains because they constitute a link with the past. On a personal level, rail travel seems to be an occasion for nostalgia for some travelers who remember with pleasure childhood train excursions. And a few respondents struck a more impersonal note when they remarked on the importance of the railroads in our nation's past: "I like train travel because of the romance of the railroads -- they developed this country". But this factor must be a very minor over-all influence on mode choice.

11. Information, familiarity, and knowledgeability

"Knowing what to do" when traveling can be a very important consideration. It is related to the convenience and aggravation factors previously discussed, since it can be inconvenient and aggravating to find one's way, to seek information.

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There are many things which can contribute to
familiarity with a mode, ranging from the spe-
cific to the general: where the terminals are,
the best way to get to the terminals, how much
it costs, how long it takes, the schedule, how
much of a nuisance luggage is, how to dress,
how to act, etc.

When a traveler knows the answers to such ques-
tions as these for a given mode, it can be a
powerful inducement to continue using that mode.
It is an aggravation to have to seek such in-
formation, and it can be unpleasant or upsetting
to find one's self dressed inappropriately, dif-
ferent from the other passengers, and wondering
how to act, anxious not to look "out of place",
embarrassed at being ignorant, envying those
who are sure of themselves.

One of the respondents provides a prize example
of the importance of familiarity. This woman's
preference in travel was for the bus. She en-
joyed bus travel over the other modes she used,
and accomplished most of her trips by bus.
Almost the only exceptions were her trips to
visit relatives in the suburban New York City
area. There, she took the train to Manhattan,
made her way to the Port Authority Bus Terminal,
and took a local bus out to her relatives' com-
munity. She was unable to explain why she did
not take the entire trip by bus, since it would
have eliminated considerable trouble -- getting
from the Manhattan train station to the bus sta-
tion -- and she did generally prefer the bus to
the train. It seemed she had never even con-
sidered this alternative, and was at a loss to
explain why. After considerable probing and
discussion in the interview, it appeared that

the only reason was that she already knew how
to take the train to New York. She was com-
fortable with her routine, because it held no
surprises for her, and she never had to seek
information.

Routines are comfortable, in travel and else-
where, and familiarity is thus a value considera-
tion for the individual traveler.

A related consideration is the availability of
information and the ease of obtaining it. There
are some things that travelers must know, such
as times and points of departure, and there are
other things they want to know, such as the rea-
son for a delay and its likely duration. In
either case, when information is scanty or hard
to obtain, dissatisfaction results.

The case of non-essential information is partic-
ularly interesting. Knowing the reason for a
delay is of no functional value for a traveler:
there is nothing he himself can do to correct
the trouble. But "not knowing what's going on"
clearly added to the negative feelings of the
respondents about delays. A common complaint
about the railroads was "you can be stuck some-
where and they never tell you anything". It
would not get them started any faster, but
these travelers feel better when they have an
explanation and an apology. If there is no ex-
planation, no announcement of the cause of a
delay, the traveler is left to wonder if anyone
knows the cause, and if anything is being done
to get things moving.

At any rate, information is important to travelers:

>   "I couldn't get any information in
>   the train station."

>   "All those delays for no reason (on
>   trains), nobody can tell you why you're
>   sitting there."

Advertising is another aspect of the familiarity. information factor. As mentioned previously, many respondents brought up the fact that airlines advertise their passenger service much more than railroads. Advertising is one means of providing information. Beyond that, as discussed earlier, its presence is interpreted as a sign that an individual can feel welcome. The wooing and persuasion of advertising seem to contribute to those feelings of being at ease that are related to familiarity.

Advertising may even create a kind of familiarity. A person using a heavily advertised service may feel he knows that service, and can relax his guard against the unexpected. Much airlines' advertising on television seems to provide viewers with the vicarious experience of air travel, which can be a source of reassurance to the traveler.

There is one more finding of this study that seems explainable in terms of familiarity. A good many bus travelers cited the fact that they can see the driver as an advantage of this mode. The respondents themselves found it difficult to explain why this should make much difference. Viewed as an instance of the appeal of familiarity, it may be meaningful.

It appears that being in the same compartment with the driver, seeing and dealing with him upon boarding the bus, perhaps even watching him at work, make it easier for the bus traveler to relax in the knowledge that he knows "what's going on". His fate is being controlled, not by persons and things unknown, but by a person who is seeing the same things as the traveler, and doing something -- driving a motor vehicle -- that travelers either do themselves or see being done every day.

Bus travel does exist in the minds of many travelers as being somehow similar to automobile travel, and being able to see the driver has something to do with it. Some people find a kind of comfort in the resulting familiarity, and like bus travel for this reason.

VII. EVALUATIONS AND IMAGES OF THE MODES

The first two sets of factors in the mode choice situation,
the nature of the trip and the value considerations of the
traveler, have been covered in the two preceding sections
of this report. In this section, the way in which the modes
are viewed, and in particular, the way in which they meet
the various value considerations, will be discussed.

As has been pointed out, the three sets of factors inter-
act, so that now upon reaching the third set, a great deal
has already been said about it. In part, then, this sec-
tion of the report will simply bring together, in a new
context, some of the material that has already been pre-
sented.

A.   The Automobile

    1.   Perceived advantages and positive factors

        When all the advantages of the automobile
        for different circumstances and kinds of
        trips are considered, the list is extensive:

        - Economy

        - For any destination

        - For multiple destinations

        - Convenience of no "transfers"

- Freedom

- Combining intercity with local transportation

- Luggage capacity

- Companionability

- "Fun"

a.   Economy

        Since most travelers feel they have good
        reason for not including the fixed costs
        of automobile ownership in their expenses
        for a trip, travel by car is viewed as by
        far the least expensive mode, especially
        for trips within the Northeast Corridor,
        where distances are often short enough so
        that overnight accommodations are unnec-
        essary.

        This factor is of particular importance
        for family travel, where multiple fares
        would be involved in travel by other
        modes. In fact, cost alone is such a
        powerful consideration that the auto-
        mobile will almost inevitably be pre-
        ferred for family travel, in most cases,
        even by the relatively affluent, almost
        regardless of what changes in the fea-
        tures and convenience of other modes
        could be invoked.

For single non-business travelers, who
would have only one fare to pay, and
sometimes for couples, the cost advan-
tages of the automobile over other modes
is less compelling.

For the business traveler the economy
of the automobile is almost irrelevant.
He usually travels alone, of course,
but more important than that is the fact
that in most cases his travel expenses
are paid by his employer, and the poli-
cies supported by most employers permit
or even encourage the use of more expen-
sive modes if time is saved.

The major exception to the rule that
business travelers do not use the auto-
mobile for reasons of economy occurs
when business is combined with pleasure.
The businessman who takes his wife along
would have to pay her fare, but her trans-
portation is free if he drives and collects
automobile expenses from his employer.

b. For any destination

Some small towns and resort areas may be
unreachable by some or all of the other
modes, leaving them to automobile travel
by default, whether the travel is for
business or personal reasons.

c. For multiple destinations

A large number of trips that are made have
more than one single destination:

- Tours of an area for sightseeing and
  visiting points of interest.

- Visits to several different friends
  or relatives, all living in one
  direction from the traveler's home.

- Some kinds of business trips, such as
  the salesman's swing through his terri-
  tory or the manager's visit to all
  branch installations in an area.

For trips such as these, the automobile
offers flexibility and relative ease.
To make such trips by other modes would
require complex scheduling and many
trips to terminals.

d. Convenience of no "transfers"

With the automobile the traveler moves
from his actual origin, whether home
or office, to his actual destination,
whether friend's home, hotel, or office,
in one stage. He does not use one vehicle
to go to the terminal, another to get to
the destination city, and another to get
from that terminal. The ease of not hav-
ing to transfer himself and his luggage
is highly appreciated.

e. Freedom

The automobile traveler does not move
according to someone else's timetable.
He leaves when he wants, and stops when
and where he wants.

This factor is often not of great impor-
tance to the business traveler, who is
more interested in conserving time than
in stopping along the way. And since the
travel is part of his work, and work it-
self implies schedules, he is less resent-
ful than the non-business traveler of the
necessity for adapting his departure to a
timetable.

The non-business traveler highly values
the freedom, both actual and potential,
of automobile travel. He enjoys having
the trip under his control, and not in
the hands of a schedule planner. Leav-
ing when he wants is a symbol of his
freedom, as is the knowledge that he can
stop any time he wants, even if he seldom
does actually make unplanned stops, as is
often the case. A trip can be extended
or cut short, schedules and itineraries
can be revised, all according to the
traveler's enjoyment. Even when he makes
no use of these opportunities, the feel-
ing of freedom is pleasurable.

The flexibility and freedom of automobile
travel means that its users can make what-
ever they want out of it. It can be as
"nice" as they desire, starting with their
selection of a car. If they want status
and prestige, courtesy and service, they
can find it by selecting the right restau-
rants and accommodations en route.

f. Combining intercity with local transportation

When a trip is made by automobile, the
traveler has solved the problem of local
transportation at his destination. As
mentioned above, he can go directly to his
actual destination. Beyond that, he can
continue to move around relatively freely
during his stay.

For business travelers, this is important
in two different ways. First, many busi-
ness travelers have several locations to
visit at their destination, such as all
their stores or branches in a metropolitan
area. To depend upon cabs or local transit
systems can be frustrating and time consum-
ing, especially for the visitor.

Second, the business traveler may have
some occasion for seeking his own plea-
sure, especially if his stay is over-
night or even longer. He may have some
time he could spend in sightseeing, or
going out at night. Having his auto-
mobile facilitates these activities
without adding significantly to his
expenses or his employer's.

The non-business traveler, too, will often
require local transportation, and for him
the expense of cabs or rental cars is much
more important. Even if he stays with
friends or relatives who have a car, as is
sometimes the case, he may well find occa-
sion to use his own.

g. Luggage capacity

The automobile offers what is, in many ways, the best way of all to manage luggage:

- It is handled fewer times. It is loaded once at the origin, and some of it may not even be taken out of the car until the return home.

- Packing can be casual, everything need not be containerized.

- Doubts about what to take can be resolved by taking everything: dressy and casual clothes, light and heavy coats, etc.

- Travelers probably feel more secure knowing their luggage is in the car with them than having it checked when traveling by other modes.

- More can be taken. This is especially important in the case of family travel, but some business travelers have such heavy or bulky samples, goods, or gear to transport that there is no practical alternative to using a car.

h. Companionability

The automobile preserves the family as a unit, psychologically "cut off from the outside world". Privacy against others is maintained, while intimacy among the travelers is permitted. In fact, it appears that the situation may encourage intimacy and feelings of family togetherness. And the privacy means that the family can relax; the children need not be neat and on their best behavior at all times, which is a problem for parents when traveling on public transportation.

This factor may be of some importance when large parties make business trips, offering an opportunity for conviviality among co-workers. But large groups of business travelers are relatively rare, and when such groups do travel by automobile there are other reasons that may be more important: having an automobile to go out together in the evening.

i. "Fun"

For some persons, the act of driving an automobile is "fun". If automobiles did not exist as practical transportation they would probably still be a leisure activity, as boating and horseback riding are now.

2. <u>Perceived disadvantages and negative factors</u>

The disadvantages of the automobile, relative to some or all of the other modes, incude the factors:

- Lack of speed

- Fatigue

- Traffic and parking

- Boredom

- Inability to work

- Low status.

a. <u>Lack of speed</u>

The automobile may be the slowest of all modes, especially if any distance is involved, so that many stops are required. For very short trips, of course, the transfers to and from local transportation that are required for other modes may give the automobile an advantage in time.

The non-business traveler usually finds the time disadvantage of the automobile to be unimportant, given the relatively

short distances of most trips in the Northeast Corridor. Its advantages of economy, convenience, and freedom far outweigh the saving of a few minutes or even hours.

The business traveler, however, values time more highly. His employer usually wants travel time minimized, which also serves his own personal needs: it minimizes his time away from home, and it bolsters his sense of importance.

b. <u>Fatigue</u>

In no other mode does the traveler "work" during the entire trip in the way the automobile driver does. The driver of an automobile is more likely to arrive at his destination tired than is the user of any other mode.

Once again, the non-business traveler is likely to find the advantages of the automobile more important than this disadvantage. But the business traveler may have work to do when he arrives, so being rested is important.

c. <u>Traffic and parking</u>

Driving an automobile even on an open road is work, in a sense, as suggested above. Driving in traffic imposes even greater mental and physical stress, especially if

the driver is unfamiliar with his route
and has to find his way. Finding a place
to park a car can be a trying experience.

These factors can be an important disadvan-
tage to automobile travel when the destina-
tion is the center of a large city. In such
circumstances an automobile can be felt as a
burden, when compared to the center city loca-
tions of public transportation modes and the
convenience of local transit systems (includ-
ing cabs).

Manhattan, especially, is seen as such a
difficult place in which to drive and park
that many travelers who use automobiles for
practically all their trips do not drive
there.

d. Boredom

Traveling alone by automobile can be boring.
Even the presence of strangers, as in a train
or airplane, can make a traveler feel less
bored and lonely than driving alone. Addi-
tionally, these modes may be faster, which in
itself reduces the occasion for boredom, and
the time can be spent reading.

e. Inability to work

Business travelers on airplanes, trains, and
even buses to some extent, can read and write,
or at least rehearse and prepare for meetings
or presentations. The inability to work while
driving is a disadvantage, and an important
one to some business travelers.

f. Low status

Automobile travel has low status only for
business travelers. For non-business trips
it is nearly "statusless", being preferred,
perhaps not for exactly the same reasons,
by the affluent and the poor. It can be
as "nice" as its users care to make it,
starting with their purchase of an auto-
mobile.

For business travel, it suffers by compari-
son with air travel. The cost and speed
of air travel are announcements that the
businessman using them is important.

There is an interesting exception, how-
ever. A few business travelers who pre-
fer to drive and combine business with
pleasure, doing some sightseeing and
visiting along the way, seem to feel
some pride in this demonstration that
they are sufficiently important that
they are not required to account to
their employer for all their time.

3. Summary position

The automobile is a thing apart, more different
in many ways from the other modes than they are
different from one another, since they all charge
fares, operate between terminals, and run accord-
ing to fixed schedules, and mix strangers toget-
her.

The advantages of the automobile are very
often of _compelling_ importance for the family
traveling together.

For the single non-business traveler these
advantages are less compelling. His cost
of travel by another mode is only one fare.
What was intimacy for the family can be
boredom if the driver is alone. If he only
has himself to look after, the aggravation
of meeting schedules, handling luggage, and
arranging local transportation is less than
with a family.

The business traveler finds the advantages
of automobile travel still less important,
and its disadvantages more so. Especially
if he is traveling to a single destination
in a major city without much luggage, he is
unlikely to go by car.

B.   The Bus

1.   Perceived advantages and positive factors

The bus has few advantages over all other modes.
That is, one or another of the modes surpasses
it in almost every respect. Those who use it,
however, are not comparing it to _all_ other modes.
In some situations the alternative is the train,
and in others it is driving.

As bus users see them, the advantages of the
bus include:

- Convenience

- Service to points not served by other modes

- Economy

- Comfort and cleanliness

- Sociability

- Casualness

- Familiarity

a. Convenience

When compared to the automobile the bus
may be seen as more convenient for trips
into large cities, where driving and
parking can be a chore.

When compared to the train, the bus may
be more convenient if its schedule happens
to suit the traveler better, or if he
happens to live closer to a bus station,
or if his destination happens to be closer
to a bus station. For some trips the choice
is entirely between the bus and the train,
the other modes being ruled out, and many
travelers make the choice on the factors
of convenience in the specific situation.

b. Service to points not served by other modes

When the automobile is ruled out, the bus
is sometimes all that is left for travel
to small towns and resort areas.

c. Economy

Bus fares are believed to be the least ex-
pensive.

d. Comfort and cleanliness

People who use the bus as an alternative to
driving often value sitting back and relax-
ing instead of working behind the wheel of
a car.

Many bus users feel that buses are more com-
fortable than trains, with better seats and
better temperature control. They also believe
that buses are cleaner, on the average, than
trains.

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e. Sociability

The bus is valued by many of its users as
being the most sociable travel mode. Con-
versations among strangers are relatively
common. It appears that something about
the bus facilitates the development of a
feeling of shared experience among its
passengers. Perhaps it is because the
number of people in the bus is smaller,
and they are in closer proximity to one
another, than with other modes. Perhaps
it is because the bus is experienced as
just an overgrown automobile, and people
traveling by automobile socialize (because
they know one another, of course). Per-
haps it is because the low cost of bus
fares makes each passenger feel that his
fellow riders must all be "just plain
folks", with no pretensions to status.
Pehaps it is because there is some carry-
over feeling from school buses and charter
bus trips by clubs, when all the passengers
did know one another.

Whatever the explanation, it appears that
passengers on a bus are more likely than
those on other vehicles to feel themselves
as part of a group. Because the driver
is in the same compartment sharing the same
experience, he can be included in the feel-
ing. In fact, it may be that the driver
provides the focus that helps the group
feeling develop.

The feelings of cameraderie may remain just
feelings, or they may cause actual interaction
among the passengers, in the form of chatting
and conversing.

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f. Casualness

The bus is valued by many of its users for
what they experience as an aura of casual-
ness, in which it is second only to auto-
mobile travel. Dressing up is unnecessary,
and passengers may feel less pressure to be
"on their best behavior". Many bus users
do seem to think of themselves as simple or
plain people who are more comfortable in a
setting without high status implications.

g. Familiarity

Bus travel is less a "mystery" than any
other public mode. The passenger sees
the entire vehicle at one glance, there
are no cars or compartments that he does
not enter. He knows exactly where his
luggage is. He deals directly with the
driver, and can watch the driver at work,
so that he always knows "what's going on".
If he understands the operations of the
automobile, he is equally familiar with
the bus.

To some people, the feeling that every-
thing that takes place is visible to
them and falls within the bounds of
their own experience is reassuring.
Being familiar with situations that
occur is comforting, and some bus
travelers value it for this reason.

2. Perceived disadvantages and negative factors

Bus users would agree that there are many ways
in which it does not compare favorably to all
other modes, but, as pointed out above, they
seldom compare it to all other modes. In the
more limited comparisons they make, it often
seems to them to be superior to the realistic
alternatives.

Those who avoid the bus, however, are inclined
to rate it as the lowest of all the modes on
many factors, and to dislike it for some of
the same reasons that its users like it:

- Low status

- Danger of assault or affront

- Slowness

- Discomfort

- Dirtiness

- Fewest amenities

- Sociability

- Casualness and familiarity

a. Low status

Those who do not use the bus often think of
it as the travel mode for people who lack
importance and power: the poor, the old,
the very young, those in military service,
etc.

Those who enjoy feelings of prestige, which
certainly includes a great many people,
would feel "lowered" by bus travel.

b. Danger of assault or affront

Bus travel is seen as being so low in status
that passengers and persons encountered in
terminals may include a high proportion of
"undesirable characters" whose presence can
be offensive or even dangerous. Obviously,
anyone with these feelings will tend to
avoid bus travel.

c. Slowness

Bus travel is perceived by many non-users
as being the slowest way to travel, "stopping
at every crossroads", leading to feelings of
extreme impatience.

d. Discomfort

The non-user often thinks of buses as the
least comfortable mode, jostling and bounc-
ing its passengers and confining them to a
very cramped seat.

e. Dirtiness

The non-user often sees the bus as dirty,
with so many tightly packed people, litter-
ing and cluttering.

f. Fewest amenities

Food and drink involved in bus travel are
often believed to be the poorest possible.

g. Sociability

The sociability of the bus, which is a virtue
for many of its users, can be a negative
factor for those who view its passengers as
lower status.

h. Casualness and familiarity

The business traveler, especially, feels a
sense of importance about what he is doing,
and the easy, casual, familiar atmosphere
of the bus is inconsistent with his feel-
ings about himself and his role while travel-
ing.

3. Summary position

Bus travel was the subject of less comment and
discussion by the respondents than any of the
other modes. Many respondents overlooked it

entirely, and had to be reminded that it did exist as a travel mode.

Why the bus should be so nearly ignored by many people is interesting, in view of the harsh criticism of the train, which is in many ways its most similar competitor. On objective grounds, and according to the testimony of many bus users, bus travel is probably not greatly inferior, if it all, to rail travel for the shorter trips within the Northeast Corridor.

If the bus is not so bad in reality, its image must be especially poor. Non-users are reacting to a stereotype of the bus, and it may be that that stereotype is based more in the past than in the present. If so, that could account for the sharp disagreement between users and non-users regarding such "objective" features as comfort and cleanliness, if buses have steadily improved their facilities and service, as many users maintain. The person who never uses the bus has no opportunity to correct what the user says is an outmoded image.

The sociability, casualness, and low status aura of the bus are positive factors for people who think of themselves as "just plain folks" and are comfortable with that perception. To those who think of themselves otherwise, these are negative factors. Business travelers especially are likely to object to this atmosphere, since it removes some of the

dignitiy and seriousness they fell is due their role and which the train helps to preserve.

All these factors combine to produce a view of the bus by those who avoid it as the worst way to travel, a "last resort". This view is consistent, of course, with the perception of bus travel as the least expensive mode, except for the automobile, where the ownership of the car itself requires some amount of money.

Given this perception and image, it is hardly surprising that so many travelers ignore the bus entirely, and that so many respondents failed to consider it without prompting.

C. The Airplane

Unlike the bus, both users and non-users tend to agree
on the characteristics of air travel. And few people
avoid using it because of distinctly negative feelings
about it.

1. Perceived advantages and positive factors

The advantages and favorable aspects of air travel
include:

- Speed

- Service and courtesy

- Cleanliness and appearance

- Feeling welcome

- Status

- Comfort

- Modernity

- "Fun"

- Lack of boredom

a. Speed

Air travel, of course, epitomizes speed. Even
for the shorter trips within the Northeast

Corridor, where air travel is not always sig-
nificantly faster portal-to-portal, it retains
the image of speed. For this reason, it ap-
peals not only to those who have a functional
reason for valuing speed, but also those who
value it for the statement it makes about the
value of one's time, and those who have simply
internalized the equation that speed equals
value, and those who just like to go fast.

Business travelers are especially likely to
be influenced by air travel's potential for
saving time.

b. Service and courtesy

The service and courtesy provided by the air-
lines and their personnel are generally felt
to be far above the standards of any other
mode. In fact, some respondents described
the treatment they receive -- and usually
value highly -- as pampering. Passengers are
waited upon, and treated like important per-
sons.

Part of the service and courtesy is the easy
access of information. Information displays
in airports seem to be sufficiently numerous
and prominent, and they may somehow be trusted
more, perhaps because their use of "modern"
displays, such as television screens, suggests
the possibility of easy revision and updating.

The provision of personally served food and drink that is included in the price of the fare is highly prized, in part for its symbolic value as a traditional gesture of hospitality.

c. Cleanliness and appearance

Certainly the airlines rated very high for the cleanliness of their facilities, and the "niceness" of terminal and vehicle surroundings and furnishings.

d. Feeling welcome

Airplane passengers seem to feel welcome and appreciated. The impression comes from the high standards of courtesy of airlines' personnel, the existence of stewardesses whose sole function is to offer personal service to the passengers, the serving of food and drink without asking for payment, the conspicuous effort to provide clean and nice surroundings in terminals and airplanes, numerous and prominent information displays for the travelers, and a vigorous advertising program that is accepted as evidence that passengers are truly wanted.

e. Comfort

Many respondents described air travel as "comfortable", although they often were referring

to "niceness" rather than sheer physical comfort. Too, the time in the air during trips in the Northeast Corridor is so short that there is little opportunity for real discomfort. The inherent comfort features of air travel probably include the seats themselves, temperature control, and a ride that is usually smooth.

f. Status

Almost everyone would put the airlines first in a ranking based on status or prestige. Its passengers are seen as being more important, affluent, and of higher social class standing, and the airlines reinforce this impression by treating the passengers like important people, in the service and courtesy they provide. Also, the cost of air fare and the speed that money buys provide, in themselves, a statement that the air passenger is an important person.

Undoubtedly, one of the major satisfactions in flying, for many people, is feelings of prestige and importance that it can provide.

g. Modernity

Since air travel is the newest mode, the airplane passenger can enjoy the feeling that he is right in step with the Twentieth Century, living fully in the Jet Age, truly a modern man.

h. "Fun"

For many people, flying is fun. They enjoy the excitement, the knowledge that they are speeding along miles above the ground.

i. Lack of boredom

Flying may be the least boring way to travel for many people. In addition to its speed, which itself reduces the potential for boredom, something is usually happening: takeoffs and landings fill time and offer interesting sensations and views, the view while cruising may offer some unique perspectives, and stewardesses bustle about bringing drinks and sometimes food. With so much activity, there may be less feeling of monotony than with other modes.

2. Perceived disadvantages and negative factors

The major disadvantages of air travel affecting some or all people are:

- Cost

- Airport access

- Delays

- Fear

- Discomfort

- Status

a. Cost

The high cost of air fare is a major deterrent to wider use by non-business travelers.

b. Airport access

The major complaint about air travel has little to do with the airlines themselves. Access to airports is a very important disadvantage for this travel mode. Respondent after respondent complained about "the time it takes to get to and from the airports". It appears that the aggravation, however, is at least as important as the time. In fact, it appeared that many respondents were exaggerating the amount of time expended, possibly as an unconscious method of sufficiently stressing the amount of aggravation. At any rate, this factor stands as the major dissatisfaction with air travel.

c. Delays

The unreliability of air travel, with flights subject to delay or cancellation because of weather or air traffic congestion, is a disadvantage of this mode. As yet, it seems to have had relatively little effect on reducing usage, but the concern is serious, and if air traffic delays continue to increase in frequency and duration they may become a real deterrent to flying.

d. Fear

Many persons are afraid of flying. Most of
them probably know that the comparative risks
are not so great, but they still feel fear.
This emotional reaction is sufficiently strong
to cause many people to avoid use of this mode.
It does appear, however, that younger people
who have grown up in a time of mass air travel
have less fear, so that this factor should pre-
sumably diminish in importance in the future.

e. Discomfort

While some respondents described flying as
comfortable, many others feel cramped by the
lack of more space between seats to the sides
and in front. And some respondents complained
about confined to a seat, with little oppor-
tunity or occasion to "stretch their legs"
by taking a walk.

f. Status

A few people who think of themselves as "just
plain folks" may not enjoy the status and pres-
tige of air travel, as if they are uncomfortable
at being somewhere they do not belong, being out
of place, unsure of themselves and afraid of
embarrassment.

3. Summary position

Air travel certainly ranks at the top of the pub-
lic modes in a number of very important character-
istics. It is probably only cost that stops it
from being even more widely used than it is for
non-business travel. And cost is seldom a deter-
rent in itself in the case of business travel.

However, there is mounting concern with air traffic
delays, and it appears that many travelers are
right now at the point of re-examining some of their
routines, questioning whether some of their trips
might be better accomplished by some other mode.
If delays increase still further, there may be
some switching by heavy business travelers, especially
those for whom the romance of flying may have worn
off, and who tend to value efficient use of time.

D. The Train

1. Perceived advantages and positive factors

The perceived advantages and positive associations
of rail travel include:

- Convenience

- Time

- "An old favorite"

- Spaciousness

a. Convenience

A train is often used for no other reason than
that it happens to have a convenient time of
departure and arrival or a conveniently located
terminal or easy access to the terminal.

b. Time

For trips of certain lengths, the train may have
a lower portal-to-portal travel time than other
modes, which accounts for a great deal of its
usage.

c. "An old favorite"

For some people, trains have pleasant associa-
tions stemming from happy childhood trips,
and for others the railroads' past itself,
romantic and deeply rooted in the nation's
history, is pleasant to contemplate.

d. Spaciousness

Trains have a potentially great advantage over
any other mode for comfort and passing the time
pleasantly. Passengers can walk around on a
train, "stretching their legs" instead of being
cramped in a seat, and moving to different parts
of the train.

2. Perceived disadvantages and negative factors

- Dirty

- Discomfort

- Delays

- Slow

- Discourtesy and lack of service

- Feelings of unwelcome

a. Dirty

The most salient association to rail travel
involves dirtiness. Respondent after respon-
dent criticized trains bitterly on this account,
using words such as "filthy" and "terrible"
to refer to floors, seats, and windows.

b. Discomfort

The seats in trains, grossly inadequate tempera-
ture control, and jouncing and bumping were all
harshly criticized.

c. Delays

Trains are alleged by many to suffer from very
poor schedule reliability.

d. Slow

Trains were frequently characterized as slow,
in part because of their reputation for delays.

e. Discourtesy and lack of service

Railroad personnel, in terminals and on the
trains, are alleged to be discourteous, surly,
unhelpful, and uninformative. Getting service
or information struck some respondents as nearly
hopeless. Delays were said to bring no apologies
or explanations.

f. Feelings of unwelcome

Many travelers feel unwelcome when traveling
by rail. The poor service and facilities
make it appear to them that the railroads
do not even want to please them.

Two other factors enter into these feelings.
First, the absence of advertising for rail
passenger service is taken as a sign that
passengers are not really welcome. Second,
it is widely believed that railroads, in fact,
would like to close down their passenger trains,
and may even be deliberately providing poor
service to depress usage low enough to justify
such a step.

3. Summary position

The image of rail travel is distinctly unpleasant
for the majority of travelers, both users and non-
users.

"I think of trains as being slow and dirty."

"The railroad industry generally has built a
bad public image; that's why you never think
about it."

"The first word I think of is 'smeary'."

"You always have the idea with trains that you'll be late, you'll get stuck, the schedules won't work out."

"I associate it with something run down and uncomfortable."

"I think trains are on their way out and nobody should step in their way."

Much of this negative reaction was traced by respondents directly to their experiences on intercity trains. But another major part of it is a generalization from poor service on local commuter lines to intercity rail travel. Many respondents admitted that their expectations about poor treatment, schedule unreliability, and dirty, uncomfortable trains came in large part from their experience with commuter train conditions.

Not all respondents took such an extremely negative view, of course. There were many who said they enjoyed riding the train, but even these travelers were more often reporting the absence of negatives rather than the presence of any positives. In other words, their experience was that trains were reasonably reliable as to schedule, not very often too dirty, and did not necessarily carry impolite personnel. For these people, then, a train trip did not necessarily imply unpleasantness, but neither was it anything more than a strictly utilitarian way of getting from one point to another.

In fact, given the list of value considerations that this report has discussed, it is difficult to find a single one, with the exception of convenience, on which trains rate high, while substantial numbers of travelers would rate them very low on many of those considerations.

It is interesting that criticisms of rail travel were more often offered with a note of bitterness than was the case for any other mode. The railroads, as organizations, are blamed for the drawbacks to rail travel.

Many respondents talked about deteriorating rail travel, implicitly or explicitly comparing today's service with the way things used to be. It is in this context that the bitterness of their complaints seems understandable: they believe that rail service used to be better, and it is deteriorating because of poor management, complacency, or lack of caring. Those who use the trains feel they have been taken for granted, and they resent it.

In fact, the few truly positive comments about rail travel often referred, one way or another, to the past: trips pleasantly remembered from childhood, for example. Or, the railroads' romantic past: "When I hear a train whistle I'd like to be on that train, just because it sounds nice".

The anger that many travelers feel about railroad passenger service can be given a positive interpretation. It is, in many ways, a demonstration that they believe that better things are possible. To blame the railroads for inadequacies is to imply that things could be improved, and that they should be improved. In other words, it appears that even some of the most critical travelers have not yet given up on the railroads.

For the present, however, it appears that the rail
mode is chosen for trips within the Northeast Corri-
dor primarily for such utilitarian reasons as a con-
venient time of departure, a conveniently located
terminal or easy access to the terminal, or a lower
portal-to-portal travel time than other modes. In
the case of the non-business traveler, cost can play
a part: if cost were no object he might prefer to
fly, partly to save time, but the expense eliminates
this mode, and then his choice among the other modes
is likely to be based upon such considerations as
those above.

Conversely, any time the train does not offer these
convenience advantages, the incentive to use it is
small. If getting to the railroad station is fairly
difficult, or parking is expensive or absent, for
example, those are powerful reasons for finding a
different mode. In Washington, the absence of long-
term parking at Union Station seems to be a main
deterrent to rail travel.

The point is that travelers seem willing to live with
considerable inconvenience in the case of air travel,
because there are compensating advantages: speed,
comfort, status, service, "fun", feelings of modernity,
etc. These factors can prevent inconvenient access to
airports, a poor scheduling situation, and other nega-
tive factors from acting unchecked. In the case of
rail travel, most of the "compensating" advantages
are not present, so that the more "mundane" considera-
tions have nothing to balance them, and only if these
convenience factors happen to clearly favor a given
person on a given trip is he likely to value the train
very highly.

E. The Metroliner and Turbotrain

1. Perceived advantages and positive factors

Among those respondents who had used the Metroliner,
a number of reasons for liking it were advanced or
can be inferred:

- Speed

- Comfort

- "Niceness"

- Service

- Convenience

a. Speed

Speed appears to have been the primary reason
for seeking out the Metroliner originally, in
most cases. It was the promise of a faster trip
than by regular train, one that would come closer
to air travel in portal-to-portal time, that par-
ticularly attracted many of the respondents.

The prospect and reality of reduced travel time
is certainly a major attraction, something that
arouses real enthusiasm among travelers.

b. Comfort

After using the Metroliner once or a few times,
the positive reactions often seem to stress com-
fort and amenities more than time. It is not that
time became in any way less important, but rather
that the travelers became aware of how pleasant

a comfortable train could be, with good seats, plenty of room, good temperature control, and a relatively smooth ride.

It appears that those Metroliner users who were highly pleased, and plan to continue using this mode, are basing their enthusiasm more upon the comfort they experienced than the value of the time they saved.

c. "Niceness"

This factor refers to the pleasant appearance of the Metroliner, and to the feeling of being on something more than a strictly utilitarian vehicle, which results from the appearance and from such things as music.

Like comfort, "niceness" must be experienced to be appreciated, and it is an important reason for planning to continue using the Metroliner, perhaps even more important than the actual value of the time saved.

d. Service

There is some tendency to believe that the personnel on the Metroliners are more courteous and more interested in the passenger than is the case for other railroad personnel. Given the very few exposures to Metroliner personnel, the feeling remains vague, of course.

e. Convenience

Convenience was offered as an advantage of the Metroliner by some of its users. Obviously, they were comparing it to air travel, since it could scarcely be more convenient than other trains, operating between the same terminals.

2. Perceived disadvantages and negative factors

Those respondents who had tried the Metroliner and found it lacking seldom mentioned any inherently bad features, but instead felt that:

- It was not different enough

- It was still being run by the railroads.

a. The desire for more difference

Much of the negative reaction reflected disappointment, a failure to live up to expectations. These respondents seemed to feel that the Metroliner was good, but somehow not as good as they had thought or hoped it would be.

Some of these people seemed to have built a prior image of the Metroliner as something brand new, unique, as different from regular trains as regular trains are from airplanes. This feeling, if it existed, was vague, and they certainly could not have said just what it was they thought would be so different. But they were somehow looking forward to a novel experience.

Then, they found the actuality of the Metroliner to be a very nice train. Faster (but seemingly not felt directly as faster, since no one mentioned a sensation of speed), more comfortable, with much more attractive and pleasant furnishings, but still, after all, recognizably a train. The novel experience turned out to be a good train ride. They felt "let down".

The Metroliner publicity may have contributed to this feeling, communicating a message that a revolutionary change was in prospect, even though it was known that the Metroliner is, in fact, a series of linked cars containing rows of seats, riding on steel wheels along a steel track -- in other words, a train. The fanfare connected with the project may have led travelers unconsciously to expect to feel Metroliner travel as unique.

b. Fault with the railroad management

Some who had used the Metroliner and felt disappointed could offer no other reason than that it was still under the management of the railroads. It appears that the discovery that the Metroliner was simply a good train reminded them about bad trains, and conditioned their response negatively.

Some users were predisposed to dislike the Metroliner, such as the respondent who described his difficulty getting to the railroad station and getting on the Metroliner, and added, "Hopefully, the thing will get off on schedule". To the interviewer's question he replied that it did, in fact, run on schedule, and when the interviewer observed that it seemed he wanted to condemn the Metroliner even in advance of using it, he agreed: "I have a prejudice against trains. I use them locally, and find them filthy...rarely on schedule. Sometimes the lights aren't working, or there's no heat on the train. The Metroliner was better, but not that much better".

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3. The image to non-users

Since the Metroliner is a new development, it is relevant to inquire into the message that the public is receiving concerning it, through the media and hearsay.

Most persons interviewed seemed to be aware, on some level, that something involving new high speed trains was taking place in the Northeast Corridor. In many cases little more than that was known, while many other respondents knew quite a bit about these trains.

Non-users of the Metroliner who are relatively informed about it have an image that stresses speed, with a less salient "niceness" and comfort component, and sometimes a bit of cynicism about the project.

Thus, the primary content of the message the public has received concerns speed. As might be expected, not many respondents were very certain of just how fast the trains would go, and what those speeds would do for elapsed travel time. The general impression seemed to be that a meaningful amount of time, whatever that might be, is saved.

More than just a few respondents also reported that the train was supposed to be "nice" and comfortable, and many of them simply assumed that this must be true since the trains are new. This image component was less often mentioned, and with less certainty, than speed.

The cynicism about the project was evidenced in the extent to which the qualifier was used, "supposed to be faster, supposed to be better". This qualifier

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sometimes was used to indicate that the Metroliner and Turbotrain have not yet come up to their intended speed, a belief that comes from the news media. It also reflects a general cynicism about "projects", especially if the railroads, which are generally held in low esteem, are involved.

4. Summary position

While the image of the Metroliner and Turbotrain to non-users is not outstandingly favorable, many of these respondents expressed a desire to try the new trains. Undoubtedly, some of them were not serious about this desire, and probably would not make much effort to change their routines. Others are simply reacting to a tendency to want to try anything new, simply because it is new. However, many respondents do appear genuinely desirous of trying the Metroliner to see if it satisfies them. A number of them said they had tried to use the Metroliner, but could not get tickets, and still more said they had planned to use it, but then heard that tickets were very difficult to get.

Most of those who have used the Metroliner are decidedly enthusiastic about it:

"It was quite convenient, a real nice train. Much different from what they used to have."

"I wanted to see what it was all about, how much time it saved, the cost, is it worth it? On the New York run the difference is only 12 minutes, which is nothing. It's about 20 minutes, to Washington. It's a lot nicer, they tried to make it like the inside of an airplane."

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"Having sour memories of train trips when I was a serviceman, the Metroliner made a heck of a difference. First class—airliner style, piped in music, comfortable seats."

"I enjoyed it because it was quick.... On the way back, the air conditioning was too high.... A great trip, as far as convenience goes.... The Metroliner lets you off right in the city...but the Metroliner was great. A great trip the whole way. There is a bar and food in each car -- very convenient."

"My dad used it. He liked it very much. It was booked up when I tried to use it. It's great, it takes you right into the city."

"On the Metroliner, it's just like being on the plane. (He cites the comfort and cleanliness.) I talked to the conductor."

"It only took two and one-half hours. That was great. I was very refreshed on the train. The bar was right there. The service was fantastic on there. I had a delicious hot roast beef sandwich. The man was friendly, not cold, he asked me how I was enjoying the trip. They did seem concerned about my complaint about the air conditioner. There was nothing they could do, they said they would change it in the station."

These comments reveal a tendency to stress comfort, "niceness", and service at least as much as speed, although speed is central in the image of the non-user.

Some who used the Metroliner were disappointed:

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"I found it less than satisfactory. Walking about was not much different from walking about in an aircraft. The meals were terrible, the sanitary facilities were terrible. I didn't enjoy it at all, and I thought I would."

"I've been on the new train once. It left me doubtful. It's a stop-gap thing. Thirty years ago the Congressional and the Senator were better trains than the Metroliner today."

"I was looking forward to the Metroliner as my salvation, but it hasn't lived up to my expectations."

"We tried that new high speed train, the Turbotrain. You save about one hour, but there's no club car, no dining car. A little snack bar, cafeteria style, It was clean, compared to other trains. I wouldn't go back on it."

Many of the negative reactions seemed to stem in part from a feeling that the Metroliner and Turbotrain are simply not different enough or new enough.

It seems almost certain that the Metroliner is most appealing to those persons who are already using the train. Next, when respondents compared it, either implicitly or explicitly, with other modes, it was usually with air travel. In other words, it appears to have been conceptualized by travelers as a potential alternative to flying, but not as a realistic alternative to the private automobile, in most cases.

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VIII.   REACTIONS TO THE FUTURE

In some of the interviews that were conducted, several alternate potential developments in travel technology were introduced to the respondents for discussion: faster "conventional" trains, tracked air cushion vehicles, tube vehicles, vertical take off and landing airplanes and attendant airport dispersion, and automated highways. Other respondents were not exposed to these proposals in such a deliberate way, but were prompted to discuss what they believed and hoped the future would bring in the way of development of various travel modes. So in one way or another, most of the respondents were asked to consider the future of travel.

This study has demonstrated the complexity of travel needs, desires, and attitudes. Some desires are powerful, yet vague and hazy, rather far removed from the area of logical decision making. The interactions among the factors affecting decisions are sometimes so taken for granted by travelers that they are scarcely aware of their existence.

Given this complexity, it is hardly surprising that the respondents in this study were seldom able to specify with any real conviction the travel system of the future that would best please them. Since they have never thought through their needs and desires, they found it difficult to judge how well some hypothetical development would meet those needs and desires. They take for granted the complexity of the current system, letting their routines and prior experience of satisfaction guide them through the interaction of cost and comfort and speed and fun and convenience, etc. An assessment of the total value of a travel development necessitates taking such complex interactions consciously into account, and most respondents simply found it too difficult to do so when radical changes in some of the factors were proposed. Their reaction, often unspoken, to specific proposals that were presented seemed to be, "I'd have to

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try it and see"; see for example, whether a 50 percent reduction in travel time was worth facing a particular problem of terminal access.

So this study did not provide a very useful "vote" among the respondents on the specific travel developments they would most like to see occur.

It did, however, in a more general way reveal their expectations and hopes regarding travel. The conclusions that seem justified are stated below.

A. Awareness of the Problem

In the public mind, travel within the Northeast Corridor has the status of a problem; that is, changes and improvements are seen as necessary. It is not a crisis, in the way that many people view environmental pollution or the crime rate as crises. Neither, however, is it an area of contentment with the current state of affairs.

The residents of the Northeast Corridor who were interviewed seem to be very aware that they live in a megalopolis where problems due to congestion are serious and increasing. They relate many of the problems of travel to this congestion:

- Traffic congestion on the highways.

- Crowded terminals.

- Traffic congestion on access routes to terminals.

- Airplane delays due to congested air traffic.

How ever they may define their own particular difficulties, there is little doubt that the majority of the traveling public in the Northeast Corridor sees the travel system as being a problem, and anticipates that the trouble will only increase if present trends are allowed to continue. The feeling is widespread that "something has to be done".

Some of the concern with travel as a problem area probably stems from feelings of national pride. Significant numbers of respondents spoke of the Japanese high speed trains, the attempts in Canada to upgrade rail passenger service, or the experiments by the French or other Europeans in such things as rubber wheels for trains. For the most part, these respondents spoke only of the success of these developments in other countries.

Many seem to fear that the United States is falling behind in travel technology and systems, and are offended by this development. Even if the present travel system were seen as wholly satisfactory, there would be support for programs of research and development, on the grounds of national pride. The feeling is that Americans should have a travel technology at least as advanced as anywhere else in the world.

The feeling may result from an appreciation of this country's leading role in the history of travel technology. Americans are probably proud that the steamboat and airplane were invented here and that the automobile was more highly developed as an instrument of mass transportation here than anywhere else. While in other areas, such as medicine and the arts, America has not necessarily been foremost, it probably is viewed as the leader in transportation

technology. To lose this position would be a blow
to the pride of some Americans, and part of their
eagerness for new developments could result from
this consideration.

B. The Federal Government's Role

Involvement by the Federal Government in the travel
problems of the Northeast Corridor is welcome. It
seems to be an entirely appropriate area for govern-
ment effort and funds, and most of the respondents
seemed pleased at the prospect of government involve-
ment.

Virtually no one raised any objection to government
involvement. There was little, if any, feeling that
the problems would better be left to "private enter-
prise", or that government efforts would be ineffi-
cient or wasteful, or that government funds would
better be spent on other things.

C. Action on Problems

Aside from the matter of national pride, there is
considerable belief that present travel modes are
good enough, if we could just make them function
better. That is, the solution of the problem of
travel is seen as making the system work better,
rather that developing new forms of vehicles.

In the view of many respondents, the problem of
travel would be solved or greatly alleviated by
accomplishing some or all of the following:

- Eliminating traffic jams and parking shortages.

- Cleaning up trains, installing comfortable
  facilities, and making them run on schedule.

- Solving the problem of air traffic congestion,
  to bring air travel back to a reliable schedule.

- Making access to terminals easier, eliminating
  the uncertainty of timely access to terminals.

As travelers define the problem, it is not an inadequacy
in vehicle technology. Airplanes now offer all the speed
that is necessary within the Northeast Corridor, and
trains and buses could be entirely adequate for occasions
when speed is less important or distance is shorter.
All that is necessary is that these vehicles operate
out of easily reached terminals, and always run on schedule,
and are always clean and comfortable. Present automobiles
are a good way to travel, if traffic congestion and park-
ing problems could be reduced.

Even on intercity trips, many travelers see the problems
as occurring within cities: access to terminals and ter-
minal parking, delays at airports from local air traffic
congestion, traffic jams within cities. The greatest
concern is not with the methods of covering distance
between cities, where travelers are relatively satisfied
with the range of alternatives they have, but with the
stages of trips that involve intracity movement and ter-
minal arrivals and departures.

Coupled with the view that present vehicle "hardware"
is adequate is some disinclination to believe that
vehicle technology by itself can solve the problems
of travel. Many respondents seemed to believe that the
development of new ways of moving between cities will
simply bring new areas to be affected by congestion,

poor management, and schedule unreliability. Some
persons seem almost resigned to a view that travel
will always be adversely affected by congestion,
since new facilities will simply create new demand.
Others are less resigned, but still feel that develop-
ing new vehicle technology is not the most direct
attack on their problems, which most often occur
within cities or around terminals.

Many persons find it somewhat difficult to believe
that the solution to their problems may be bound
up with developing new modes and switching some
patterns of mode usage. Their preference is for
a direct attack on the problems of moving into, out
of, and within the cities.

Many respondents did appreciate that changing the
patterns of mode usage, such as increased use of
mass ground transportation, could alleviate some
of their problems. And, of course, new travel
modes are appreciated as improvements in their
own right, offering greater quickness or comfort
or convenience, which are welcomed.

D.   New Modes in the Future

While new travel modes are not seen as the most
direct attack on the problems of travel, their
prospect is greeted with considerable enthusiasm.
Even for people who believe new ways of moving be-
tween cities are not necessary, improvements are
exciting and always to be desired.

The discussion above pointed out that present prob-
lems are not seen as resulting from inadequacies
in vehicle technology. At the same time, however,

when respondents visualized the future, they antici-
pated changes in some travel modes, in addition to
the alleviation of present problems of intercity
movement as part of a trip.

In the first place, advanced vehicles that were
faster or more comfortable would be desirable in
their own right, even if the problems of delays
and access to terminals persisted.

Second, some respondents readily believed that
developing new travel modes could be related to
solving present problems. For example, it seemed
natural to respondents that new terminals would
be part of a new form of high speed ground trans-
portation, and that terminal access could be built
into the system since it would be all new and, by
definition, a working system of ground transporta-
tion would solve some problems of air traffic and
airports being so far from center cities.

Third, national pride may demand advances in vehicle
technology. Many Americans feel that, even apart
from actual need, we should not allow ourselves to
fall behind any other country in this area where we
have been such great innovators.

1.   High speed ground transportation

The feeling was widespread among respondents
that the future of Northeast Corridor travel
lies with the development of high speed ground
modes. In their view, "This is the way it has
to go".

It is impossible to say how much of this belief originated spontaneously with the public, and how much of it results from exposure to the opinions, widely reported, of travel experts.

At any rate, many persons are convinced that, given the distances involved and the great demand resulting from the population concentration within the Corridor, no other mode could be as efficient as the High Speed Ground Transportation system: large vehicles carrying many people along guideways, rails, or tubes of some sort.

The travelers' desire for development in this area was demonstrated in the frequent questions from respondents about the monorail. The publicity given monorails has had a great effect, and many people seem to be wondering why this mode has never been put into full-scale operation. A number of respondents remarked upon the absence of the monorail from the list of travel development that was presented to them, which included conventional steel tracked trains, tracked air cushion vehicles, and trains running in tubes. An overhead monorail seemed to strike some respondents as superior to these other systems.

Interestingly, some respondents used the word "monorail", not to refer to a specific kind of track arrangement, but as a synonym for a fast, modernistic form of ground transportation. Some of them seemed not to know that the word simply meant a vehicle using one rail instead of two.

There was little differential reaction to the specific alternatives that were presented to the respondents. Questions about safety were raised as respondents were asked to consider higher and higher speeds, and questions relating to claustrophobic feelings in a tube vehicle did emerge. But these questions were clearly seen, for the most part, as rather small issues that would easily be resolved; very few respondents felt that such things were serious arguments against these developments.

In short, most respondents were unable to express a preference for one or another of these alternate forms, but there was a tendency to believe that something along these lines offered the greatest promise for the Northeast Corridor.

In effect, the respondents were saying that comfortable High Speed Ground Transportation struck them as the best future development.

If such a transportation system existed, would it be heavily utilized? The respondents tended to answer "yes", but such an easy answer should not be uncritically accepted. The discussion that took place in the interviews does seem to support the viability of the High Speed Ground Transportation concept, however.

Sometimes explicitly, but more often implicitly throughout the interview, the respondents revealed the conditions that would further the acceptance of public ground transportation between cities:

- The vehicles should be considerably faster
  than the present train concept. Switching
  from air travel will certainly be facilitated
  if total travel times are "comparable".
  Travelers readily accept the proposition that,
  because of terminal locations, vehicles need
  not move as fast as airplanes to offer com-
  parable times from actual origin to actual
  destination. In fact, given the relatively
  short distances in the Northeast Corridor,
  even if the total travel time by High Speed
  Ground Transportation is longer, perhaps by
  as much as 50 or 100 percent, that may only
  represent an hour or two, and such times may
  be "comparable", so that a mode choice would
  be made on a basis other than time. It ap-
  pears that speeds over 300 mph are not abso-
  lutely necessary to make ground transportation
  competitive.

- The High Speed Ground Transportation should
  offer seating comfort, temperature control,
  and ride-smoothness that are approximately
  equal to that of air travel. The ground
  system can offer a major advantage over air
  travel in this area: passengers can walk
  around, and not be so confined to a seat.
  Appreciation of this factor would be facili-
  tated by giving them somewhere to walk to,
  such as lounges or observation platforms.

- In addition to physical comfort, the pas-
  sengers should feel welcome, from the
  service and courtesy provided by personnel,
  both in the terminals or on the vehicles.
  Outstanding personal attention is probably
  not a necessary requirement, but the absence

of discourtesy and gruff treatment is. In
other words, perhaps all that is necessary
is that travelers not feel unwelcome.

- Something should be done to make the
  management of luggage easier than it now
  is on trains. Perhaps a "luggage room"
  on each car, where passengers placed
  their suitcases themselves, would suffice
  if some way of eliminating theft could be
  devised.

- Schedules must be reliable. Late departures
  and arrivals must be minimized.

- By distinguishing the High Speed Ground Trans-
  portation system from present-day trains in every
  way possible -- system concept (e.g., Tracked
  Air Cushion, monorail, or tubed vehicle systems),
  management organization, personnel titles, per-
  sonnel uniforms, etc. -- early acceptance should
  be advanced. In this way, negative attitudes
  toward present trains, especially commuter trains,
  should not transfer over so easily.

- The respondents assumed that in such a new
  development the problems of terminal access
  would be taken into account. Certainly
  usage of the mode would suffer if streets
  leading to it were blocked by traffic, and
  parking was inadequate, and no efficient
  local transportation system served it.

One other characteristic of high speed ground
transportation would undoubtedly be very impor-
tant, but cannot be settled as easily as the
factors above: cost.

To increase non-business usage, the price of fares should be kept as low as possible, even if some reduction in comfort and luxury is necessary. However, the cost would probably never be brought low enough to compete with the private automobile for family travel (to say nothing of the other advantages of family travel by car).

For business travel, decreasing comfort, luxury, or service to keep costs down would deter usage. Business travelers will probably continue to fly, as long as they could use any time saving as a rationalization for it, if flying continues to be the "nicest" way to travel.

To complicate the issue, creating two sharply different classes of service on the high speed system is probably not a complete answer. Many business travelers who now fly do so in large part for the luxury, status, and feelings of self-importance that it brings, but they need the time saving as a rationalization. The relatively high extent of tourist class air travel usage is a major bit of evidence that many business travelers would not pay a great deal more for increased luxury as long as the time is exactly the same, how ever they may value luxury and service. One attempt to resolve this issue would be to provide and charge for a moderate amount of comfort and personal service, perhaps comparable to the present Metroliners, but offering high speed. To do so would be to concentrate the appeal toward the more utilitarian-minded business travelers, non-business travelers alone or without children, and those taking shorter trips, perhaps up to 300 or 400 miles, where the presumably superior

"niceness" of air travel was less consequential because of the short duration. The goal would be to strike a "happy medium", and switch some travelers from airplanes and some from automobiles.

Another strategy would be to provide two modes, one aimed at business travelers and the least cost-conscious of the non-business travelers, and the other aimed at cost-conscious non-business travelers. The former would be competing primarily with air travel, and should be luxurious, elegant, with a high standard of personal service, and should be comparably expensive. Some form of High Speed Ground Transportation could meet these goals. In fact, given the possible spaciousness of the vehicles, with lounges, television, observation platforms, etc., so that travelers can walk about and have somewhere to go, the system could surpass airplanes by a great margin in the areas of luxury and status. If portal-to-portal travel times were comparable, such a mode could attract a great deal of business usage away from air travel in the Northeast Corridor.

The second mode would be an attempt to switch some automobile users. It should be kept inexpensive, and should provide as much "freedom" as possible. Bus-like vehicles leaving from many terminals, not on a strict timetable but rather as the air shuttle now operates, might be the most promising approach. Reasonable comfort could be provided at relatively low cost, and with smaller vehicles, very frequent departures might be possible. It should be clear, however, that switching large numbers of automobile users will be very difficult.

How ever specific issues are resolved, the
feeling of most respondents was that high
speed ground transportation is the way of
the future, and a careful consideration of
their travel needs and desires seems to bear
them out.

2. Vertical takeoff and landing airplanes

Few respondents were convinced that vertical
takeoff and landing airplanes offered any
real solution to the travel problem in the
Northeast Corridor. The proposition that this
development would make possible airports closer
to center city and multiple airports serving
a city, and that this would eliminate air
traffic problems and problems of airport access,
aroused reactions ranging primarily from indif-
ference to disbelief. Only a very few respond-
ents saw this as a truly worthwhile development
for the Northeast Corridor.

The position assumed by many respondents was
that the alleviation of air and ground traffic
that would come from airport dispersion would
be temporary at best, that with these new
facilities would come increased demand, bring-
ing the traffic problem back again. Implicit
in their thinking seemed to be a feeling that
air travel is inherently more easily saturated
than ground travel.

Few raised any problems concerning riding on a
vertical takeoff airplane, but the idea of air-
ports in densely populated areas led to predic-
tions that the concept was unworkable because of
noise and safety considerations.

3. The automated highway

The automated highway was viewed, in a sense, as
something apart from the problems of travel, which
have to do with terminals and things that occur
within cities, rather than between cities. The
automated highway would perhaps be an improvement --
most, but not all, respondents approved of the
idea -- but it would not solve currently pressing
difficulties.

Many respondents simply found it hard to believe
that an automated highway could be brought about
in anything but a remote future.

E. The Travel System of the Future

Despite great differences among the respondents and the
vagueness and uncertainty of many of them, it is possi-
ble to state a "consensus" of their desires and expect-
ations, for the future of travel. Most of them seemed
to believe in a three-part system, consisting of air
travel, high speed ground travel, and private automobiles.

Air Travel

For business travel and non-family travel where public
transportation is indicated, air travel will remain
predominant when the distances are such that ground
transportation would require "a long time". Certainly,
what constitutes a long time varies from one individual
to another, but it is probably on the order of no more
than three to four hours for the majority.

High Speed Ground Transportation

High speed ground transportation, of the type discussed above, would probably be preferred over air travel for trips of up to three or four hours, portal-to-portal. Obviously, the faster the ground travel, the greater the distance at which it would compete with air travel. Whatever the speed, whether 200 or 500 mph, travelers see a place for it in their travel system of the future.

The Private Automobile

Whatever other changes are invoked, most persons would find it difficult to visualize a future system that had no private automobiles. Its economy for large family travel, its ability to go anywhere at any time and its combination of intercity with local transportation so no "transfers" are required, mean that most people believe there will always be an important place for it.

IX. THE STATISTICAL ANALYSES

This chapter presents the results of the statistical analyses of the structured interview data collected from 256 respondents. It was not planned as a sample survey, which would have required a larger number of respondents and a probability sampling method, instead of the quota sampling technique that was used.

This stage was planned as a supplement to the depth interviews that preceded it. Specifically, it provided an additional means for examining the interactions among the variables that seemed to affect travel, and the differences among travelers. It was exploratory, in the same way that the depth interviews were: attempting to locate meaningful dimensions and hypotheses, rather than to document and quantify them in absolute terms.

The questionnaire and the analyses were designed to serve these exploratory goals. The results to be reported are not regarded as tests of the hypotheses and findings reported in previous chapters; the statistical data do not supersede the depth interview material.

Because of the nature of the sample and questionnaire, the mere tabulations of single items are of little concern, and are not presented. Rather, it is the relationship among variables that is under examination.

A. Trip Type and Mode

The respondents reported the total number of business trips and non-business trips they had made within the Northeast Corridor during the past 12 months, and some aspects of the circumstances of each trip. In Tables 1 and 2, are shown the total number of trips of each "type" and the percentage, within each type, made by each of the four modes.

The numbers of trips of each type that are shown in the tables are of no value in themselves, since they do not come from a sample that is truly representative of all travelers. They were reported simply as a basis on which to judge the reliability of the percentages reported.

Table 1

Business Trips, by Type of Trip

One-Way Distance	Number of Trips	Auto	Bus	Train	Plane
			Percent Made by:		
80-149 miles	770	52.7	5.2	38.4	3.6
150-249 miles	504	38.9	4.8	12.5	43.8
250 or more miles	262	18.3	2.3	17.9	61.5
Number of Nights Away					
None	427	39.1	6.6	31.4	23.0
One	324	53.7	1.5	27.5	17.3
Two or more	785	39.4	4.7	23.3	32.6
Number of Places with Business					
One	756	35.2	6.3	29.2	29.2
Two or three	274	48.5	3.6	13.1	34.7
Four or more	506	49.6	2.4	29.4	18.6
Number of Companions					
None	1,153	40.0	5.1	31.3	23.6
One	260	59.6	4.2	9.6	26.5
Two or more	123	27.6	-	16.3	56.1
Destination					
Major center city	1,267	36.7	4.6	31.6	27.1
Suburb	66	77.3	6.1	4.5	12.1
Other	203	66.0	3.9	1.0	29.1

Table 2

Non-Business Trips, by Type of Trip

One-Way Distance	Number of Trips	Auto	Bus	Train	Plane
80-149 miles	503	74.4	8.5	16.1	1.0
150-249 miles	364	56.0	13.7	15.7	14.6
250 or more miles	216	57.9	10.1	14.4	17.6
Number of Nights Away					
None	178	70.2	7.9	19.7	2.2
One	162	63.6	8.6	21.0	6.8
Two or more	743	63.9	11.7	13.5	10.9
Number of Overnight Sites					
One	728	59.8	12.4	17.7	10.2
Two or more	174	84.5	6.9	3.4	5.2
Number of Companions					
None	183	25.7	25.7	35.0	13.7
One	440	67.5	8.4	12.5	11.6
Two or more	460	78.0	6.7	10.9	4.3
Destination					
Major city	787	63.3	10.3	16.5	9.9
Suburb	180	73.9	5.0	18.3	2.8
Other	116	62.1	21.6	5.2	11.2

The "Percent Made by:" columns (Auto, Bus, Train, Plane) are spanned under "Percent Made by:".

Business Trips

Table 1 shows that business trips were:

- Less often made by automobile as distance increases.

- More often made by airplane as distance increases.

- More likely to be made by train when they are short in distance.

- More likely to be made by automobile when one night is to be spent away from home than when no nights, on the one hand, and several nights, on the other hand, are involved. (The falling-off with longer duration may be due to these trips tending to have longer distance, as well.)

- More likely to be made by air when several nights away are involved. (See parenthetical note just above.)

- More likely to be made by bus or train if they are one-day trips.

- More likely to be made by automobile when there is more than one place at which to conduct business.

- Most likely to be made by air when 3 or more peo-
  ple traveled together, on which circumstances
  they were least likely to be made by automobile.
  (The latter result could have come about because
  so much automobile business travel is done by
  salesmen, who certainly tend to travel alone, but
  who select the automobile for reasons other than
  their solitary travel.)

- Less likely to be made by automobile when the
  destination is a large center city.

- More likely to be made by train when the destina-
  tion is a large center city

Non-Business Trips

Table 2 shows that non-business trips were:

- Less often made by automobile as distance increases.

- More often made by airplane as distance increases.

- More often made by plane as duration increases.
  (This result could occur because trips of longer
  duration may have also tended to be of longer
  distance.)

- Less often made by public transportation when
  nights were spent in different places.

- More likely to be made by automobile when several
  people traveled together.

- Less often made by air when several people traveled
  together.

- Less often made by air when the destination was
  a suburb rather than center city.

Conclusions

In most important respects, these findings agree with
those reported elsewhere that derived from the depth
interviewing. Where they do not, which is primarily
in the area of trip duration, it seems likely that the
result comes about because trips of longer duration may
also be of longer distance, thus confounding two poten-
tially important variables. With more respondents, a
full-scale survey could isolate the factors of trip char-
acteristics, making comparisons about one characteristic
while controlling the others.

B. Trip Type and Features Desired

The major part of the questionnaire was concerned with the travel desires of respondents. Seventy-five statements were written, each one expressing a travel desire or attitude that was suggested from the earlier depth interviewing. Each statement was reproduced on a card, and the respondents were given the 75 cards and asked to sort them into nine groups. One extreme group included those things that were most important to the respondent, the other extreme group included those things that were least important, and the other seven groups covered the range in between. The number of statements in each group approximated the normal distribution, with the largest number of statements in the middle group and the smallest numbers in the extreme groups.

The depth interviewing had demonstrated that business travel often involved different considerations from non-business travel, so separate sorts of the 75 statements were made for these two kinds of trips, which meant that some respondents sorted the cards twice.

Scores ranging from one to nine were assigned to the groups, so that each statement received a score for each respondent. The mean scores for the business travel sort are presented in Table 3, and the means for the non-business travel sort are shown in Table 4. Since the statements sorted as most important were scored "one" and the statements judged least important were scored "nine", the lower the mean the more important the statement was judged to be.

Tables 3 and 4 are not highly useful for comparing statements with one another. The statements were produced to study differences among respondents, not general tendencies across respondents to desire one characteristic more than another. Consequently, the statements were intended to reflect very small differences in emphasis and focus; many different statements are concerned with the same basic desire. In this context, any given statement could be ranked low, not because the basic desire was unimportant, but because respondents chose a different version of the basic desire to rank high.

The statements were intended to study differences among travelers, and the very characteristics that make them suitable for that goal reduce their usefulness for generalizing about the relative strength of different desires across travelers. Tables 1 and 2 show that the range of means is rather narrow, with most statements having means very near the mid-point of the scale, which is five.

The absence of statements with means near one or nine indicates that there was little agreement among the respondents as to which statements were very important or very unimportant. Further, the standard deviation (not shown) of each statement's assignments tended to be large, usually between one and one-half and two scale points, which also indicates that the statements were placed in quite different groups by different respondents.

Such a pattern of responses leaves open the possibility
that there exist groups of respondents who did sort
the statements similarly, with differences existing
between groups. It was precisely to examine this pos-
sibility, that travelers are segmented according to
their desires, that the statements were produced and
included in the questionnaire, and the Q-factor analy-
ses that are reported in a later section were under-
taken.

In short, while differences among the statements are
not highly meaningful, differences among groups of re-
spondents may be. Tables 3 and 4 permit a comparison
of business travel with non-business travel, and within
that division, a comparison of travelers whose trips
have different characteristics.

The difference between business and non-business travel
was studied by requiring separate sorts of the 75 state-
ments. Sorting the cards even twice was a large task
for the respondents, so the other factors presented were
studied in a less direct manner. Respondents reported
all their business trips and non-business trips within
the Northeast Corridor in the past 12 months, and described
each trip according to certain characteristics. For each
trip characteristic, then, those respondents for whom half
or more of all trips were of that particular type were
grouped. Thus, within Tables 1 and 2, the travel desires
of respondents who tend to make different kinds of trips
are compared.

Table 3

Mean Assignments of the 75 Statements for Business Travel,
by Propensity to Take Different Kinds of Trips

Business Travelers for Whom
Half or More of Business Trips Were:

	Total	One-Way Distance		No.Nights Away		Places with Businesses		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
Number of respondents	133	47	30	31	78	71	41	94	41	115	10	11
1. Being able to leave and come back almost exactly when I wanted to	3.1	3.4	3.3	3.1	3.2	3.2	2.8	3.2	3.1	3.2	3.0	3.5
2. Being confident that I would not be later than my planned time of arrival	3.5	3.4	3.2	2.7	3.8	3.8	3.5	3.6	3.3	3.4	4.1	4.3
3. Having a comfortable seat	3.3	3.1	3.1	3.4	3.2	3.4	3.2	3.3	3.2	3.3	3.6	3.6
4. Having plenty of leg room	4.5	4.4	4.5	4.7	4.6	4.4	4.6	4.4	4.7	4.4	4.2	5.2
5. Being able to "stretch my legs" when I want to	4.7	4.6	5.4	4.6	4.9	4.6	4.8	4.8	4.9	4.7	5.2	4.7
6. Having a smooth ride, with no bumping or vibration	4.6	4.6	4.3	4.8	4.6	4.7	4.4	4.7	4.3	4.5	5.0	5.2
7. Not sitting shoulder-to-shoulder with someone else	5.1	5.0	5.5	5.3	5.3	5.0	5.3	5.0	5.6	5.2	4.4	5.4

(Continued)

Table 3 (Continued)
Business Travelers for Whom
Half or More of Business Trips Were:

	Total	One-Way Distance		No. Nights Away		Places with Businesses		No. of Companions		Destination		
		80–149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
8. Having a comfortable temperature in the vehicle	4.2	3.7	4.7	3.8	4.5	4.1	4.3	4.1	4.3	4.3	4.5	3.2
9. Feeling I was safe from accidents	3.8	3.7	3.9	3.7	4.0	3.8	3.8	3.8	3.9	3.8	4.2	3.6
10. Feeling I was safe from personal assault	4.7	4.2	5.4	4.8	4.7	4.7	4.6	4.7	4.5	4.8	4.3	3.6
11. Being able to leave later or get back sooner because of the speed of the travel	4.3	4.4	4.3	4.1	4.4	4.1	4.2	4.3	4.4	4.3	3.7	4.2
12. Being able to get the travel over with sooner, because of the speed of the travel	4.2	4.2	4.1	3.9	4.3	4.3	4.3	4.3	4.1	4.2	5.2	3.6
13. Being able to spend more time at my destination because of the speed of the travel	4.2	4.7	4.1	4.4	4.3	4.2	4.1	4.1	4.4	4.0	4.8	5.4
14. Being able to take more one or two-day trips, because the speed of the travel itself doesn't use up so much time	4.7	4.9	4.5	4.7	4.8	4.7	4.8	4.7	4.4	4.7	4.0	5.0
15. Spending as little money as possible	5.4	5.4	5.5	5.5	5.2	5.5	5.2	5.2	6.0	5.5	4.9	5.8

(Continued)

Table 3 (Continued)
Business Travelers for Whom
Half or More of Business Trips Were:

	Total	One-Way Distance		No. Nights Away		Places with Businesses		No. of Companions		Destination		
		80–149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
16. Knowing I was getting the best bargain in travel, considering cost and what you get for it	4.8	4.5	5.0	4.4	4.8	4.7	4.8	4.8	4.8	4.9	4.0	5.2
17. Having everything clean around me on the vehicle	4.4	4.0	4.2	4.3	4.5	4.2	4.8	4.5	4.1	4.4	4.6	4.1
18. Being offered things to entertain me or help pass the time	6.0	6.5	5.5	6.7	5.8	6.2	5.8	6.1	6.0	5.9	7.0	6.2
19. Having luxurious or "rich" surroundings on the vehicle that would make me feel I was in something "special"	6.8	6.5	6.6	6.9	6.8	6.8	6.9	6.9	6.7	6.9	6.6	6.7
20. Knowing everything about the vehicle was modern and up-to-date	4.7	4.7	4.5	4.6	4.7	4.5	5.1	4.8	4.5	4.7	4.3	3.8
21. Having a good view of interesting things out the window	6.0	6.1	5.9	6.6	5.7	5.7	6.2	6.0	5.8	6.0	6.8	6.0
22. Being able to meet and talk to people	5.5	5.3	5.1	5.4	5.3	5.6	5.7	5.6	5.3	5.5	5.0	5.8
23. Being sure of sitting with the people traveling with me	5.2	5.2	5.3	5.1	5.3	5.4	5.1	5.4	4.9	5.2	5.0	5.6

(Continued)

Table 3 (Continued)

| | | Business Travelers for Whom Half or More of Business Trips Were: | | | | | | | | | | |
| | | One-Way Distance | | No.Nights Away | | Places with Businesses | | No. of Companions | | Destination | | |
	Total	80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
24. Having privacy with my traveling companions	5.8	6.0	5.8	6.4	5.6	5.8	5.8	6.1	5.2	5.9	5.3	6.3
25. Having privacy to be alone	5.9	6.0	6.1	6.5	5.7	5.9	5.9	5.7	6.2	6.0	4.9	6.0
26. Not having to "dress up" or worry about appearances	6.2	6.2	6.2	6.1	6.1	6.1	6.3	6.1	6.6	6.4	6.0	5.6
27. Not feeling "out of place"	6.2	6.0	6.2	6.5	6.1	6.3	6.1	6.1	6.2	6.2	6.0	6.3
28. Using a travel method that more respectable people use	6.4	6.3	6.4	6.7	6.2	6.4	6.5	6.4	6.4	6.4	5.5	6.9
29. Using a travel method that more important or wealthier people use	6.9	6.9	6.9	7.2	6.8	7.0	7.0	7.2	6.4	7.0	6.6	6.5
30. Being treated with courtesy	4.1	4.1	4.3	3.9	4.3	4.2	3.8	4.0	4.6	4.2	4.0	3.6

(Continued)

Table 3 (Continued)

| | | Business Travelers for Whom Half or More of Business Trips Were: | | | | | | | | | | |
| | | One-Way Distance | | No.Nights Away | | Places with Businesses | | No. of Companions | | Destination | | |
	Total	80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
31. Being treated with respect	4.5	4.4	4.8	4.2	4.7	4.6	4.9	4.5	4.7	4.6	4.5	3.7
32. Being made to feel welcome	5.1	5.0	5.0	5.0	5.1	5.2	5.0	5.1	5.1	5.0	5.5	5.3
33. Being made to feel like someone important	6.4	5.9	6.4	6.5	6.2	6.5	6.6	6.5	6.3	6.4	6.1	6.5
34. Getting "extra service", catering to my needs and wants	5.6	5.7	5.4	5.7	5.6	5.8	5.4	5.7	5.5	5.5	6.0	5.7
35. Having good food and drink available	4.7	4.4	4.8	4.8	4.6	4.7	4.5	4.7	4.4	4.6	4.9	4.8
36. Not having to make any stops once I get going	4.6	4.8	4.3	4.4	4.6	4.5	4.6	4.6	4.5	4.5	4.6	4.8
37. Never having any unanticipated delays	4.1	3.6	4.1	3.6	4.2	4.0	4.1	4.2	3.8	4.0	4.2	4.2

(Continued)

Table 3 (Continued)

	Total	One-Way Distance		No. Nights Away		Places with Businesses		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
38. Never having to wait for anything	4.7	4.9	4.9	4.7	4.7	4.5	4.7	4.7	4.7	4.7	3.7	5.3
39. Being able to interrupt the trip anytime I want to	5.7	5.4	5.4	5.7	5.4	5.6	5.7	5.7	5.7	5.8	5.2	4.6
40. Not having to move by a time table	4.9	5.9	5.6	5.4	4.8	4.9	4.8	4.9	4.9	5.0	4.4	4.9
41. Having some way to move around locally once I get to my destination	4.2	4.1	4.3	3.9	4.4	4.0	4.6	4.2	4.2	4.1	4.7	3.9
42. Being able to bring as much luggage or gear as I want	5.3	5.3	5.5	5.5	5.1	5.2	5.2	5.2	5.8	5.4	5.9	4.7
43. Being able to go right to the door of my ultimate destination without changing vehicles or making connections	4.6	4.8	4.5	4.7	4.6	4.6	4.6	4.5	4.9	4.6	4.9	4.5

(Continued)

Table 3 (Continued)

	Total	One-Way Distance		No. Nights Away		Places with Businesses		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
44. Not having to pack my luggage very carefully	6.1	6.0	6.0	6.2	6.0	5.9	6.0	6.0	6.1	6.2	5.8	5.6
45. Not having to make any ticket reservations in advance	4.6	5.0	5.1	5.0	4.7	4.7	4.4	4.5	5.1	4.7	4.9	4.6
46. Not having to go to any kind of station or terminal	6.0	6.0	6.3	5.9	6.0	6.0	6.0	5.9	6.2	6.0	5.8	6.5
47. Having a terminal very near my home or place of business	4.9	5.0	4.8	4.3	5.2	5.0	5.1	4.7	5.3	4.7	4.9	5.7
48. Having a terminal very near my ultimate destination	4.4	4.8	4.5	4.1	4.5	4.4	4.3	4.2	4.6	4.2	4.9	4.9
49. Having a terminal with good parking facilities	5.1	4.9	5.2	4.9	5.3	4.9	5.5	5.3	4.7	5.0	5.2	4.5
50. Having everything clean around me in the terminal	4.8	4.8	4.8	4.7	4.8	4.6	5.2	5.0	4.4	4.8	5.5	4.6

Table 3 (Continued)

		Business Travelers for Whom Half or More of Business Trips Were:										
	Total	One-Way Distance		No.Nights Away		Places with Businesses		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
51. Having luxurious or "rich" surroundings in the terminal that would make me feel I was some place "special"	6.8	6.8	6.3	6.9	6.7	6.8	6.9	7.0	6.3	6.8	6.9	6.4
52. Being completely familiar with the system so I don't have to find out about such things as schedules, locations, luggage handling, etc.	4.6	4.8	4.4	4.6	4.6	4.5	4.7	4.7	4.4	4.6	4.8	4.7
53. Not having to ask anybody for directions or information	5.7	5.6	5.3	5.5	5.8	5.7	5.8	5.7	5.6	5.8	5.2	5.6
54. Being able to get information easily	4.3	4.3	4.2	4.1	4.3	4.5	3.9	4.4	4.2	4.3	4.4	4.2
55. Being able to relax	3.8	3.6	3.7	3.7	3.8	3.8	3.7	3.7	4.0	3.7	3.6	4.2
56. Being able to nap or doze	5.1	5.5	5.0	5.9	5.1	5.2	4.6	5.2	5.1	5.0	5.8	5.8

(Continued)

Table 3 (Continued)

		Business Travelers for Whom Half or More of Business Trips Were:										
	Total	One-Way Distance		No.Nights Away		Places with Businesses		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
57. Being able to write or work	4.8	5.5	4.5	5.3	4.7	4.8	4.7	4.9	4.5	4.6	5.9	5.9
58. Having a change from my normal means of local transportation at home	6.2	6.2	6.0	6.5	6.1	6.3	6.2	6.1	6.3	6.2	5.9	7.7
59. Not feeling closed in	5.3	5.1	5.3	5.4	5.4	5.3	5.4	5.2	5.4	5.3	4.8	5.4
60. Being able to see the person controlling the vehicle	7.2	7.2	7.1	7.2	7.0	7.1	7.2	7.2	7.1	7.2	7.0	6.7
61. Having the enjoyment of driving the vehicle myself	6.5	6.3	6.4	6.9	6.1	6.3	6.3	6.5	6.5	6.7	6.3	4.9
62. Never having any problem with parking	4.7	4.5	4.3	4.2	4.8	4.9	4.3	4.7	4.7	4.6	5.0	5.4
63. Knowing, before I start the trip, exactly how I will accomplish each stage of it	4.5	4.3	4.9	3.9	4.4	4.6	4.1	4.4	4.6	4.5	4.7	3.7

(Continued)

Table 3 (Continued)

| | | Business Travelers for Whom Half or More of Business Trips Were: | | | | | | | | | | |
| | | One-Way Distance | | No. Nights Away | | Places with Businesses | | No. of Companions | | Destination | | |
	Total	80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
64. Having the trip under _my_ control	5.3	5.4	5.3	5.8	5.1	5.5	5.1	5.3	5.3	5.5	4.1	4.4
65. Not having to load and unload my own luggage	4.6	4.8	4.7	4.5	4.6	4.7	4.7	4.7	4.4	4.6	4.3	5.1
66. Enjoying the experience of the travel itself	5.2	5.0	4.7	5.2	5.2	5.2	5.3	5.3	5.0	5.3	5.4	4.8
67. Not having to worry about any details	4.6	4.7	4.8	4.5	4.6	4.8	4.3	4.6	4.6	4.6	4.2	4.9
68. Being able to get to terminals quickly	4.0	4.1	4.1	3.8	4.2	3.7	4.3	3.9	4.2	3.9	4.0	4.1
69. Having a quiet, noise-free ride	4.4	4.4	4.6	4.5	4.4	4.5	4.1	4.3	4.5	4.3	4.7	4.9
70. Not having to wait in line to buy tickets or check in	4.0	4.2	4.3	3.4	4.2	3.9	3.9	4.0	4.2	4.1	3.8	4.0
71. Having very reasonably priced or free food and drink available	5.3	5.1	5.7	4.9	5.4	5.3	5.3	5.3	5.6	5.3	5.9	5.6

(Continued)

Table 3 (Continued)

| | | Business Travelers for Whom Half or More of Business Trips Were: | | | | | | | | | | |
| | | One-Way Distance | | No. Nights Away | | Places with Businesses | | No. of Companions | | Destination | | |
	Total	80-149	250 or More	0	2 or More	1	4 or More	0	1 or More	Major City	Sub-urb	Other
72. Knowing everything about the terminal was modern and up-to-date	5.6	5.8	5.1	5.7	5.6	5.9	5.4	5.7	5.4	5.6	6.4	4.8
73. Not having to walk great distances to get to vehicles, boarding areas, parking areas, etc.	4.1	5.1	4.2	3.9	4.3	4.0	4.5	4.0	4.6	4.2	4.4	3.3
74. Being able to get to terminals with no inconvenience	4.1	4.4	4.1	4.1	4.2	4.0	4.5	4.1	4.2	4.0	4.1	4.3
75. Feeling very much "at home" and relaxed	4.7	4.8	4.5	4.9	4.4	4.6	4.8	4.7	4.6	4.6	5.1	4.4

Table 4

Mean Assignments of the 75 Statements for Non-Business Travel, by Propensity to Take Different Kinds of Trips

Non-Business Travelers for Whom Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	250 or More	No. Nights Away 0	2 or More	Overnight Sites 1	2 or More	No. of Companions 0	1 or More	Destination Major City	Sub-urb	Other
Number of respondents	194	80	48	32	148	176	21	30	165	146	34	19
1. Being able to leave and come back almost exactly when I wanted to	3.2	3.1	3.6	3.1	3.2	3.3	3.9	3.0	3.3	3.4	3.0	3.3
2. Being confident that I would not be later than my planned time of arrival	4.7	4.7	5.0	4.7	4.8	4.8	3.8	4.1	4.8	4.8	4.7	4.6
3. Having a comfortable seat	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.3	3.4	3.4	3.5	2.8
4. Having plenty of leg room	4.2	4.3	4.3	4.1	4.3	4.2	4.1	4.1	4.3	4.2	4.4	4.5
5. Being able to "stretch my legs" when I want to	4.2	4.2	4.3	4.2	4.2	4.2	4.4	4.1	4.2	4.2	4.1	4.3
6. Having a smooth ride with no bumping or vibration	4.6	4.6	4.7	4.8	4.6	4.5	5.1	4.0	4.7	4.5	4.9	4.4
7. Not sitting shoulder-to-shoulder with someone else	5.1	5.4	5.3	5.3	5.1	5.1	5.6	4.6	5.2	5.1	5.0	5.4

(Continued)

Table 4 (Continued)

Non-Business Travelers for Whom Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	250 or More	No. Nights Away 0	2 or More	Overnight Sites 1	2 or More	No. of Companions 0	1 or More	Destination Major City	Sub-urb	Other
8. Having a comfortable temperature in the vehicle	4.1	4.0	4.3	4.0	4.1	4.1	4.1	3.9	4.2	4.1	4.7	3.5
9. Feeling I was safe from accidents	3.8	3.9	3.4	3.8	3.8	3.8	4.5	4.0	3.8	3.9	4.0	2.7
10. Feeling I was safe from personal assault	4.6	4.6	4.3	4.2	4.6	4.5	5.4	4.7	4.6	4.5	5.2	3.9
11. Being able to leave later or get back sooner, because of the speed of travel	4.6	4.5	4.8	4.8	4.6	4.6	4.5	4.2	4.6	4.6	4.9	4.2
12. Being able to get the travel over with sooner, because of the speed of travel	5.0	5.0	5.2	5.0	5.0	5.0	5.5	4.9	5.0	5.1	4.9	4.3
13. Being able to spend more time at my destination, because of the speed of travel	4.2	4.4	4.0	4.4	4.2	4.2	4.4	4.3	4.2	4.3	4.2	4.3
14. Being able to take more one or two day trips, because the speed of the travel itself doesn't use up so much time	5.0	5.0	4.9	4.9	5.1	5.0	4.9	5.0	5.0	5.1	5.0	4.5
15. Spending as little money as possible	4.7	5.0	4.7	4.8	4.7	4.6	5.6	4.2	4.8	4.9	4.6	3.8

(Continued)

Table 4 (Continued)

Non-Business Travelers for Whom
Half or More Non-Business Trips Were:

	Total	One-way Distance		No. Nights Away		Overnight Sites		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	2 or More	0	1 or More	Major City	Sub-urb	Other
16. Knowing I was getting the best bargain in travel, considering cost and what you get for it	4.3	4.6	4.3	4.5	4.4	4.2	5.0	4.3	4.3	4.4	4.3	3.7
17. Having everything clean around me on the vehicle	4.1	4.1	4.2	4.2	4.1	4.1	4.2	4.2	4.1	4.1	4.1	4.7
18. Being offered things to entertain me or help pass the time	6.1	6.1	6.1	6.3	6.0	6.0	6.3	6.2	6.0	6.0	6.0	6.7
19. Having luxurious or "rich" surroundings on the vehicle that would make me feel I was in something "special"	6.4	6.3	6.2	6.9	6.3	6.4	5.9	6.5	6.4	6.3	6.6	7.1
20. Knowing everything about the vehicle was modern and up-to-date	4.4	4.8	4.0	4.6	4.3	4.4	4.7	4.2	4.5	4.5	4.3	4.0
21. Having a good view of interesting things out the window	5.0	4.8	4.8	4.8	4.9	4.9	5.3	4.7	5.0	5.1	4.5	4.7
22. Being able to meet and talk to people	5.6	5.9	5.4	5.8	5.6	5.6	5.5	5.3	5.7	5.7	5.4	5.0

(Continued)

Table 4 (Continued)

Non-Business Travelers for Whom
Half or More Non-Business Trips Were:

	Total	One-way Distance		No. Nights Away		Overnight Sites		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	2 or More	0	1 or More	Major City	Sub-urb	Other
23. Being sure of sitting with the people traveling with me	4.5	4.5	4.0	4.6	4.4	4.5	4.8	4.9	4.5	4.5	4.3	5.2
24. Having privacy with my traveling companions	5.0	5.0	4.8	4.9	5.0	5.0	5.2	5.6	5.0	5.1	4.9	4.5
25. Having privacy to be alone	6.0	6.2	5.8	6.1	5.9	5.9	6.3	5.7	6.0	5.8	6.4	5.8
26. Not having to "dress up" or worry about appearances	5.1	5.2	4.9	5.0	5.1	5.1	5.8	5.5	5.1	5.4	4.5	4.1
27. Not feeling "out of place"	6.1	5.9	5.9	6.2	6.0	6.1	5.8	6.3	6.0	6.1	5.9	5.7
28. Using a travel method that more respectable people use	6.6	6.9	6.4	6.9	6.6	6.7	6.0	6.5	6.6	6.4	6.9	7.2
29. Using a travel method that more important or wealthier people use	7.0	6.9	6.9	6.7	7.1	7.1	6.0	7.5	6.9	6.9	7.2	7.7
30. Being treated with courtesy	4.2	4.0	4.3	4.1	4.1	4.2	3.8	4.1	4.2	4.2	3.9	4.5
31. Being treated with respect	4.6	4.6	4.7	5.1	4.5	4.6	4.7	4.5	4.6	4.6	4.8	4.3
32. Being made to feel welcome	5.0	5.1	4.8	5.1	5.0	5.0	5.1	4.9	5.0	5.0	4.8	4.6

(Continued)

Table 4 (Continued)

Non-Business Travelers for Whom
Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	One-way Distance 250 or More	No. Nights Away 0	No. Nights Away 2 or More	Overnight Sites 1	Overnight Sites 2 or More	No. of Companions 0	No. of Companions 1 or More	Destination Major City	Destination Sub-urb	Destination Other
33. Being made to feel like someone important	6.7	6.4	6.7	6.4	6.7	6.7	6.3	6.8	6.6	6.6	6.9	6.6
34. Getting "extra service", catering to my needs and wants	5.6	5.2	5.6	6.1	5.5	5.6	5.5	5.8	5.5	5.5	5.4	6.7
35. Having good food and drink available	4.4	4.5	4.4	4.8	4.5	4.4	4.2	4.8	4.3	4.3	4.5	5.4
36. Not having to make any stops once I get going	4.8	4.6	5.2	4.3	4.9	4.8	5.1	4.4	4.8	4.8	4.7	4.7
37. Never having any unanticipated delays	4.8	4.5	5.4	4.4	4.8	4.7	4.3	4.6	4.8	4.7	4.5	5.5
38. Never having to wait for anything	4.9	4.5	5.3	4.5	4.8	4.9	4.9	5.1	4.8	4.8	5.0	5.4
39. Being able to interrupt the trip anytime I want to	5.1	4.7	5.0	4.4	5.1	5.1	4.9	6.0	4.9	5.2	4.3	5.1
40. Not having to move by a time table	4.5	4.2	4.6	4.0	4.6	4.4	4.5	5.3	4.3	4.6	4.1	4.5
41. Having some way to move around once I get to my destination	4.2	4.2	4.4	4.4	4.2	4.2	4.5	4.5	4.2	4.3	4.1	4.5
42. Being able to bring as much luggage or gear as I want	4.5	4.3	4.8	4.7	4.5	4.5	4.5	4.6	4.5	4.6	3.9	4.3

(Continued)

Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	One-way Distance 250 or More	No. Nights Away 0	No. Nights Away 2 or More	Overnight Sites 1	Overnight Sites 2 or More	No. of Companions 0	No. of Companions 1 or More	Destination Major City	Destination Sub-urb	Destination Other
43. Being able to go right to the door of my ultimate destination without changing vehicles or making connections	4.3	4.0	4.6	3.5	4.4	4.3	4.4	4.8	4.2	4.4	3.7	4.5
44. Not having to pack my luggage very carefully	5.7	5.6	5.9	5.7	5.7	5.7	5.7	5.7	5.8	6.0	4.9	5.0
45. Not having to make any ticket reservations in advance	4.7	4.8	4.9	4.5	4.7	4.8	4.6	4.5	4.7	4.7	4.4	5.2
46. Not having to go to any kind of station or terminal	5.6	5.3	5.8	5.1	5.7	5.6	5.2	5.7	5.6	5.7	5.2	5.6
47. Having a terminal very near my home or place of business	5.6	5.7	5.8	5.7	5.6	5.6	5.3	5.1	5.7	5.4	5.9	6.4
48. Having a terminal very near my ultimate destination	5.2	5.5	5.3	5.7	5.2	5.1	5.8	4.4	5.3	5.1	5.6	5.1
49. Having a terminal with good parking facilities	5.2	5.3	5.0	5.5	5.2	5.2	6.0	5.3	5.2	5.2	5.3	5.2
50. Having everything clean around me in the terminal	5.0	4.9	5.3	4.9	5.0	5.0	5.8	4.6	5.1	5.0	5.1	5.0

(Continued)

Table 4 (Continued)

Non-Business Travelers for Whom
Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	One-way Distance 250 or More	No. Nights Away 0	No. Nights Away 2 or More	Overnight Sites 1	Overnight Sites 2 or More	No. of Companions 0	No. of Companions 1 or More	Destination Major City	Destination Sub-urb	Destination Other
51. Having luxurious or "rich" surroundings in the terminal that would make me feel I was some place "special"	6.6	6.4	6.6	6.6	6.6	6.6	6.4	6.5	6.5	6.4	7.1	7.1
52. Being completely familiar with the system so I don't have to find out about such things as schedules, locations, luggage handling, etc.	5.1	5.1	5.0	5.0	5.1	5.1	5.0	4.7	5.2	5.0	5.4	5.6
53. Not having to ask anybody for directions or information	5.4	5.6	4.8	5.3	5.3	5.5	4.9	5.3	5.4	5.4	5.4	5.3
54. Being able to get information easily	4.7	4.8	4.2	4.8	4.7	4.8	4.1	4.4	4.8	4.7	4.7	5.3
55. Being able to relax	3.6	3.8	3.3	3.9	3.5	3.6	3.6	3.8	3.6	3.8	3.2	3.1
56. Being able to nap or doze	5.4	5.7	5.2	5 6	5.4	5.4	5.9	4.4	5.6	5.4	5.7	4.5
57. Being able to write or work	6.4	6.6	6.3	6.9	6.3	6.4	6.0	6.0	6.5	6.3	7.0	5.8
58. Having a change from my normal means of local transportation at home	6.1	6.1	5.9	5.9	6.1	6.1	5.9	6.3	6.1	6.0	6.1	6.3
59. Not feeling closed in	5.1	5.0	4.9	5.0	5.1	5.1	5.2	5.3	5.0	5.0	5.0	4.8

Table 4 (Continued)

Non-Business Travelers for Whom
Half or More Non-Business Trips Were:

	Total	One-way Distance 80-149	One-way Distance 250 or More	No. Nights Away 0	No. Nights Away 2 or More	Overnight Sites 1	Overnight Sites 2 or More	No. of Companions 0	No. of Companions 1 or More	Destination Major City	Destination Sub-urb	Destination Other
60. Being able to see the person controlling the vehicle	6.9	7.0	6.8	7.0	6.8	6.9	6.8	7.0	6.8	7.0	6.6	6.2
61. Having the enjoyment of driving the vehicle myself	6.3	5.8	6.4	5.8	6.4	6.2	6.1	7.1	6.2	6.5	5.7	6.1
62. Never having any problem with parking	4.8	4.7	4.8	4.7	4.8	4.8	5.0	5.3	4.7	4.8	4.9	4.6
63. Knowing, before I start the trip, exactly how I will accomplish each stage of it	4.7	4.6	5.0	4.5	4.8	4.7	4.8	4.4	4.8	4.8	4.5	4.8
64. Having the trip under my control	5.5	5.2	5.9	5.1	5.7	5.6	5.2	6.0	5.4	5.6	5.8	5.3
65. Not having to load and unload my own luggage	5.0	5.2	5.0	5.3	5.0	5.0	4.9	5.3	5.0	4.9	5.4	5.4
66. Enjoying the experience of travel itself	4.1	4.0	4.0	4.1	4.2	4.1	3.7	4.0	4.1	4.2	3.8	4.2
67. Not having to worry about any details	4.7	4.9	4.9	4.9	4.7	4.7	4.7	5.0	4.7	4.6	4.7	5.6

Table 4 (Continued)

Non-Business Travelers for Whom Half or More Non-Business Trips Were:

	Total	One-way Distance		No. Nights Away		Overnight Sites		No. of Companions		Destination		
		80-149	250 or More	0	2 or More	1	2 or More	0	1 or More	Major City	Sub-urb	Other
68. Being able to get to terminals quickly	5.0	5.4	4.9	5.4	4.9	5.0	5.3	4.6	5.1	4.9	5.6	5.1
69. Having a quiet or noise-free ride	4.7	4.8	4.5	4.8	4.6	4.7	4.6	4.8	4.7	4.7	4.8	4.4
70. Not having to wait in line to buy tickets or check in	4.4	4.2	4.9	4.1	4.5	4.5	4.1	4.6	4.4	4.4	4.4	5.2
71. Having very reasonably priced or free food and drink available	5.3	5.4	5.1	5.6	5.4	5.3	5.4	5.2	5.3	5.3	5.4	5.6
72. Knowing everything about the terminal was modern and up-to-date	5.7	5.9	5.6	5.8	5.6	5.7	5.8	5.6	5.7	5.6	5.7	6.0
73. Not having to walk great distances to get to vehicles, boarding areas, parking areas, etc.	4.3	4.3	4.3	4.2	4.3	4.3	4.2	4.4	4.3	4.2	4.5	4.3
74. Being able to get to terminals with no inconvenience	4.9	5.0	5.1	5.1	4.9	4.9	4.5	4.3	4.9	4.7	5.2	5.3
75. Feeling very much "at home" and relaxed	4.4	4.4	4.3	4.4	4.3	4.4	4.3	5.1	4.3	4.4	4.5	4.3

No attempt will be made to discuss all of the differences that appear in Tables 3 and 4. Such a discussion would run on for many pages, and would do little more than list the differences that an interested reader can locate for himself in the tables.

At least two factors complicate the interpretation of Tables 3 and 4. First, as was the case for Tables 1 and 2 also, the trip characteristics in the table are probably not independent of one another. When we compare trips of different duration, for example, we are probably also comparing trips of different distance, with a different number of overnight sites. Second, Tables 1 and 2 verified a relationship between trip characteristics and mode usage. A traveler who used a given mode to a great extent probably used the card sort to describe his most used mode, so that comparing "short-trip travelers" with "long-trip travelers" is also partly a comparison between automobile users and airplane users. For example, some of the differences that emerged seemed to describe differences between automobile and air travel that were not inherently related to trip distance.

Despite these difficulties, some conclusions from Tables 3 and 4 do seem indicated. The list below is selective: it incorporates those things that seem meaningful, and omits those differences that seem trivial or possibly due to artifactual relationships.

- The comparison between business and non-business trips reveals, for the former, a relatively greater concern with schedule reliability, terminal access and speed; for the latter, a relatively greater concern with cost, traveling companions, luggage quantity, being able to interrupt the trip at will, having a good view, not having to "dress up", and enjoying the experience of the travel itself.

- For non-business travel, the difference in desires for those who tend to take short trips and those who tend to take long trips reflects the great advantage of the automobile for short trips. The "short-trip travelers" judged as more important than the "long-trip travelers" leaving and coming back exactly when they want, going directly to the ultimate destination, not having to go to stations or terminals, having no stops, delays, or waits, bringing as much luggage as desired, having the trip under their control, and having the enjoyment of driving the vehicle themselves. It seems unlikely that these factors are intrinsically more important for short than long trips; more likely, the short trip travelers were simply describing, after the fact, the advantages of automobile travel, in the recognition that they do, in fact, tend to use the automobile heavily.

- For business travel, the difference between those who tend to take one-day trips and those who tend to spend several nights away from home seems to reflect a greater concern with efficient time utilization for the former, probably because they have, in fact, scheduled themselves more tightly, so that such things as schedule reliability, no waiting or pauses to get information, terminal access, and good local transportation facilities are more important to them. Those who spend nights away from home seem relatively more concerned with enjoying the trip, being entertained and relaxed.

- For non-business travel, the statements judged relatively higher by those who usually spend no nights away from home simply described the advantages of automobile travel; while those who tend to take trips of longer duration were more concerned with luxurious or rich surroundings and service. These differences probably reflect actual differences in mode usage (automobile versus airplane) as much as differences in travel desires that are intrinsically related to trip duration.

- Comparing business travelers who have only one place at which to conduct business with those who have four or more places, the latter seem more concerned with matters of obtaining or not needing information, and not having to worry about details or limited schedules. The former are in a position to rate more highly, such things as cleanliness and terminal convenience. Differences here might have been sharper had there been sufficient cases so that trip duration could have been controlled.

- Comparing non-business travelers who have one overnight site with those who have several overnight sites, the latter rate more highly schedule reliability, ease of having or obtaining information, and luxurious, high status travel. It appears that for these people, who tend to take more "elaborate" trips, travel is more of an occasion to be "savored". Those with only one overnight site seem more matter-of-fact, stressing more cost, speed, safety, terminal convenience, being able to leave and come back when they want, clean terminals, not having to "dress up", and some aspects of physical comfort.

- Comparing business travelers who travel alone with those who usually have companions show an interesting contrast. In addition to the obvious concern

of sitting with companions and having privacy
with them, the latter were more likely to say
they valued using a travel system patronized
by important, wealthy people, with clean term-
inals and even luxurious terminals. The solitary
travelers were more concerned with cost, bringing
all their luggage, not having to "dress up", term-
inal convenience, and having no advance reserva-
tions to make. This pattern of differences could
result from a concentration of salesmen, who prob-
ably tend to drive and may pay their own way, among
the solitary travelers. However, there may also be
a tendency for those who travel with companions be-
ing more interested in affirming their status, since
they have an "audience" of companions and a role to
live up to.

- For non-business, the traveler who usually has com-
panions, revealed in the comparison with the soli-
tary non-business traveler, the great difference
in automobile usage between these two groups. The
statements they judged higher, provide a description
of the automobile, while those judged higher by
the solitary travelers were often concerned with
terminals.

C. Mode Decisions versus Mode Routines

The respondents were asked to express degrees of agree-
ment or disagreement with four statements concerned with
the amount of decision-making that is involved in travel

mode selection. The results are shown in Table 5.
The scale that was used designed a score of "7" to
the highest level of agreement and "1" to the highest
level of disagreement, so the higher the means reported
in the table, the more agreement with the statement.

Table 5

Mean Agreement with Decision versus Routine Statements for Business Travelers and Non-Business Travelers

	Business	Non-Business
1. I already know the best method of travel for my kinds of trips, so I don't have to make actual decisions about it.	5.9	5.6
2. It is sometimes difficult to know which method would be best for some of my trips.	2.6	2.8
3. After I know I am making a trip somewhere, the decision on how to make the trip is usually automatic.	6.1	5.7
4. For some of my trips, I consider more than one method of travel before I decide.	4.3	4.4

The mean responses reveal a tendency for travelers to proceed more upon routines than to make mode decisions every time they plan a trip.

Further, it appears that routines may be slightly more common in the case of business travelers. Actually, many respondents met the criteria of both business and non-business travelers, so that they are included in both groups in Table 5, which should have tended to reduce the difference between the groups. It seems that had this question been asked twice, once for business travel and once for non-business travel, the tendency for greater routines for business travel would have been more marked.

Table 6 is an examination of the extent to which business travelers are influenced in their mode choice by employer policy.

Nearly half of the business travelers claimed complete freedom to use the travel method they wanted. This finding is in contradiction to the conclusion from the depth interviewing reported earlier, that business travelers are influenced by company policy or routines. A considered judgment is that the respondents in Table 6 overstated their actual operational freedom. They were probably concerned with denying that they were bound by rigid formal rules, and went too far in the other direction. The most likely conclusion is still that company precedent and routine are important, even though formal rules are absent.

There is some indirect evidence to support the suspicion that business travelers, seeking to underline their status, claim complete freedom in travel mode selection. This question was examined according to respondent's education, and it was found that 66 percent of those with less than college completion put themselves in the category of greatest freedom, while only 43 percent of those who completed college did so. It seems reasonable to expect that those with more education would, in fact, have more freedom, by virtue of occupying more responsible positions. It also seems reasonable that those with less education might have more status anxiety, and be more inclined to "boast" of their freedom. Thus, this finding with regard to education suggests a strong possibility that affirming travel freedom is a way of affirming status, and Table 6 may well reflect such a tendency.

D. Mode Evaluations

The card sorts that have been reported were used in an attempt to study the desires of travelers. The same factors could be used as the basis on which to judge and evaluate travel modes, and the 75 statements were paraphrased for this purpose.

In paraphrasing them in this way, the number was reduced to 63, since a few were inappropriate for this purpose, and some were so closely related to one another that one statement could take the place of several when they were paraphrased to refer to modes. In addition, the automobile was not rated on some of the statements, where it was inappropriate.

Table 6

Self-Classification of Business Travelers with Regard to Influence of Company Policy

I have to follow my employer's
requirements as to travel
methods.   9.9%

My employer has customs or
routines that I usually follow
for travel methods.   12.2%

I usually go along with what-
ever arrangements the secre-
taries (or other people) make
for me.   3.1%

I have quite a bit of freedom
to use the travel method I
want.   26.0%

I have complete freedom to use
the travel method I want.   48.9%

The 63 statements were presented to the respondents and they were asked to rate all four modes on each statement, on a scale ranging from "1" for very much untrue of the mode to "7" for very much true of the mode. In addition, those respondents who had used the Metroliner or Turbotrain were asked to rate these modes.

The mean ratings for the four modes are shown in Table 7. The higher the mean, the more true the statement was judged to be for the mode. The mid-point of the scale is 4.0

On most of the items there is little difference between the ratings of business travelers and non-business travelers. It is true, of course, that those groups overlap considerably, with many persons belonging to both groups. However, when there is reason to expect that the ratings should be different, differences do tend to emerge: for example, business travelers generally rated terminal locations more convenient than did non-business travelers (statements 53, 54, 56), which is probably consistent with the business travelers' greater tendency to travel to or from center city locations.

Table 7

Mean Ratings of the Modes

	Business Travelers				Non-Business Travelers			
	Bus	Auto	Air	Train	Bus	Auto	Air	Train
1. I could leave and come back almost exactly when I wanted to	4.0	6.5	4.7	4.1	4.0	6.5	4.4	4.1
2. I would have a comfortable seat	4.8	6.1	6.0	5.4	5.0	6.1	6.0	5.4
3. I would feel safe from accidents	4.9	4.6	4.9	5.5	4.9	4.7	4.6	5.3
4. I would get to my ultimate destination quickly	3.7	4.4	6.2	4.9	3.9	4.6	6.1	5.0
5. I would be spending as little money as possible	5.8	5.5	3.0	4.3	5.7	5.7	2.9	4.1
6. Everything around me on the vehicle would be clean	4.6	6.0	6.4	4.7	4.7	6.1	6.3	4.8
7. I could meet and talk to people	5.2	2.9	5.5	5.4	5.5	2.8	5.6	5.6
8. I would not have to "dress up"	4.4	5.7	3.4	3.7	4.6	5.9	3.4	3.9
9. I would be able to proceed without stopping once I got going	4.1	4.8	5.7	4.8	3.9	4.8	5.6	4.8

(continued)

Table 7 (continued)

Mean Ratings of the Modes

	Business Travelers				Non-Business Travelers			
	Bus	Auto	Air	Train	Bus	Auto	Air	Train
10. I would not have to pack my luggage very carefully	2.8	5.2	2.6	2.7	2.6	5.0	2.4	2.6
11. I would be so familiar with traveling this way I wouldn't have to find out about such things as schedules, locations, etc.	2.7	5.7	4.0	3.4	2.7	5.5	3.2	3.0
12. It would be a change from my normal means of transportation at home	5.0	2.0	5.7	5.4	4.9	2.1	5.8	5.1
13. The trip would be under my control	1.9	6.1	2.0	2.0	1.9	6.0	1.9	1.9
14. I could be confident that I would not be later than my planned time of arrival	3.9	4.3	4.4	4.4	3.8	4.2	4.2	4.3
15. I would have plenty of leg room	4.1	5.2	5.0	5.1	4.0	5.1	4.9	5.0
16. I would feel safe from personal assault	5.3	6.0	5.7	5.5	5.1	5.9	5.6	5.4

(continued)

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
17.	I would be getting the best bargain in travel, considering cost and what you get for it	4.7	5.3	5.0	4.5	4.8	5.7	4.4	4.4
18.	I would have a good view of interesting things out the window	5.6	5.9	3.9	5.5	5.6	5.9	4.0	5.0
19.	I could sit with the people traveling with me	5.6	6.4	5.8	5.9	5.4	6.5	5.5	5.7
20.	I would feel like someone important	3.0	3.8	4.7	3.8	2.9	3.9	4.7	3.6
21.	I would have good food and drink available	2.1	4.0	5.6	4.4	2.3	4.2	5.6	4.3
22.	I would not have to wait for anything	2.6	4.1	3.3	3.2	2.6	4.2	3.3	3.2
23.	I would not have to ask anybody for directions or information	3.9	4.1	4.7	4.3	4.0	4.0	4.4	4.3
24.	I would have no problems with parking	5.4	3.0	5.5	5.4	5.4	3.0	5.5	5.4

(continued)

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
25.	I could "stretch my legs" when I wanted to	3.4	4.9	5.1	5.6	3.5	5.1	4.7	5.2
26.	There would be a comfortable temperature in the vehicle	5.2	6.0	6.0	5.4	5.1	5.8	5.9	5.3
27.	I would have luxurious or "rich" surroundings on the vehicle that would make me feel I was in something "special"	2.7	3.9	4.9	3.6	2.8	4.0	5.0	3.7
28.	I would feel privacy with any traveling companions I had	3.1	6.4	4.2	4.1	3.0	6.5	4.0	3.9
29.	I would be using a travel mode that more respectable people use	3.7	5.0	5.5	4.7	3.5	4.9	5.4	4.5
30.	There would be no unanticipated delays	3.6	4.2	3.9	4.0	3.4	4.1	3.6	3.7
31.	I could get information easily	5.2	5.4	5.7	5.3	5.2	5.4	5.6	5.3

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
32.	I would have a smooth ride, with no bumping or vibration	3.6	4.4	4.8	4.3	3.5	4.3	4.7	4.2
33.	There would be things to entertain me or help pass the time	2.6	3.3	5.0	3.5	2.5	3.5	4.9	3.4
34.	I would feel privacy to be alone	2.4	5.7	3.2	3.1	2.4	5.7	3.2	3.0
35.	I would be using a travel method that more important or wealthier people use	2.2	4.5	5.7	4.0	2.1	4.4	5.7	3.8
36.	I would feel welcome as I travel	4.9	5.3	5.8	5.1	4.6	5.4	5.7	4.9
37.	I would not have to make any ticket reservations in advance	4.2	6.3	2.5	3.7	4.1	6.6	2.6	3.7
38.	I could relax	5.2	4.3	6.0	5.8	5.3	4.7	5.9	5.7
39.	Everything about the vehicle would be modern and up-to-date	4.6	5.7	6.3	4.3	4.4	5.6	6.2	4.4
40.	I would not have to worry about any details	4.9	3.7	5.3	5.1	4.5	3.7	4.8	4.7

(continued)

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
41.	I would know, before I started, exactly how I would accomplish each stage of the trip	5.3	5.8	5.6	5.6	5.2	5.6	5.5	5.5
42.	I would not feel closed in	4.1	5.2	4.7	5.0	3.9	5.3	4.5	4.8
43.	I would not feel "out of place"	5.6	6.5	6.3	5.9	5.7	6.4	6.1	6.0
44.	I would not be sitting shoulder-to-shoulder with someone else	2.6	5.2	3.2	3.2	2.6	5.1	3.2	3.3
45.	I would get "extra service", catering to my needs and wants	2.4	3.3	5.7	3.3	2.4	3.5	5.6	3.5
46.	I would enjoy the experience of the travel itself	3.8	4.8	5.6	4.8	4.1	5.3	5.6	4.8
47.	I would have a quiet, noise-free ride	3.6	4.6	4.6	3.9	3.5	4.4	4.6	3.8
48.	I would not have to walk great distances to get to vehicles, boarding areas, parking areas, etc.	4.0	5.7	3.2	3.4	3.9	5.9	3.2	3.2

(continued)

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
49.	Everything about the terminal would seem modern and up-to-date	3.7	4.0	5.9	3.8	3.6	4.5	5.8	3.9
50.	I would have very reasonably priced or free food and drink available	3.0	3.7	5.1	3.6	2.9	3.8	5.2	3.5
51.	I would feel very much "at home" and relaxed	4.0	5.7	5.5	5.0	4.2	6.0	5.4	5.2
52.	I would be treated with courtesy	5.3	–	6.4	5.4	5.1	–	6.3	5.4
53.	I would have a terminal very near my home or place of business	3.9	–	3.2	3.9	3.6	–	3.0	3.5
54.	I could get to terminals with no inconvenience	4.3	–	3.8	4.3	3.9	–	3.5	3.9
55.	I would be treated with respect	5.3	–	6.3	5.4	5.3	–	6.2	5.4
56.	I would have a terminal very near my ultimate destination	4.5	–	3.5	4.4	3.9	–	3.2	3.8

(continued)

Table 7 (continued)

Mean Ratings of the Modes

		Business Travelers				Non-Business Travelers			
		Bus	Auto	Air	Train	Bus	Auto	Air	Train
57.	I could write or work	4.1	–	5.7	5.3	4.0	–	5.4	5.1
58.	There would be good parking facilities at the terminal	3.0	–	4.6	3.5	2.8	–	4.4	3.2
59.	I would have luxurious or "rich" surroundings in the terminal that would make me feel I was someplace special	2.5	–	4.9	3.1	2.5	–	4.7	3.1
60.	I would not have to wait in line to buy tickets or check in	3.1	–	3.2	3.1	2.9	–	2.9	3.0
61.	I could get to terminals quickly	3.9	–	3.3	3.8	3.6	–	3.1	3.5
62.	I could nap or doze	5.1	–	5.6	5.3	5.3	–	5.5	5.4
63.	Everything around me in the terminal would be clean	3.6	–	5.5	4.0	3.4	–	5.3	4.0

In absolute terms, the ratings of all the modes tended to be more positive than in the earlier characterizations that were derived from the depth interviewing and presented in earlier chapters of this report. For example, the mean rating for trains on the statement, "I would be treated with courtesy", was 5.4 which falls between the points a little true and somewhat true on the rating scale. Yet, the conclusions from the depth interviewing stressed the feelings of travelers that they were not treated courteously by railroad personnel.

This finding points up a difference between depth interviewing and structured interviewing. Most people like to be agreeable and to avoid appearing "grouchy" and this tendency may cause them to rate things more favorably than their real feelings would indicate. It is precisely because of such tendencies that a great reliance upon depth interviewing was planned from the outset for this project, to enable the analysis to penetrate below superficialities to the area of feeling.

The depth interview is probably the best indication of the absolute magnitude of feelings and attitudes, so the conclusion is that the ratings in Table 7 are overstatements of the amount of satisfaction that is truly felt.

However, the ratings probably cover the relative differences among the modes with somewhat more precision than the depth interviewing, and are valuable for that

purpose. They permit an ordering of the modes from highest to lowest, on a given characteristic, and may even indicate how far apart the modes are.

In this case, the orderings that the ratings produced are generally quite consistent with the characterizations from the depth interviewing that have been presented. In fact, the agreement is so close that there is little need to discuss the contents of Table 7, and it can stand for itself as a source of information.

Table 7 does not include the ratings of the Metroliner. The Metroliner was rated only by those respondents who had used it, who may be a special group with special attitudes, so comparisons between its ratings and those in Table 7 could be misleading if made too directly.

Table 8 shows the ratings of the Metroliner, and also the ratings by the same persons of the train.

Table 8 certainly indicates that the users of the Metroliner find it to be a marked improvement over the regular trains. There are substantial differences in favor of the Metroliner on many of the items, including those characteristics where a factual difference could perhaps be documented, such as speed, newness, cleanliness, seating comfort, schedule reliability, etc. The perceived differences also extend into the area of service; courtesy, "extra service" and a feeling of welcome. The Metroliner is seen more as patronized by more respectable people, and more important, wealthier people, leading its users to feel more important themselves. They say they enjoy travel more on the Metroliner, and feel more relaxed.

Table 8 (Continued)

Table 8

Mean Ratings of the Metroliner and the Train
by Metroliner Users

		Metroliner	Train
1.	I could leave and come back almost exactly when I wanted to	4.2	4.2
2.	I would have a comfortable seat	6.2	5.3
3.	I would feel safe from accidents	5.4	5.3
4.	I would get to my ultimate destination quickly	5.7	4.9
5.	I would be spending as little money as possible	3.5	4.3
6.	Everything around me on the vehicle would be clean	6.2	4.7
7.	I could meet and talk to people	5.4	5.4
8.	I would not have to "dress up"	3.4	3.6
9.	I would be able to proceed without stopping once I got going	5.3	4.8
10.	I would not have to pack my luggage very carefully	2.7	2.5
11.	I would be so familiar with traveling this way I wouldn't have to find out about such things as schedules, locations, etc.	3.7	3.6
12.	It would be a change from my normal means of transportation at home	5.5	5.1
13.	The trip would be under my control	1.6	1.7
14.	I could be confident that I would not be later than my planned time of arrival	4.8	4.5
15.	I would have plenty of leg room	5.8	5.1
16.	I would feel safe from personal assault	5.7	5.7
17.	I would be getting the best bargain in travel, considering cost and what you get for it	5.1	4.8

(Continued)

		Metroliner	Train
18.	I would have a good view of interesting things out the window	5.1	4.9
19.	I could sit with the people traveling with me	6.1	6.0
20.	I would feel like someone important	4.3	3.8
21.	I would have good food and drink available	4.9	4.0
22.	I would not have to wait for anything	3.4	3.1
23.	I would not have to ask anybody for directions or information	4.6	4.6
24.	I would have no problems with parking	5.8	5.8
25.	I could "stretch my legs" when I wanted to	5.7	5.6
26.	There would be a comfortable temperature in the vehicle	5.8	5.3
27.	I would have luxurious or "rich" surroundings on the vehicle that would make me feel I was in something "special"	5.0	3.7
28.	I would feel privacy with any traveling companions I had	4.7	4.1
29.	I would be using a travel mode that more respectable people use	5.1	4.6
30.	There would be no unanticipated delays	4.4	4.0
31.	I would get information easily	5.5	5.4
32.	I would have a smooth ride, with no bumping or vibration	4.4	4.1
33.	There would be things to entertain me or help pass the time	3.7	3.2
34.	I would feel privacy to be alone	3.8	3.2
35.	I would be using a travel method that more important or wealthier people use	5.1	4.1
36.	I would feel welcome as I travel	5.3	4.9

(Continued)

Table 8 (Continued)

	Metroliner	Train
37. I would not have to make any ticket reservations in advance	3.1	4.2
38. I could relax	6.2	5.7
39. Everything about the vehicle would be modern and up-to-date	6.3	4.6
40. I would not have to worry about any details	5.1	5.1
41. I would know, before I started, exactly how I would accomplish each stage of the trip	6.0	5.8
42. I would not feel closed in	4.6	5.4
43. I would not feel "out of place"	6.2	5.9
44. I would not be sitting shoulder-to-shoulder with someone else	4.3	3.3
45. I would get "extra service", catering to my needs and wants	4.7	3.4
46. I would enjoy the experience of the travel itself	5.7	4.9
47. I would have a quiet, noise-free ride	4.4	3.9
48. I would not have to walk great distances to get to vehicles, boarding areas, parking areas, etc.	3.5	3.4
49. Everything about the terminal would seem modern and up-to-date	4.4	4.2
50. I would have very reasonably priced or free food and drink available	4.4	4.1
51. I would feel very much "at home" and relaxed	5.9	5.4
52. I would be treated with courtesy	5.8	5.3
53. I would have a terminal very near my home or place of business	3.8	3.8
54. I could get to terminals with no inconvenience	3.9	3.9

(Continued)

Table 8 (Continued)

	Metroliner	Train
55. I would be treated with respect	5.7	5.4
56. I would have a terminal very near my ultimate destination	4.2	4.2
57. I could write or work	5.5	5.4
58. There would be good parking facilities at the terminal	3.3	3.3
59. I would have luxurious or "rich" surroundings in the terminal that would make me feel I was someplace special	3.3	3.1
60. I would not have to wait in line to buy tickets or check in	3.4	3.6
61. I could get to terminals quickly	3.5	3.6
62. I could nap or doze	5.3	5.2
63. Everything around me in the terminal would be clean	4.1	3.9

Interestingly, the differences carry over into areas where real, factual differences would be harder to document, although in this case the differences in ratings are sometimes smaller: feelings of privacy, having a good view out the window, not having to wait for anything, not feeling closed in, having a modern, up-to-date, luxurious, clean terminal, etc.

Table 8 shows even more difference than those mentioned above that favor the Metroliner.

Using Tables 7 and 8, a comparison between the evaluations of the train by all respondents and the evaluation of the regular train by Metroliner users is possible, and might reveal whether or not Metroliner users tended to come from among persons with better-than-average opinions of the regular train. In fact, it does appear that there may be some tendency for Metroliner users to be more favorable than the average respondent toward the regular trains, but the tendency, if it exists, is not very great.

E. The R-Factor Analyses

The card sorts of the 75 statements were described earlier. Any time these many items are used in a single context there is a possibility, or even an assumption, that they are not all truly independent of one another. That is, nearly everyone who judges statement A as important may also judge statement B as important, and

nearly everyone who judges A as unimportant may also judge B as unimportant. If so, A and B are highly related, and either one of them alone would do almost as good a job of separating respondents as using both of them.

It was to study such relationships among the 75 statements that R-factor analysis was used. This multivariate statistical procedure begins with the complete matrix of correlations between all pairs of items, and proceeds mathematically to attempt to group the items. The analysis typically produces several groups of items. The items within a particular group are related to one another, so that knowing how a person answered one of the items would enable us to predict fairly well how he answered the other items in the group. But across the groups there should be no relationship: knowing how a person answered the items in one group tells us nothing about how he answered the items in other groups.

In short, the R-factor analysis tells us which items "go together", in that those persons who rated one item high tended to rate the others high, and those who rated one item low tended to rate the others low.

The mathematics of factor analysis are relatively complex, and almost invariably are performed with electronic computers. The mathematical procedures are, in effect, a search for the set of item-groups that will simultaneously put together those items that have the highest relationships with one another and keep apart those items that have the lowest relationships with one another.

Many psychologists believe that the structure of items that a factor analysis reveals tells them something about the structure of concepts or attitudes within the human mind. That is, if 75 statements about attitudes can be reduced to five groups of statements, or factors, the psychologist may assume that he has defined the five most important dimensions of attitude toward the given topic on which people differ.

In the present case, it was assumed that there are not really 75 ways in which people differ in their travel desires. By obtaining measures on 75 items and studying, through factor analysis, relationships among the items, it was hoped that a smaller number of desire-dimensions that were most important could be located and defined with some precision.

The first factor analysis was concerned with the business travel sort of the 75 statements.

The first finding of this analysis to be noted is the statements were not highly related to one another. Correlations between pairs of statements tended to be low, meaning that the way in which respondents "lined up" on any one statement tended to be rather different from the way in which they lined up on another statement. In statistical terms, only about one-third of the total theoretical variance among the statements is reflected in correlations between statements (using as estimates of commonality the largest correlation between a given statement and each of the other 74 statements). About two-thirds of the theoretical variance, then, is unique to individual statements.

There are two ways to interpret this finding. First, it could be argued that the low correlations among statements indicate that travel desires constitute a very complex domain, with a great many unique aspects involved that are relatively unrelated to one another. In fact, the research project began with the assumption that the subject was very complex, and the depth interviewing tended to <u>confirm</u> this assumption.

Second, it could be argued that the reason the statements did not correlate highly with one another is that respondents tended to "guess" a great deal when they sorted the cards, to place the statements randomly. In statistical terms, this argument would say that much of the variance that is unique to individual statements is "error variance". This argument, too, has much to commend it. It is probably true that the measures produced in the card sort were not highly reliable. That is, if the interviewers had returned to the same respondents a few days later and asked them to sort the same statements again, many respondents might not agree very highly <u>with themselves</u>. If so, then much of the statement-specific variance is error variance.

The factor analysis that was conducted could deal only with that approximately one-third of the variance that was reflected in correlations between statements. However, if much of the remaining variance is error variance, and that does seem possible, then the factor analysis can account for <u>more</u> than one-third of the total <u>true</u>, systematic variance.

The results of the R-factor analysis of the statement sort for business travel are shown in Table 9.

The factor analysis proceeded by using the correlations between statements to combine statements into groups or factors, in such a way that the factors, which number less than 75, cover all the ways in which people differ (except, as explained above, those differences among people that are unique to individual statements, which probably result partly from "error").

It is noteworthy that 10 factors were necessary to cover all the accountable variance, and that no factor explained more than 13 percent of the accountable variance. If the travel desire domain were a less complex matter, three or four factors might have been located that explained the great majority of the accountable variance. Such a result is not at all uncommon when a factor analysis is performed. The fact that it did not occur in this case is another indication of the complex nature of travel desires, since ten dimensions, of relatively equal importance, are involved.

The table shows the statements that have "loadings", positive or negative, of over .30. The loading indicates the extent to which a given statement "belongs" to a given factor. The higher the loading, the more highly that statement is related to that factor. The meaning of the factor is determined by the statements that have high loadings on it.

Table 9a

Business Travel R-Factor I

8.7% of Correlation Matrix Variance

Positive Loadings

.63	Having privacy with traveling companions
.59	Being sure of sitting with the people traveling with me
.30	Having plenty of leg room

Negative Loadings

.40	Not having to make ticket reservations in advance
.33	Not having to wait in line to buy tickets or check in
.32	Knowing...how I will accomplish each stage of the trip

Table 9b

Business Travel R-Factor II

12.3% of Correlation Matrix Variance

Positive Loadings

.64	Having the trip under my control
.61	Having the enjoyment of driving the vehicle myself
.42	Being able to interrupt the trip anytime I want to
.38	Not having to move by a time table
.33	Being able to meet and talk to people
.30	Not having to "dress up" or worry about appearances

Negative Loadings

.55	Being able to get to terminals with no inconvenience
.52	Having a terminal very near my ultimate destination
.42	Having a terminal very near my home or place of business
.35	Having everyting clean around me on the vehicle
.31	Being confident that I would not be later than planned time
..31	Being able to get to terminals quickly

Table 9c

Business Travel R-Factor III

11.0% of Correlation Matrix Variance

Positive Loadings

.64	Being able to leave later or get back sooner because of speed
.63	Being able to get travel over with sooner, because of speed
.61	Being able to spend more time at my destination, because of speed
.51	Being able to take more one or two-day trips, because of speed

Negative Loadings

.41	Not having to move by a time table

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Table 9d

Business Travel R-Factor IV

13.2% of Correlation Matrix Variance

Positive Loadings

.39	Being able to "stretch my legs" when I want to

Negative Loadings

.68	Being made to feel like someone important
.62	Using a travel method that more important or wealthier people use
.61	Having luxurious or "rich" surroundings on the vehicle
.58	Having luxurious or "rich" surroundings in the terminal
.45	Using a travel method that more respectable people use
.41	Not feeling "out of place"
.36	Getting "extra service", catering to my needs
.31	Enjoying the experience of the travel itself

Table 9e

Business Travel R-Factor V

8.1% of Correlation Matrix Variance

Positive Loadings

.48	Never having any problem with parking
.48	Having a terminal with good parking facilities
.32	Having some way to move around locally at destination

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Negative Loadings

.49	Being able to write or work
.38	Using a travel method that more respectable people use
.30	Being treated with respect

Table 9f

Business Travel R-Factor VI

10.6% of Correlation Matrix Variance

Positive Loadings

.59	Feeling I was safe from accidents
.55	Feeling I was safe from personal assault
.40	Having a comfortable temperature in the vehicle
.36	Knowing everything about the vehicle was modern and up-to-date
.34	Being treated with courtesy

Negative Loadings

.45	Being able to nap or doze
.39	Getting "extra service", catering to my needs
.36	Having a terminal very near my home or place of business
.33	Being confident that I will not be later than planned time

Table 9g

Business Travel R-Factor VII

8.7% of Correlation Matrix Variance

Positive Loadings

.62	Being able to relax
.53	Feeling very much "at home" and relaxed
.32	Being made to feel welcome
.44	Having a comfortable seat
.33	Enjoying the experience of the travel itself

Negative Loadings

.48	Having privacy to be alone

Table 9h

Business Travel R-Factor VIII

8.4% of Correlation Matrix Variance

Positive Loadings

.43	Having good food and drink available
.42	Being offered things to entertain me or help pass the time
.41	Having very reasonably priced or free food and drink available

Negative Loadings

.55	Being completely familiar with the system...
.49	Never having to <u>wait</u> for anything
.35	Being able to leave and come back almost exactly when I want to
.31	Not having to make any stops once I get going
.31	Not having to worry about any details

Table 9i

Business Travel R-Factor IX

10.1% of Correlation Matrix Variance

Positive Loadings

.49	Having a terminal very near my home or place of business
.42	Having a terminal very near my ultimate destination
.44	Being able to get to terminals quickly
.33	Not having to go to any kind of station of terminals

Negative Loadings

.60	Spending as little money as possible
.59	Knowing I was getting the best bargain in travel...
.38	Not having to "dress up" or worry about appearances
.36	Having a good view of interesting things out the window

Table 9j

Business Travel R-Factor X

8.9% of Correlation Matrix Variance

Positive Loadings

.49	Having everything clean around me in the terminal
.44	Having everything clean around me in the vehicle
.41	Knowing everything about the terminal was modern and up-to-date
.41	Being able to get information easily
.39	Never having any unanticipated delays
.36	Having good food and drink available

Negative Loadings

.35	Feeling very much "at home" and relaxed
.30	Having a good view of interesting things out the window

Each factor is a dimension of travel desires. Whatever
the statements with high positive loadings have in com-
mon defines one end of the dimension, and the statements
with high negative loadings define the other end of the
dimension. In this analysis, ten such dimensions were
necessary to explain all the "accountable" differences
among respondents.

Interpreting the meaning of a factor is an exercise in
judgment. The mathematical procedures end with the cal-
culation of the loadings; deciding what the statements
with high loadings have in common requires hypothesizing
and theorizing.

Business R-Factor I

One end of factor I seems to be defined by a desire to
feel close to traveling companions and separated from
others. The other end of the dimension is a willingness
to "make arrangements": reservations, special check-in
procedures, and "improvised arrangements" necessary because
the trip is not planned in every stage from the beginning.

In a sense, the designation of one end as "positive" and
the other as "negative" is arbitrary. People who are
at one end of this dimension value privacy with traveling
companions; people at the other end value not having to
make arrangements. The two ends do not appear opposite,
psychologically. Rather, for the persons at one end,
the values at the other end are those things they are
most willing to give up to obtain the things they want.

Business R-Factor II

At one end of this dimension is a concern with self-
reliance and individual freedom. The other end includes
mostly statements concerned with terminal convenience.
The inclusion of the statement about confidence of be-
ing on time adds a note of efficiency that helps to
supply an understanding of the sources of the concern
with terminal convenience. In a sense, this dimension
seems to contrast the "free spirits" with those who are
schedule-efficiency oriented.

Business R-Factor III

It could not be clearer that a concern with speed de-
fines one end of this dimension. The other end, which
includes only one statement with a moderately high load-
ing, is not well-defined. In fact, this dimension is
probably not bipolar, which would suggest that those peo-
ple who value speed and quickness very highly do not agree
on what they are most willing to give up to achieve it.
As a group, they are willing to give up everything to
achieve it.

Business R-Factor IV

This factor, too, is not bipolar. It is a status, fac-
tor, a concern with feelings of importance. It is the
largest factor, in the amount of variance accounted for.

Business R-Factor V

This factor contrasts a concern with local transportation problems with a business-like concern with the time spent in transit. The inclusion of the statement about being able to write or work may mean that the statement about "more respectable people", means, in this context, business travelers, and the statement about "being treated with respect" means having the seriousness of one's role as a business traveler acknowledged.

Business R-Factor VI

One end of this factor could be called "security". The two highest loadings deal directly with safety, the desire to be treated with courtesy is rather like a concern with social security, and the desire for a modern, up-to-date vehicle could imply both physical safety and social security or respectability. The other end of the dimension seems uninterpretable, as the statements seem to have little in common.

Business R-Factor VII

This factor, which does not seem truly bipolar, stresses feeling relaxed, psychologically at ease, and enjoying the trip itself.

Business R-Factor VIII

One end of this factor is a desire to have the trip go very smoothly, so smoothly that it is as if there is no trip at all, since there is no disruption. The statement at the

other end requesting entertainment and something to pass the time may suggest a tendency to see the time in transit as more of an occasion in itself. The concern with food and drink would fit this interpretation, as obtaining and consuming food and drink is a way of passing the time.

Business R-Factor IX

The end of this dimension that stresses terminal convenience seems very close to one end of factor II. But in that case, the factor was interpreted as "free spirits" versus schedule-efficiency. In this case, it is schedule-efficiency versus economy. It is interesting that the two statements about "dressing up" and having a good view out the window fit into the economy notion, since these are characteristics of bus travel (see Table 7), which is seen as the economical way to travel.

Business R-Factor X

This factor is marked at one end by a rather straight-forward concern with the quality of travel: nothing fancy, but simple cleanliness, easily obtained information, no delays, and adequate food and drink. The other end is less well-defined, but does seem to suggest a kind of psychological comfort-enjoyment orientation.

Discussion

The R-factor analysis could not be said to be wholly satisfactory in the information it produced. In the first place, the understanding of travel desires would have been enhanced had a fewer number of factors proved sufficient to cover them. The factors themselves would be more useful in understanding if the ends of the dimensions were more truly opposite to one another, psychologically. Had that been the case, the meaning of the dimension that the factor represents would be more easily seen. Finally, it was sometimes difficult to see what those statements at the same end of a factor had in common.

Nevertheless, the R-factor analysis does contribute something to our understanding. First, the difficulties described above can be regarded as one more bit of evidence that travel desires constitute a highly complex issue, one that does not yield readily to attempts at simplification. Second, the meaning of some of the factors does seem relatively clear; there is much in Table 9 that should be valuable to anyone trying to conceptualize the relevant dimensions of travel desires, either for purposes of additional research or for constructing models of passenger satisfaction.

In retrospect, it appears that one reason why the factor analysis turned out to be so complex is that respondents did not merely describe, in abstract terms, their travel desires when they sorted the cards. Rather, some of them appear to have used the card sort, in part, to describe the travel mode they use most often. It does appear that travel desires and mode descriptions have been confounded, to some extent.

The card sort for non-business travel was subjected to the same mathematical analysis as described above for business travel, and the results are shown in Table 10.

As was the case for business travel, the correlations among the statements for non-business travel tended to be low, so that only about one-third of the total theoretical variance is available to be explained with a factor analysis. The implications of this situation were discussed above.

In this case, twelve factors were necessary to account for the explainable variance.

Non-Business R-Factor I

One end of this factor stresses self-reliance and individual freedom, and seems quite similar to one end of business factor II. The other end is not readily interpretable, but it may involve some feelings of dependence: getting information easily, being treated courteously, having companions, all of which let the traveler relax and not have to assert himself. This interpretation, which is rather speculative, would make this factor a freedom versus dependence dimension.

Non-Business R-Factor II

This factor, which is not bipolar, is marked by a concern with speed, and appears nearly identical to business factor III.

Table 10a

Non-Business Travel R-Factor I

9.8% of Correlation Matrix Variance

Positive Loadings

.54	Having the trip under my control
.46	Having the enjoyment of driving the vehicle myself
.46	Having some way to move around locally at destination
.31	Having privacy to be alone
.31	Not having to "dress up" or worry about appearances

Negative Loadings

.40	Being able to relax
.38	Being able to get information easily
.35	Being treated with courtesy
.32	Being sure of sitting with people traveling with me

Table 10b

Non Business Travel R-Factor II

8.8% of Correlation Matrix Variance

Negative Loadings

.68	Being able to spend more time at my destination, because of speed
.59	Being able to take more, one or two-day trips, because of speed
.58	Being able to leave later or get back sooner, because of speed
.57	Being able to get travel over with sooner, because of speed

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Table 10c

Non-Business Travel R-Factor III

9.8% of Correlation Matrix Variance

Positive Loadings

.62	Using a travel method that more important and wealthier people use
.57	Using a travel method that more respectable people use
.56	Having luxurious or "rich" surroundings on the vehicle
.49	Having luxurious or "rich" surroundings in the terminal
.48	Being made to feel like someone important.
.38	Getting "extra service", catering to my needs

Negative Loadings

.35	Being able to "stretch my legs" when I want to
.34	Having plenty of leg room

Table 10d

Non-Business Travel R-Factor IV

8.5% of Correlation Matrix Variance

Positive Loadings

.66	Feeling I was safe from accidents
.61	Feeling I was safe from personal assault
.33	Knowing everything about the vehicle was modern and up-to-date
.31	Not having to load and unload my own luggage

Negative Loadings

.34	Being able to leave and come back almost exactly when I wanted to

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Table 10e

Non-Business Travel R-Factor V

9.3% of Correlation Matrix Variance

Positive Loadings

.43	Being able to go right to the door of my ultimate destination...
.41	Not having to make ticket reservations in advance
.37	Never having any problem with parking
.30	Not having to go to any kind of terminal or station

Negative Loadings

.53	Being able to nap or doze
.47	Being able to write or work
.36	Having privacy to be alone
.36	Having a smooth ride, with no bumping or vibration

Table 10f

Non-Business Travel R-Factor VI

13.1% of Correlation Matrix Variance

Positive Loadings

.45	Being able to interrupt the trip any time I want to
.39	Not having to pack my luggage very carefully
.35	Not having to move by a time table
.34	Not having to "dress up" or worry about appearances

Negative Loadings

.65	Being able to get to terminals quickly
.64	Having a terminal very near my ultimate destination
.57	Having a terminal very near my home or place of business
.53	Not having to walk great distances...
.35	Having a terminal with good parking facilities
.32	Being able to write or work

Table 10g

Non-Business Travel R-Factor VII

5.8% of Correlation Matrix Variance

Positive Loadings

.39	Not feeling closed in
.35	Feeling very much "at home" and relaxed
.33	Not having to worry about details

Negative Loadings

.31	Never having any unanticipated delays

Table 10h

Non-Business Travel R-Factor VIII

6.9% of Correlation Matrix Variance

Positive Loadings

.46	Having a comfortable seat
.40	Having a smooth ride, with no bumping or vibration

Negative Loadings

.46	Being able to bring as much luggage as I want
.33	Not having to pack my luggage very carefully
.32	Being able to interrupt the trip any time I want to

Table 10i

Non-Business Travel R-Factor IX

7.1% of Correlation Matrix Variance

Negative Loadings

.65	Spending as little money as possible
.62	Knowing I was getting the best bargain in travel...
.38	Having very reasonably priced or free food and drink available

Table 10j

Non-Business Travel R-Factor X

8.1% of Correlation Matrix Variance

Positive Loadings

.56	Being made to feel welcome
.46	Being able to meet and talk to people
.46	Being treated with respect
.43	Not feeling "out of place"
.36	Being treated with courtesy

Negative Loadings

.33	Not having to move by a time table
.31	Never having to wait for anything

Table 10k

Non-Business Travel R-Factor XI

6.7% of Correlation Matrix Variance

Positive Loadings

.54	Having good food and drink available
.41	Having very reasonably priced or free food and drink available
.32	Having everything clean around me in the terminal

Negative Loadings

.35	Being able to see the person controlling the vehicle
.32	Not having to ask anybody for directions or information

Table 10l

Non-Business Travel R-Factor XII

6.1% of Correlation Matrix Variance

Positive Loadings

.42	Being completely familiar with the system...
.35	Not having to make any stops once I get going
.31	Knowing...how I will accomplish each stage of the trip

Negative Loadings

.41	Having privacy with traveling companions

Non-Business R-Factor III

One end of this factor seems clearly to be a concern
with high status and self-esteem, and is like business
factor IV. Its opposite is a concern with leg room.
It may be that the contrast here is between a concern
with psychological status comfort, on the one hand,
and the most literal kind of physical comfort, on the
other.

Non-Business R-Factor IV

One end of the factor is primarily concerned with safety
and security, and is somewhat similar to one end of busi-
ness factor VI. The other end has only one statement with
a moderately high loading, so the factor does not seem
truly bipolar.

Non-Business R-Factor V

One end of this factor suggests a concern with the ab-
sence of the necessity for arrangements, transfers, and
special procedures. The other end is more concerned
with the time in transit, and having that time pass
without disrupting influences.

Non-Business R-Factor VI

One end of this factor suggests primarily freedom, while
the other end is a concern with terminal convenience.
This factor is quite similar to business factor II.

Non-Business R-Factor VII

This factor is quite small, and seems to be concerned
with feeling relaxed, without feeling confined and
without having details to worry about. Those who value
this feeling seem to be saying that if they have it,
delays are not particularly upsetting.

Non-Business R-Factor VIII

This factor contrasts a concern with straightforward
physical comfort with a tendency to value traveling
freely, especially with regard to the burdens of lug-
gage.

Non-Business R-Factor IX

This factor, which is not bipolar, reflects a concern
with cost and economy. It is similar to business fac-
tor IX, especially when it is noted that the highest
positive loading (.27) deals with terminal convenience.

Non-Business R-Factor X

One end is a concern with the social, interpersonal
aspects of travel, while the other end, which is less
well-defined, seems to be a concern that travel
not disrupt one's preferred individual pace.

Non-Business R-Factor XI

One end is marked by a concern with food and drink, while the other end seems to stress the psychological comfort of familiarity. In a sense, this factor contrasts amenities with psychological ease.

Non-Business R-Factor XII

This factor, which also involves familiarity, puts the emphasis on the efficiency that familiarity can permit, rather than psychological ease.

Discussion

The comments that were made about the business travel analysis apply here also. It is noteworthy that two or three factors did not appear that account for most of the variance. The complex, hard to understand structure that did emerge points up the complexity of travel desires. It appears that travelers do, indeed, have a great many different desires and values.

Now that both R-factor analyses have been presented, a few conclusions may be possible:

- Separate terminal and vehicle factors did not appear. It seems that vehicles and terminals "go together" in the minds of travelers.

- No real "physical comfort factor" emerged. It might have been expected that such things as seating comfort, leg room, ride smoothness and temperature control would have combined to form a single dimension involving physical comfort. That this did not occur could suggest that the various aspects of comfort are somewhat independent, that the person who is very concerned with temperature control, for example, may not be highly concerned with ride smoothness.

- Although the exact details are difficult to grasp, it does appear that "psychological comfort", in various aspects including familiarity, a sense of being relaxed and at ease, and not being annoyed by tasks and details, is important.

- There is evidence that the "aggravation factor", which involves tasks, that are required while traveling, is important, although it may not be a single factor but may have some relatively independent aspects.

- The concern with cost and economy was apparent. Interestingly, it did not necessarily appear opposite a concern with status and luxury, but may have been contrasted more with terminal convenience. This could indicate that the economy-minded travelers used the card sort to describe automobile travel, which would mean they ranked terminal considerations low.

F. The Q-Factor Analyses

The R-factor analyses just reported produced groups of statements that tended to be ranked similarly. Q-factor analyses were also performed, and this procedure produces groups of <u>persons</u> who tended to rank the statements similarly. In a sense, the Q-factor analysis <u>segmented</u> the travelers according to the pattern of travel desires.

The results of the Q-factor analysis for the business travel card sort are shown in Table 11. The table shows the proportion of explainable variance each factor accounts for. It also shows the number of respondents with significant loadings on the factor. "Significance" is arbitrary, of course, but the relative size of these numbers of respondents is an indication of the relative sizes of the segments.

To make the statements interpretable, the ten highest positive and the ten lowest negative statements associated with each is shown in the table. The factor scores shown have not been normalized or indexed either within or across factors. They reflect the <u>relative</u> importance of the statements in describing the orientations that define the segments. The members of each segment tended to <u>agree</u> that the statements labelled "positive" were more important to <u>them</u> than the statements labelled "negative".

The Q-factor segments are not bipolar, in the sense that there are <u>people</u> at both ends of the factors. Rather, the people who have a significant relationship to a factor all tend to be at the end labelled "positive" in the table.

Six Q-factors each are reported for the business and non-business analyses. These factors do not explain all the accountable variance, but in each case about three-fourths of it. The remaining variance was spread across a large number of relatively small factors, too small to interpret and report.

Business Q-Factor I

Persons high on this factor, which is the largest, clearly are saying they value speed more than status, luxury, or prestige.

Business Q-Factor II

People in this segment, which is second largest, seem to want travel to disrupt their work as little as possible. They want to work while traveling, and not to lose any time waiting in line, obtaining information or making reservations. They profess to be concerned with <u>cost</u>, which is another indication that they are <u>efficiency</u>-oriented.

Table 11a

Business Q-Factor I

57 Respondents with Significant Loading
26.4% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
13	2.55	More time at destination, because of speed of travel
11	2.48	Leave later or get back sooner, because of speed of travel
12	2.08	Get travel over with sooner, because of speed of travel
2	1.99	Would not be later than planned time of arrival
14	1.96	Take more one or two day trips because of speed of travel
1	1.55	Leave and come back exactly when wanted to
68	1.52	Get to terminals quickly
47	1.45	Terminal very near home or place of business
49	1.24	Terminal with good parking facilities
36	1.08	Not having to make any stops once I get going

Negative Statements

No.	Factor Score	
29	-2.00	Travel method that more important or wealthier people use
28	-1.71	Travel method that more respectable people use
19	-1.57	Luxurious or "rich" surroundings on the vehicle
33	-1.52	Being made to feel like someone important
10	-1.43	Feeling safe from personal assault
27	-1.36	Not feeling "out of place"
60	-1.32	Able to see the person controlling the vehicle
51	-1.23	Luxurious or "rich" surroundings in the terminal
26	-1.17	Not having to "dress up" or worry about appearances
72	-1.11	Knowing everything about the terminal was modern and up-to-date

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Table 11b

Business Q-Factor II

29 Respondents with Significant Loading
15.6% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
57	2.31	Being able to write or work
70	1.64	Not having to wait in line to buy tickets or check in
16	1.31	Getting the best bargain in travel
63	1.30	Knowing exactly how I will accomplish each stage of trip
38	1.26	Never having to wait for anything
1	1.18	Leave and come back exactly when wanted to
54	1.11	Being able to get information easily
45	1.10	Not having to make any ticket reservations in advance
30	1.03	Being treated with courtesy
15	1.01	Spending as little money as possible

Negative Statements

No.	Factor Score	
61	-2.20	Enjoyment of driving the vehicle myself
49	-2.19	Terminal with good parking facilities
64	-2.14	Having the trip under my control
62	-1.76	Never having any problem with parking
51	-1.71	Luxurious or "rich" surroundings in the terminal
12	-1.62	Get travel over with sooner, because of speed of travel
23	-1.58	Sure of sitting with the people traveling with me
22	-1.46	Being able to meet and talk to people
18	-1.36	Being offered things to entertain me or help pass the time
19	-1.32	Having luxurious or "rich" surroundings on the vehicle

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Table 11c	Table 11d

Two tables side by side:

Table 11c

Business Q-Factor III

17 Respondents with Significant Loading
9.1% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
64	3.44	Having the trip under my control
1	2.25	Able to leave and come back almost exactly when I wanted to
61	2.11	Enjoyment of driving the vehicle myself
40	1.98	Not having to move by a timetable
63	1.95	Knowing exactly how I will accomplish each stage of trip
39	1.36	Being able to interrupt the trip any time I want to
38	1.27	Never having to wait for anything
43	0.98	Able to go right to the door of my ultimate destination
46	0.97	Not having to go to any kind of station or terminal
41	0.92	Having some way to move around locally at my destination

Negative Statements

No.	Factor Score	
51	-1.51	Having luxurious or "rich" surroundings in the terminal
18	-1.50	Being offered things to entertain me or help pass the time
28	-1.44	Travel method that more respectable people use
29	-1.40	Travel method that more important or wealthier people use
57	-1.28	Being able to write or work
19	-1.27	Having luxurious or "rich" surroundings on the vehicle
72	-1.20	Knowing everything about the terminal was modern and up-to-date
74	-1.19	Able to get to terminals with no inconvenience
33	-1.14	Being able to feel like someone important
48	-1.13	Terminal very near my ultimate destination
34	-1.13	Getting "extra service", catering to my needs and wants

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Table 11d

Business Q-Factor IV

9 Respondents with Significant Loading
7.7% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
23	1.88	Sure of sitting with the people traveling with me
15	1.85	Spending as little money as possible
3	1.59	Having a comfortable seat
55	1.58	Being able to relax
75	1.54	Feeling very much "at home" and relaxed
16	1.46	Knowing I was getting the best bargain in travel
57	1.45	Being able to write or work
9	1.38	Feeling safe from accidents
65	1.30	Not having to load and unload my own luggage
24	1.25	Having privacy with my traveling companions

Negative Statements

No.	Factor Score	
47	-2.02	Terminal very near home or place of business
43	-1.89	Able to go right to the door of my ultimate destination
45	-1.66	Not having to make any ticket reservations in advance
38	-1.63	Never having to wait for anything
46	-1.54	Not having to go to any kind of station or terminal
72	-1.48	Knowing everyting about the terminal was modern and up-to-date
53	-1.41	Not having to ask anybody for directions or information
48	-1.40	Terminal very near ultimate destination
52	-1.23	Being completely familiar with the system
29	-1.13	Travel method that more important or wealthier people use

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Business Q-Factor V

21 Respondents with Significant Loadings
11.0% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
9	2.55	Feeling safe from accidents
8	2.13	Comfortable temperature in the vehicle
41	1.96	Having some way to move around locally at destination
62	1.69	Never having any problem with parking
73	1.51	Not having to walk great distances
49	1.45	Terminal with good parking facilities
10	1.45	Feeling safe from personal assault
54	1.42	Being able to get information easily
20	1.34	Knowing everything about the vehicle was modern and up-to-date
35	1.28	Having good food and drink available

Negative Statements

No.	Factor Score	
56	-2.40	Being able to nap or doze
57	-1.78	Being able to write or work
21	-1.62	Good view of interesting things out the window
29	-1.42	Travel method that more important or wealthier people use
75	-1.33	Feeling very much "at home" and relaxed
38	-1.22	Never having to wait for anything
19	-1.17	Luxurious or "rich" surroundings on the vehicle
36	-1.11	Not having to make any stops once I get going
34	-1.06	Getting "extra service", special catering to my wants and needs
67	-1.06	Not having to worry about any details
24	-1.06	Having privacy with my traveling companions

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Business Q-Factor VI

16 Respondents with Significant Loadings
8.1% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
75	1.95	Feeling very much "at home" and relaxed
3	1.80	Having a comfortable seat
66	1.74	Enjoying the experience of the travel itself
52	1.72	Being completely familiar with the system
55	1.63	Being able to relax
19	1.59	Luxurious or "rich" surroundings on the vehicle
12	1.45	Get travel over with sooner, because of speed of travel
31	1.23	Being treated with respect
30	1.14	Being treated with courtesy
9	1.08	Feeling safe from accidents

Negative Statements

No.	Factor Score	
60	-2.10	Being able to see the person controlling the vehicle
57	-1.85	Being able to write or work
25	-1.81	Having privacy to be alone
42	-1.71	Being able to bring as much luggage or gear as I want
26	-1.60	Not having to "dress up" or worry about appearances
71	-1.57	Very reasonably priced or free food and drink available
15	-1.56	Spending as little money as possible
61	-1.44	Enjoyment of driving the vehicle myself
45	-1.24	Not having to make any ticket reservations in advance
44	-1.17	Not having to pack my luggage very carefully

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They repudiate any pleasure in controlling the trip themselves, being entertained, or distracted by luxury, and socializing while traveling, all of which would interfere, realistically or psychologically, with their work-efficiency orientation.

Business Q-Factor III

These travelers stress the importance to them of personal control and freedom to run the trip themselves. They reject luxury, status, and prestige, presumably because these things could only be accomplished at the expense of their self-reliance. It may also be that they feel these things might distract them from their direct responsibility for the travel, which is consistent with their rejection of writing or working while traveling. The negative scores for terminal convenience are probably not so much a rejection of terminal convenience as a rejection of going to terminals at all.

Business Q-Factor IV

This segment, which is quite small, is difficult to interpret. It is relatively clear what these travelers are saying they can do without, which is primarily convenience. What it is that they want to achieve is more doubtful. Economy is part of it, they say, as is feeling at ease, perhaps with companions. These people seem to be saying that if they can be psychologically comfortable at low cost, they will give up convenience.

Business Q-Factor V

The people in this segment seem concerned with security, both physical and psychological. The physical safety aspect is obvious. The psychological security may be implied by the concern with information, having a new vehicle, and having some way to move around locally at their destination. Knowing they will not have trouble parking is part of this orientation, but may also be related to physical safety: avoiding dark, lonely parking lots.

This interpretation seems to be borne out by the high negative score for napping or dozing. People concerned with security are probably watchful, and do not want to go to sleep, or be distracted by the other diversions reflected in the statements with negative scores.

Business Q-Factor VI

This segment is marked by a desire to relax in nice surroundings with good service and enjoy the travel experience itself. To achieve this goal, they will give up economy and are willing to make reservations and be somewhat restricted in regard to luggage. Privacy is not a concern, nor is writing or working while traveling.

Discussion

Conspicuously absent from the Q-factors, given the
trend of the depth interviewing reported, is any very
direct manifestation of a desire for status and pres-
tige. In fact, these things often appeared as nega-
tive, concerns that various segments rejected.

Business factor VI does seem to have overtones of
status and luxury, but it is not a clear-cut state-
ment of this concern.

It is possible, and perhaps even likely, that status
and prestige did not emerge as a Q-factor because they
are of moderately high concern to some people, but of
very great concern to almost no one.

It is also true that probing and sensitive analyses
were often necessary to unearth the concern with status
and prestige in the depth interviews. It appears that
many persons are reluctant to admit to such satisfac-
tions, and many others are probably not even fully aware
of their concerns in this area. This circumstance could
help to obscure these desires in the multivariate analy-
sis. Certainly, the statements that seemed to tap this
concern, were ranked quite low in importance by the majority
of respondents (see Tables 3 and 4).

Table 12 presents the same results for the Q-factor
analysis of the non-business travel card sort as Table
11 did for business travel.

Table 12a

Non-Business Q-Factor I

39 Respondents with Significant Loadings

14.4% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
12	2.37	Get travel over with sooner, because of speed of travel
11	2.27	Leave later or get back sooner, because of speed of travel
13	2.19	Spend more time at destination, because of speed of travel
68	1.81	Being able to get to terminals quickly
74	1.76	Being able to get to terminals with no inconvenience
48	1.71	Terminal very near ultimate destination
1	1.56	Able to leave and come back almost exactly when I wanted
14	1.39	More one or two day trips, because of the speed of trave
47	1.30	Terminal very near home or place of business
3	1.08	Having a comfortable seat

Negative Statements

No.	Factor Score	
60	-1.71	Being able to see the person controlling the vehicle
33	-1.63	Being made to feel like someone important
29	-1.61	Travel method that more important or wealthier people use
28	-1.57	Travel method that more respectable people use
51	-1.54	Luxurious or "rich" surroundings in the terminal
61	-1.32	Enjoyment of driving the vehicle myself
19	-1.18	Luxurious or "rich" surroundings on the vehicle
39	-1.16	Being able to interrupt the trip any time I want to
32	-1.11	Being made to feel welcome
10	-1.05	Feeling safe from personal assault

Table 12b

Non-Business Q-Factor II

52 Respondents with Significant Loadings

17.9% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
1	2.24	Being able to leave and come back almost exactly when I wanted to
40	1.97	Not having to move by a timetable
64	1.85	Having the trip under my control
61	1.77	Enjoyment of driving the vehicle myself
39	1.72	Being able to interrupt the trip any time I want to
43	1.61	Being able to go right to the door of ultimate destination
63	1.43	Knowing exactly how I will accomplish each stage of trip
26	1.39	Not having to "dress up" or worry about appearances
41	1.27	Having some way to move around locally at destination
66	1.15	Enjoying the experience of the travel itself

Negative Statements

No.	Factor Score	
57	-1.85	Being able to write or work
65	-1.57	Not having to load and unload my own luggage
56	-1.57	Being able to nap or doze
74	-1.53	Being able to get to terminals with no inconvenience
18	-1.52	Being offered things to entertain me or help pass the time
68	-1.45	Being able to get to terminals quickly
72	-1.41	Knowing everything about the terminal was modern and up-to-date
51	-1.39	Luxurious or "rich" surroundings in the terminal
48	-1.35	Terminal very near ultimate destination
47	-1.34	Terminal very near home or place of business

Table 12c

Non-Business Q-Factor III

24 Respondents with Significant Loadings

10.0% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
15	2.83	Spending as little money as possible
16	2.68	Knowing I was getting the best bargain in travel
71	1.96	Having very reasonably priced or free food and drink available
35	1.86	Having good food and drink available
24	1.84	Having privacy with my traveling companions
13	1.54	Spend more time at destination, because of speed of travel
23	1.47	Sure of sitting with the people traveling with me
32	1.46	Being made to feel welcome
22	1.44	Being able to meet and talk to people
55	1.12	Being able to relax

Negative Statements

No.	Factor Score	
61	-1.98	Enjoyment of driving the vehicle myself
60	-1.89	Being able to see the person controlling the vehicle
65	-1.70	Not having to load and unload my own luggage
70	-1.35	Not having to wait in line to buy tickets or check in
6	-1.35	Having a smooth ride, with no bumping or vibration
64	-1.33	Having the trip under my control
46	-1.20	Not having to go to any kind of station or terminal
53	-1.19	Not having to ask anybody for directions or information
57	-1.14	Being able to write or work
29	-1.01	A travel method that more important or wealthier people use

Non-Business Q-Factor IV

26 Respondents with Significant Loadings

10.7% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
17	1.85	Having everything clean around me on the vehicle
20	1.30	Knowing everything about the vehicle was modern and up-to-date
30	1.22	Being treated with courtesy
31	1.19	Being treated with respect
65	1.18	Not having to load and unload my own luggage
3	1.11	Having a comfortable seat
73	1.10	Not having to walk great distances
9	1.03	Feeling safe from accidents
19	1.00	Having luxurious or "rich" surroundings on the vehicle
70	0.98	Not having to wait in line to buy tickets or check in

Negative Statements

No.	Factor Score	
57	-2.74	Being able to write or work
56	-2.67	Being able to nap or doze
25	-2.23	Having privacy to be alone
15	-2.05	Spending as little money as possible
71	-1.93	Having very reasonably priced or free food and drink available
26	-1.30	Not having to "dress up" or worry about appearances
18	-1.28	Offered things to entertain me or help pass the time
61	-1.20	Enjoyment of driving the vehicle myself
64	-1.18	Having the trip under my control
7	-1.17	Not sitting shoulder-to-shoulder with someone else

Non-Business Q-Factor V

41 Respondents with Significant Loadings

13.1% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
9	2.58	Feeling safe from accidents
6	2.21	Having a smooth ride, with no bumping or vibration
4	1.91	Having plenty of leg room
10	1.76	Feeling safe from personal assault
8	1.52	Having a comfortable temperature in the vehicle
65	1.45	Not having to load and unload my own luggage
3	1.43	Having a comfortable seat
30	1.39	Being treated with courtesy
5	1.28	Being able to "stretch my legs" when I want to
55	1.08	Being able to relax

Negative Statements

No.	Factor Score	
19	-2.16	Having luxurious or "rich" surroundings on the vehicle
13	-1.79	Spend more time at destination, because of speed of travel
29	-1.62	Travel method that more important or wealthier people use
51	-1.44	Having luxurious or "rich" surroundings in the terminal
61	-1.33	Enjoyment of driving the vehicle myself
34	-1.32	Getting "extra service", catering to my needs and wants
43	-1.30	Able to go right to the door of my ultimate destination
11	-1.29	Leave later or get back sooner, because of speed of travel
45	-1.26	Not having to make any ticket reservations in advance
28	-1.19	Travel method that more respectable people use

Table 12f

Non-Business Q-Factor VI

9 Respondents with Significant Loadings

5.9% of Correlation Matrix Variance

Positive Statements

No.	Factor Score	
42	2.40	Being able to bring as much luggage or gear as I want
45	1.86	Not having to make any ticket reservations in advance
39	1.67	Able to interrupt the trip any time I want to
40	1.42	Not having to move by a timetable
62	1.27	Never having any problem with parking
56	1.25	Being able to nap or doze
23	1.23	Sure of sitting with the people traveling with me
74	1.19	Able to get to terminals with no inconvenience
35	1.18	Having good food and drink available
38	1.17	Never having to wait for anything

Negative Statements

No.	Factor Score	
14	-1.92	More one or two day trips, because of speed of travel
11	-1.89	Leave later or get back sooner, because of speed of travel
33	-1.73	Being made to feel like someone important
10	-1.42	Feeling safe from personal assault
13	-1.42	Spend more time at destination, because of speed of travel
27	-1.32	Not feeling "out of place"
52	-1.25	Being completely familiar with the system
12	-1.20	Get travel over with sooner, because of speed of travel
63	-1.11	Knowing exactly how I will accomplish each stage of trip
9	-1.07	Feeling safe from accidents

Non-Business Q-Factor I

This factor is almost identical with business factor I, stressing speed at the expense of status, luxury or prestige. The segment is smaller for non-business travel, however.

Non-Business Q-Factor II

This factor seems closely related to business factor III. It stresses personal control and freedom over luxury and diversion and rejects going to terminals.

Non-Business Q-Factor III

This segment is primarily cost conscious, and is willing to give up personal control and convenience to achieve low cost.

Non-Business Q-Factor IV

This segment seems to involve a concern with "social security": cleanliness, courtesy, and respect, with some desire for luxury. These persons are willing to give up economy and personal control.

Non-Business Q-Factor V

This is a "physical" segment: they value safety and physical comfort more highly than luxury, status, speed, or convenience.

Non-Business Q-Factor VI

This segment involves a rejection of speed, concern with safety, concern with familiarity, and feelings of self-importance in favor of flexibility and freedom.

Discussion

One other aspect of the Q-factor analyses is worthy of discussion. The non-business travel analysis produced two factors that were concerned with "freedom" (II and VI). In one case, the pattern of statements suggested that freedom was valued for its implications for personal control by the traveler, while in the other case the factor appeared to be more of a freedom and flexibility concern: not being restricted in travel.

Summary of the Q-Factor Analyses

The Q-factor analyses produced much more interpretable results than did the R-factor analyses. That, in itself, is probably evidence that travelers are different from one another in their desires and orientations. That is, it was easier to find meaningful differences among travelers than it was to find differences among the statements as they were ranked by all travelers.

The interpretation of the factors that was presented above suggests that the important segments of business travelers are defined by a concern with:

- Speed (I)

- Work-efficiency while traveling (II)

- Physical and psychological security (V)

- Personal control and freedom (III)

- Enjoyment of surroundings and service (VI)

- Economy? (IV)

The important segments of non-business travelers are defined by:

- Personal control and freedom (II)

- Speed (I)

- Physical comfort and safety (V)

- "Social security" (IV)

- Economy (III)

- Flexibility and freedom (VI)

G. Characteristics of the Q-Factor Segments

The Q-factor analyses segmented the respondents according to travel desires. In this section, the demographic characteristics and travel behavior of the segments will be examined.

Business Q-Segments

Table 13 shows some selected demographic characteristics of the business travel Q-segments.

It should be realized, of course, that the numbers of respondents are not very large, so that the percentages in Table 13 are probably not highly stable. A shift of even one person could sometimes change a percentage distribution markedly, when the total is so small.

The segment that perhaps stands out as most different from the others is III, which was characterized as being concerned with personal control and freedom when traveling. It has a higher proportion of men, a higher proportion of persons aged 35-49, a higher proportion of blue-collar occupations, a much lower proportion of college graduates, a much lower proportion of very high incomes, and a high degree of automobile ownership. The relatively low occupational, educational, and income status, in particular, seem consistent with what is known about social class attitudes and ideologies: the tendency for those occupying social class strata below the top to value self-reliance and autonomy. Personal control when traveling also enables one to avoid situations where one's lack of sophistication is a potential embarrassment, and may be valued by lower social class persons for this reason.

Table 13

Demographic Characteristics of the
Business Travel Q-Factor Segments

| | Total | Business Q-Factor Segment | | | | | |
		I	II	III	IV	V	VI
Respondents	133 %	57 %	29 %	17 %	9 %	21 %	16 %
Sex							
Men	82.7	86.0	72.4	94.1	77.8	85.7	75.0
Women	17.3	14.0	27.6	5.9	22.2	14.3	25.0
Age							
Under 35	27.8	29.8	27.6	17.6	33.3	33.3	31.3
35-49	43.6	43.9	31.0	58.8	44.4	38.1	50.0
50 and over	28.6	26.3	41.4	23.5	22.2	28.6	18.8
Respondent's occupation							
White collar	91.5	92.7	89.3	88.2	100.0	95.2	81.3
Blue collar	5.4	1.8	7.1	11.8	-	-	12.5
Not in labor force	3.1	5.5	3.6	-	-	4.8	6.3
Education							
Not past high school	24.0	21.1	24.1	41.1	22.2	28.6	31.2
Some college	27.8	15.8	34.5	41.2	44.4	42.9	18.8
College graduate or more	48.1	63.1	41.3	17.6	33.3	28.6	50.0
Income							
Under $15,000	31.3	23.2	42.3	35.3	11.1	23.5	50.0
$15,000-$19,999	24.2	21.4	19.2	35.3	33.3	47.1	18.8
$20,000-$24,999	25.0	30.4	23.1	23.5	33.3	17.6	18.8
$25,000 and over	19.5	25.0	15.4	5.9	22.2	11.8	12.5
Having children at home	54.9	59.6	44.8	64.6	33.3	51.1	50.1
Place of growing up							
Country or small town	12.8	7.0	17.2	11.8	-	28.6	12.5
Small or medium-sized city	14.3	15.8	17.2	11.8	-	19.0	6.3
Large city	66.9	68.4	62.1	64.7	100.0	52.4	75.0
Large city suburb	6.0	8.8	3.4	11.8	-	-	6.3
Owning no car	9.8	10.5	24.1	-	22.2	-	-
Owning 2 or more cars	49.6	52.7	31.0	47.1	44.4	61.9	43.8

Segment VI, which seemed concerned with travel enjoyment, includes a relatively large proportion of women, a low proportion of persons over age 49, and a somewhat lower than average proportion of persons under 35, a high proportion of blue collar occupations, and a high proportion of lower incomes. Their educational level is not very different from the average of all business travel respondents, however.

It almost appears that this segment includes people whose jobs are less important, but who have the background to enjoy "the finer things" (education is the clue here). Lacking the satisfactions that come from knowing their business travel is highly important, they seek satisfaction from the travel situation itself.

A clue to the meaning of segment V, which is concerned with safety and security, may lie in their somewhat lower tendency to have grown up living in a larger city. Crowds of people, potentially including some "undesirable characters", may make persons who grew up in more "relaxed" surroundings anxious, while the person who grew up in a large city may be better adapted to crowds and confusion. Segment IV was somewhat hard to interpret from the Q-factor analysis, but it did include some concern with economy. Table 13 does little to expand the understanding of this segment, since there is no evidence that these people are in lower level jobs where they might be held more accountable for business travel economy.

Segment II, which includes persons who are concerned that travel should not disrupt their work-efficiency, includes a relatively large proportion of women, a large number of older persons, and a low degree of automobile ownership.

Segment I, the speed-oriented, probably occupy higher level, more important jobs: they have a high level of education and relatively high incomes, although their age is not greater.

Table 14 shows the trip circumstances of the business segments.

Segment I, the speed-oriented, have a somewhat greater than average tendency to have business in more than one place when they travel, and are somewhat more likely to be traveling to a major center city.

Segment II, those concerned with not disrupting their work-efficiency, may have some reason for this concern: their trips tend to be of longer distance and duration than average.

Segment III, persons concerned with personal control and freedom, tend to take few long-distance trips in the Northeast Corridor, but their trips are quite often of long duration. They frequently have several places at which to conduct business, they seldom have any traveling companions, and their destination is very often something other than a major center city. It is interesting that the depth interview material suggested that all these factors favored the use of the automobile, and that the automobile was also a major source of personal control and freedom.

Table 14

Percentage of Business Trips According to Type,
within Business Q-Factor Segments

	Total	Business Q-Factor Segment					
		I	II	III	IV	V	VI
Respondents	133	57	29	17	9	21	16
Trips	1,536	584	195	182	120	280	286
One-way distance							
80-149 miles	50.1%	43.8%	25.1%	53.8%	59.2%	50.0%	80.1%
150-249 miles	32.8	34.3	53.3	39.6	15.8	29.6	14.3
250 or more miles	17.1	21.9	21.5	6.6	25.0	20.4	5.6
No. nights away							
No nights away	27.8	19.9	12.8	16.5	6.7	34.6	65.0
1 night away	21.1	23.8	26.7	7.1	55.0	21.4	16.4
2 or more nights away	51.1	56.3	60.5	76.4	38.3	43.9	18.5
Places with business							
1 place with business	49.2	42.3	61.0	47.2	55.0	30.7	74.5
2-3 places with business	17.8	17.0	19.5	6.6	23.3	30.7	14.7
4 or more places with business	32.9	40.7	19.5	46.2	21.7	38.6	10.8
No. of companions							
Alone	75.1	77.1	75.9	90.7	88.3	66.1	56.6
1 companion	16.9	12.3	11.3	7.7	8.3	21.1	32.9
2 or more companions	8.0	10.6	12.8	1.6	3.3	12.8	10.5
Destination							
Major center city	82.5	93.0	90.8	47.2	85.0	64.3	95.8
Suburb	4.3	3.1	3.1	14.8	-	6.8	1.4
Other	13.2	3.9	6.1	37.9	15.0	28.9	2.8

Segment IV, which is very small, has been the most diffi-
cult to describe. The major special characteristic of
their trips, according to Table 14, is their very low
tendency to take single-day trips, and the high propor-
tion of the time they spend one night away from home.
However, the very small number of persons involved
reduces the trustworthiness of all statistics for
this segment.

Segment V, concerned with safety and security, does
not appear to stand out in any very meaningful way, in
Table 14.

Segment VI, those who want to enjoy the travel experience,
take many short trips, both in distance and duration;
they usually have only one place at which to conduct busi-
ness, they often have companions, and their destination
is almost always a major center city. These people seem
to face a less demanding travel schedule.

Table 15 shows the travel modes used by members of the
business travel segments.

The great extent of automobile use by segment III, the
people concerned with freedom and control, is apparent.
On the other hand, those in segment II, who wish to
avoid disruption of their work routines are especially
unlikely to use the automobile and are most likely to
fly.

Segment I, the speed-oriented, are next in airplane
usage, and they also use the train more than average.

Table 15

Percentage of Business Trips Made by Each Mode,
within Business Q-Factor Segments

| | Total | Business Q-Factor Segment | | | | | |
		I	II	III	IV	V	VI
Respondents	133	57	29	17	9	21	16
Trips	1,536	584	195	182	120	280	286
Automobile	42.3%	31.7%	20.5%	88.5%	30.8%	70.5%	33.6%
Bus	4.6	2.2	10.8	2.7	2.5	0.4	7.7
Train	26.4	31.0	23.1	5.5	39.2	9.6	43.0
Airplane	26.7	35.1	45.6	3.3	27.5	19.6	15.7

It is interesting that segment VI, which was characterized as being concerned with enjoyment of the trip, shows the greatest degree of train use, since the depth interview material showed that train travel was often criticized as being unpleasant.

Table 14 showed that those in this segment are particularly likely to be taking short single-day trips to major center cities where they have only one place at which to conduct business. It may be that it is the existence of such an "easy" trip pattern that enables them to put relaxation and enjoyment above other consideratons. But it is also true that their trip pattern seems "made to order" for the train. So it may be that they are using the train for its convenience, while wishing it were nicer and more comfortable. In fact, this suggestion is quite consistent with the findings from the depth interviews suggesting that even habitual users of trains dislike them for almost everything except convenience.

Segment V, those concerned with safety and security, are heavy automobile users. The suggestion was made in the depth interview material that automobile travel feels safe to many people, even though they may know of its relative danger.

Segment IV remains a question mark, since it does not show any unique pattern of mode usage.

Non-Business Travel Segments

Table 16 shows demographic characteristics of the non-business travel segments.

Table 16

Demographic Characteristics of the Non-Business Travel Q-Factor Segments

	Total	Non-Business Q-Factor Segment					
		I	II	III	IV	V	VI
Respondents	194*	39	52	24	26	41	9
	%	%	%	%	%	%	%
Sex							
Men	57.2	64.1	75.0	58.3	42.3	48.8	55.6
Women	42.8	35.9	25.0	41.7	57.7	51.2	44.4
Age							
Under 35	39.4	46.2	40.4	41.7	26.9	40.0	33.3
35-49	34.7	25.6	42.3	29.2	42.3	27.5	66.7
50 and over	25.9	28.2	17.3	29.2	30.8	32.5	-
Breadwinner's occupation							
White collar	72.1	67.6	80.8	65.2	84.0	73.2	100.0
Blue collar	16.8	18.9	15.4	21.7	4.0	12.2	-
Not in labor force	11.1	13.5	3.8	13.0	12.0	14.6	-
Education							
Not past high school	32.0	17.9	26.9	50.0	46.2	31.7	11.1
Some college	27.8	33.3	25.0	25.0	23.1	26.8	22.2
College graduate or more	40.2	48.7	48.1	25.0	30.8	41.5	66.7
Income							
Under $15,000	41.8	38.5	33.3	68.4	36.0	37.8	33.3
$15,000-$19,999	19.8	15.4	27.5	15.8	20.0	24.3	22.2
$20,000-$24,999	18.7	23.1	19.6	-	12.0	21.6	33.3
$25,000 and over	19.8	23.1	19.6	15.8	32.0	16.2	11.1
Having children at home	50.0	46.2	53.8	50.0	69.2	46.3	66.7
Place of growing up							
Country or small town	16.0	2.6	15.4	16.7	19.2	17.1	-
Small or medium-sized city	13.4	20.5	13.5	12.5	7.7	17.1	11.1
Large city	59.3	51.3	61.5	58.3	69.2	56.1	88.9
Large city suburb	11.3	25.6	9.6	12.5	3.8	9.8	-
Owning no car	12.9	15.4	7.7	29.2	3.8	9.8	11.1
Owning 2 or more cars	47.4	51.3	48.1	33.3	57.7	53.7	55.6

*Computer capacity allowed only 180 non-business travelers to participate in the Q-factor analysis.

Segment II, the largest segment, with its emphasis on personal control and freedom, shows a high concentration of men, and few other distinguishing characteristics.

Segment I, those concerned with speed, are younger people, relatively highly educated, with somewhat better than average incomes. Segment VI, which stresses more the flexibility aspect of freedom, is even younger, even more highly educated, and is quite likely to have children living at home and presumably traveling with the family.

Segment III, those especially concerned with economy, do, in fact, tend to have considerably lower incomes, and also less education and somewhat lower status jobs.

Segment V, those concerned with physical comfort and safety, include many women and a somewhat greater than average number of older people.

Segment IV, those concerned with "social security", include the largest proportion of women, and the fewest young people. Their educational level is rather low, but incomes tend to be high. A great many of them probably travel with children. These attributes do seem to describe persons who might tend to be preoccupied with social security.

Table 17 shows the types of trips taken by the non-business segments.

Table 17

Percentage of Non-Business Trips According to Type,
within Non-Business Q-Factor Segments

| | Total | Non-Business Q-Factor Segment | | | | | |
		I	II	III	IV	V	VI
Respondents	194*	39	52	24	26	41	9
Trips	1,083	228	420	123	137	162	45
One-way distance							
80-149 miles	46.4%	48.7%	60.0%	40.7%	51.8%	50.0%	51.1%
150-249 miles	33.6	44.7	22.1	39.8	30.7	32.7	44.4
250 or more miles	19.9	6.6	17.9	19.5	17.5	17.3	4.4
No. nights away							
No nights away	16.4	16.7	22.6	8.9	21.2	18.5	8.9
1 night away	15.0	22.8	10.7	17.9	10.2	29.0	22.2
2 or more nights away	68.6	60.5	66.6	73.2	68.6	52.5	68.9
Overnight sites							
1 overnight site	67.2	70.2	61.4	82.9	70.1	70.4	60.0
2 or more overnight sites	16.1	7.0	21.2	7.3	11.7	11.1	8.9
No. of companions							
Alone	16.9	30.7	9.3	29.3	10.2	14.2	15.6
1 companion	40.6	44.3	32.1	34.1	52.6	38.3	62.2
2 or more companions	42.5	25.0	58.6	36.6	37.2	47.5	22.2
Destination							
Major center city	72.7	71.5	72.4	82.1	68.6	78.4	93.3
Suburb	16.6	8.3	18.3	13.8	27.7	11.7	6.7
Other	10.7	20.2	9.3	4.1	3.6	9.9	-

*Computer capacity allowed only 180 non-business travelers to
participate in the Q-factor analyses.

Those in segment II, concerned with personal control
and freedom, have the highest proportion of short
trips, and one-day trips. They are also least likely
to be traveling alone.

Segment VI, the freedom and flexibility segment, makes
a relatively large number of middle-distance trips,
frequently overnight. It is surprising that more of
their trips do not include two or more companions,
since Table 16 showed that they often have children
living at home.

Segment I, those concerned with speed, make few long
trips. They tend to make more middle-distance trips.
They are more likely to be traveling alone than those
in the other segments which seems quite significant.
With no companions, perhaps boredom is a greater con-
cern.

Segment III, those concerned with economy, tend to
make trips of longer duration, and more often travel
alone. In fact, only half of them are currently mar-
ried, which is the lowest proportion of any of the seg-
ments.

Segment IV, those concerned with "social security",
are distinguished only by their relative infrequency
of traveling alone.

Segment V, those concerned with physical comfort and
safety, do not stand out in any of the respects in
Table 17.

Table 18 shows the travel modes used by the non-business
travel segments.

Table 18

Percentage of Non-Business Trips Made by Each Mode,
within Non-Business Q-Factor Segments

| | Total | Non-Business Q-Factor Segment | | | | | |
		I	II	III	IV	V	VI
Respondents	194*	39	52	24	26	41	9
Trips	1,083	228	420	123	137	162	45
Automobile	64.9%	51.7%	86.9%	46.3%	51.8%	50.6%	64.4%
Bus	10.6	13.2	5.7	7.3	9.5	17.3	13.3
Train	15.6	22.4	4.8	34.2	24.1	23.5	11.1
Airplane	8.9	12.7	2.6	12.2	14.6	8.6	11.1

*Computer capacity allowed only 180 non-business travelers to
participate in the Q-factor analyses.

Automobile usage is highest for the personal control
and freedom segment (II) and the freedom and flex-
ibility segment (VI) is next.

The economy segment (III) has the lowest incidence
of automobile travel, and the highest incidence of rail
travel, which may seem surprising until it is remembered
how many of these people are unmarried and travel alone.
Also, Table 16 showed that a relatively high proportion
of them do not own an automobile.

Those concerned with speed are not among the heavy
airplane users, which is probably due to the infre-
quency with which they take longer trips.

In general, the non-business Q-segmentation is not high-
ly related to mode usage. Once again, the explanation
probably lies in the complexity of travel desires and
situations. Questions of convenience probably sometimes
override other desires, and the realities of time and
money may prevent travelers from doing what they might
want to do.

H. Discussion of the Statistical Analyses

The statistical analyses have confirmed the complexity
of travel desires and mode choices. Many independent
travel desires exist, and it is difficult to simplify
them.

The extensive tables that have been presented should
be of particular interest to those concerned with the
details of travel behavior and opinions. The inter-
relationships of travel desires, trip circumstances,
mode evaluations and mode usage have been examined in
too much detail to summarize here.

The complexity revealed by the statistical analyses,
and by the entire research project, indicates the
desirability of a carefully executed quantitative
survey to verify, expand and quantify the findings
in this report. The qualitative and statistical
analyses in this report demonstrate that such an
undertaking should prove fruitful, and provide an
orientation and background that should be very help-
ful in planning and conducting a maximally useful
survey.