New York and Tokyo: A Study in Crowding

by William H. Whyte
assisted by Margaret Bemiss

In the U.S. the conventional image of the high density core city is of a bad place, and bad not simply for its defects but for its essential qualities. Centrality, high density, compression—these are the factors that documentaries on the plight of the city customarily pick on, and the stock horror shots are of people jammed on the streets of New York, tense, unhappy, unsmiling. The image, unhappily, affects the reality it misrepresents; it is widely believed in Washington, not only by rural moralists, but by progressives who would save the city from itself. With few exceptions federal aid programs for cities have been laden with anti-density criteria which make it difficult for center city projects to qualify.[1]

It is no frivolous matter, then, to note that many people on the streets of New York can be observed smiling, even laughing, and on the most crowded streets and at times, like the rush hours, when there might not seem much to be smiling about. New Yorkers themselves fervently deplore the city, its horrendous traffic jams, the noise and litter, the crowding. It is their favorite form of self-praise. Only the heroic, they imply, could cope. But they are often right in the middle of it all, and by choice, stopping to have a street corner chat, meeting people, arguing, making deals, watching the girls go by, eating, looking at the oddballs and the freaks.

People in Tokyo seem to enjoy themselves even more, and one of the reasons there is more crowding is the large number of them who are on the street because they want to be. The employment density in the center of Tokyo is less than in New York but there are more people on the streets throughout the day and the disparity is especially pro-

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William H. Whyte is a writer and an observer who studies the ways people use urban streets.

nounced in the evening. At a time when most New York streets are nearly empty the Japanese will be out in force. Many will be in groups, a high proportion will be younger people.[2]

One is struck by the number of people to be seen smiling. Tokyo people are a street people and they see the comedy. Even during the morning rush hour, when some people break into a last minute run toward the office, there is laughter. The activity at major pedestrian crossings is similarly appreciated. The Japanese are quite serious about getting across: feet tap impatiently waiting for the green. But they also seem to look on it as a game, and the best fun is holding out to the last possible moment to make one's break.

Measurable? A smile index might be unduly solemn but there are many ways by which the social behavior of pedestrians can be recorded and compared. Let me go back to our early studies in New York. To chart the avoidance of crowding we focused a number of time-lapse cameras on several of New York's busiest street corners. We were interested to find out how far people would move out of the pedestrian traffic stream when they stopped to talk. To our surprise, we found that they didn't move out of it. Quite to the contrary, they stayed there, or moved into it, and the longer the conversation the more apt it was to be in the very middle of the flow. Subsequent studies of behavior in other kinds of places reveal the same propensity. What attracts people most in an urban place is other people.

You do not see these phenomena unless you look. One of the troubles with most pedestrian surveys is that they focus almost wholly on the pedestrian as a transportation unit—and how he gets from A to B. But what he does between A and B is important too. Study the social behavior of the pedestrian and you find that a significant part of his activity is not moving, but standing, talking, and looking. Much of the congestion on busy streets is traceable to this behavior.

This seems to be just as much the case in Tokyo as New York. Here too, much of the congestion is self-congestion. At the busiest corners, at the busiest times, you can see two or more people having a conversation, and they appear not in the slightest bothered by the fact they may be blocking traffic. Sometimes there is a "traveling conversation," moving in a small orbit, back and forth, but with the center of gravity the 100% location.

The greatest incidence we saw was in Shinjuku Station. There is such a maelstrom of foot traffic there as to scarcely afford room for any kind of socializing, yet there was a great deal of it, and during the peak of the rush hours especially. Some instances: Two young women, apparently waiting for a third, move back and forth in a ten foot range, chatting animatedly; after ten minutes they see their friend and go off with her. Three young junior executive types stand four feet outboard of a pillar, one of them practicing a golf swing. Two middle age women are engaged in a prolonged goodbye; they are directly athwart the stream of people emerging from a turnstile.

Department store doorways are another habitat. They are a great place for meeting people, for conversing, and unlike New York's stores, Tokyo's do a good bit to accommodate this use. Takashimaya, for example, provides ashtrays for the people who sit on the ledges next to the doors. Matsuya has a line of twelve chairs at its side entrance.

The number one element, of course, is the heavy flow of people in and out of the store and it is in the middle of it that conversations are most apt to recur. Overleaf, from Margaret Bemiss' log of a day of department store life, is a map of conversations lasting one minute or longer in front of the Mitsukoshi store between 4:55 p.m. and 5:10 p.m. For comparison is a map of the doorway of Alexander's Store on Lexington Avenue.

Other prime actors will be people waiting for other people. During the time shown in Chart 1 there would likely be anywhere from three to six individuals waiting next to or in front of the doorway. And there would be no mistaking what they were doing. Waiting is structured activity, more so than in New York. Tokyo people are punctilious, and impatient waiters; just before the hour, or half hour, there will be much glancing at watches, scanning of the crowd for the missing face; past the mark there will be signs of growing annoyance, not always suppressed when the late-comer eventually arrives.

It is an interesting activity to watch, especially for those who are themselves waiting. This is the case at the great rendez-vous area around the statue of the dog Hachiko at Shibuya Station. Many of the people around it are obviously waiting and as they wait, there are scores of potential dramas to observe. Who is the unhappy girl waiting for? Is she waiting? Why has the man in blue come back? Denouements may be anticlimactic, but they are worth waiting for.

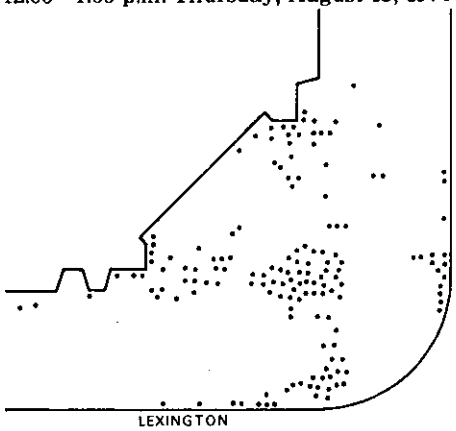
Plaza use affords another basis for comparison. There are few office building plazas in Tokyo, but one of them, that of the Mitsui Building, is one of the best anywhere. Save in one respect it has all of the elements we have found to be basic for successful plazas. It is, for one thing, eminently sittable: its ledges and planters alone provide more sitting space than the minimum we recommended for the new zoning standards in New York.[3] In addition it provides tables and chairs—movable chairs—both on its central portion and the raised terrace. It has an adjoining food facility, water, trees, and while the multi-level design is a bit busy, there is a nice sense of enclosure. The street, being cut off from the plaza, does not do much for it, nor does the plaza do much for it. The bulk of the users, however, are office workers from the building, and there is easy access for them on several levels.

The main point is that people obviously like the plaza very much. Our sightings were of lunch periods on only two days, April 14 and 15, and it was overcast and cool. But there was a good sized number each day, averaging 120 and 134 people sitting at any one time, plus fairly heavy crosscurrents of people walking. In really good weather, the usage should be very heavy indeed.

CHART 1

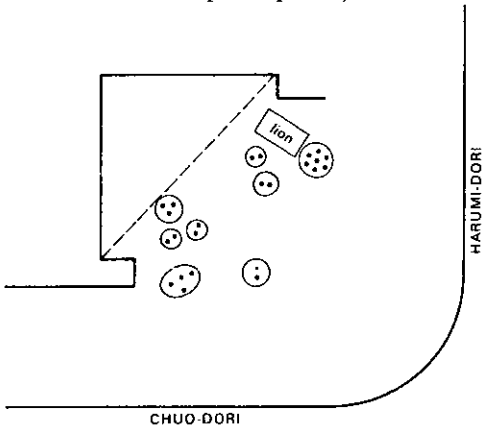
ALEXANDER'S

58th St. corner entrance
Location of people who stopped
12:00—1:00 p.m. Thursday, August 15, 1974



MITSUKOSHI

Location of conversations lasting
one minute or more
4:55—5:10 p.m. April 19, 1977



The social life of department store doorways: these two charts are not wholly comparable. The chart of Alexander's records every person who stopped, whether alone or with others, during the hour 12:00-1:00. The chart of Mitsukoshi records people who stopped to talk during the fifteen minute period of rush hour. But both show the same inclination to cluster in the midst of the pedestrian flow. At Alexander's the cumulative pattern for five hours records almost half of the people concentrated in a small area where building lines would intersect.

On some counts, use patterns differed from those in New York. The proportion of people in groups was markedly higher—averaging 88% versus about 60% for comparable New York plazas. The groups were larger too, with some 39% in groups of four to eight people. The lunch hour, we noted, was just that—an hour—and a few minutes before one o'clock a very quick exodus began. (In New York the busy time for plazas runs from 12:00 p.m. to just before 2:00 p.m.)

In general, however, the place had the same amiable feel to it that good plazas do in New York. Characteristically, the most favored spots—the chairs and tables—were those in the middle of the pedestrian flow and the prime activity was people looking at other people. While the proportion of females was low—only 28% by one count—there was the same elaborate inattention paid them by men in New York. Spacing patterns on ledges and planters appeared similar.

METHODOLOGY AND MR. KON

Since these comparisons are based almost wholly on observation, let me pause for a few remarks on methodology. In our research in the U.S. we have done interviewing from time to time and we have made as much use as possible of such data as subway turnstile counts, vehicle flow records, and the like. But our emphasis has been on the direct observation of what people do. We have used cameras extensive-

ly but our principal tools have been a pad of paper and a pencil, and a place to sit.

Observation is not a technique that ranks high in U.S. universities, nor, for that matter, in its elementary or secondary schools. Social science courses generally put observation on the bottom of the technological ladder and expose students to it briefly before taking them onwards to the more quantitative techniques. Because of this bias, most research tends to be once or twice removed from the reality being studied; on subjects like urban crowding, it is not apt to be of people on streets, but of data on responses to questions about people on streets. For students of street life, as a consequence, there are few counterpart studies to provide a base for comparison.

One fine exception is the work of the remarkable Mr. Kon. Over fifty years ago he was studying the life of the streets and public places of Tokyo. Nothing seemed to have escaped his curiosity and he set down what he saw with clarity and thoroughness. He charted the flow of students, minute by minute, as they came and went from school: the flow of pedestrians at various places; their age, their dress, their apparent occupations, how many were alone (75% on Ginza streets), how many were in groups; the length of their trips. He even charted the location of suicides in parks.

Most interesting to us, the methodology he evolved was very much like that we worked out by trial and error for our street life research. (In charting daily pedestrian flows he cumulated counts at five minute intervals; we used six minute intervals. Aside from that techniques are identical.) I have not had an opportunity yet to read all of his analyses, but when a translation becomes available I am sure there will be many good cues in it for current research.

THE PEDESTRIAN AS A TRANSPORTATION UNIT

The pedestrian is a social being; he is also a transportation unit, and a remarkably efficient one. He is able to propel himself, shift speeds and direction, sense obstacles and collision courses of other pedestrians; estimate crossing angles, accelerations, decelerations and countermoves, and all this in a split second. To produce a machine that would be his equivalent would require a computer technology and a degree of miniaturization of fantastic sophistication. Most transportation experts, however, scant the pedestrian and his potential; millions are being spent in research on new kinds of people-movers but very little on the oldest and best kind: people themselves. And nowhere is the attention more needed than in the center city.

Pedestrian speeds are a clue. It has often been observed that people in big cities walk faster than people in smaller cities. Just why they should has been a matter of conjecture. Social psychologist Stanley Milgram attributes the pace to the sensory overload on individuals, presumably so great in big cities as to induce them to speed up to se-

CHART 2

Lexington Ave.: east and west sidewalks combined, 57th-58th St. Wed. July 10, 1974; pedestrian flow. Counts taken at six minute intervals, alternating between northbound and southbound. Chart records estimated total north-south flow at twelve minute intervals. Male-female counts are recorded similarly.

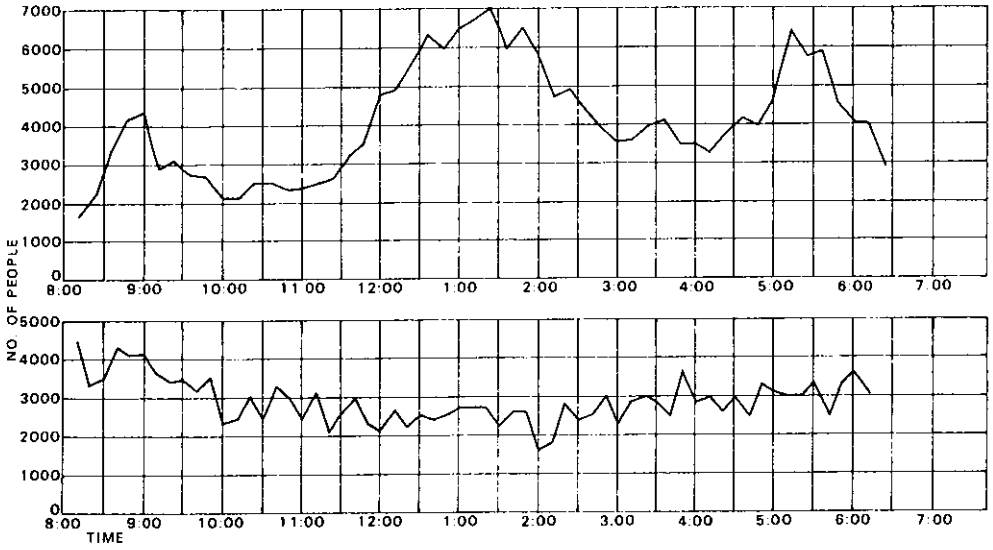


CHART 3

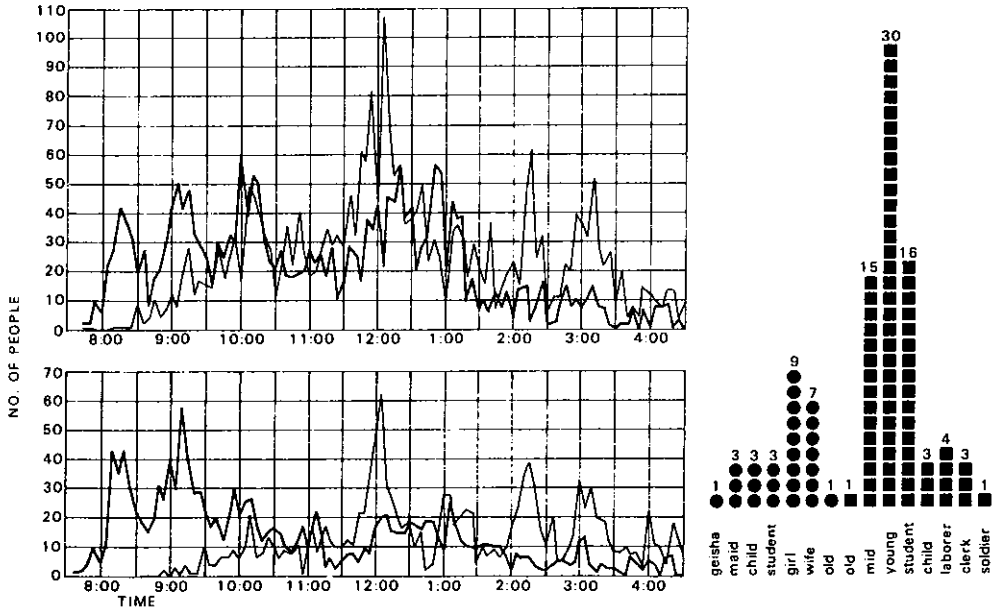


CHART 2. Pedestrian flow chart; Lexington Ave. 57th-58th St. Based in continuous counts, cumulated at six minute intervals. Underneath is vehicle flow chart, based on time lapse film study. Pedestrian flow has three peak pattern, with major use at midday. Vehicles have saucer pattern.

CHART 3. Left are pedestrian flow charts of Mr. Kon. They record students going to school (black line) and leaving (dotted line). Counts cumulated at five minute intervals. Right is makeup of pedestrians on a street in Ginza area 4 p.m. September 1929.

cure relief. Whatever the explanations, the fact is big-city people *do* walk faster. A number of comparative studies have shown a surprisingly strong statistical correlation between speeds and population, regardless of country or continent.

In any one city, pedestrian speeds vary considerably according to the time of day, or the occasion, but the diurnal rhythms are quite consistent. There is the morning rush hour pace—in New York about 270 feet per minute on a clear pavement. In Tokyo the walking speed seems about the same but overall speed is higher because of the way so many people break into a run as they near the office. (In our motion picture footage, the runs recur at the moments just before the half hour and hour marks.)

Lunch hour speeds can be brisk too but there is a different quality to the pace. In New York it is upbeat. Groups on their way to lunch are apt to be smiling or laughing, as if on their way to a party. Something good, they seem to be conveying, is going to happen. For many people it is at this time of anticipation that the cyclical peak of the day is reached. Anti-climax or no, the post-lunch pace is slower. This is the time for the interminable leave-takings, and the sidewalk conferences when someone in the group brings up the real business the lunch was supposed to have been about. It is a deceptively casual time.

With the evening rush hour, pedestrian flows again reach their maximum. At key points where opposing streams of pedestrians cross each other congestion is heavy, and this is compounded by the "platooning" effect the traffic lights have on the flow. The crowd moves in pulses. Even so, where most of the people are moving in the same direction—on Park Avenue south to Grand Central Station, for example—average speeds are about 250 feet per minute. Flank speeds, of those who use or create passing lanes, go as high as 300 feet per minute.

As a New Yorker, I have taken some pride in being one of the city's pedestrians. They are an aggressive lot, incorrigible jaywalkers, and where a hesitant driver gives them a chance they will bully cars to a dead stop. With fellow pedestrians, however, they are quite cooperative, and here is where their timing and skills are most evident. We have filmed their behavior at subway entrances and key corners and through stop motion techniques have studied the various ways by which they avoid collision courses, signal intentions to oncomers, or bluff them into giving ground. The performances are impressive.

But Tokyo's pedestrians are in a class by themselves. Consider Shinjuku Station. By all accepted density standards it is a manifest impossibility. It is really a complex of stations and separate lines, confusing in its layout, inter-connected with an intricate set of corridors, walkways, escalators, stairs, cul de sacs. Its concourses are a mass of cross-flows, obstructed by knots of people waiting for other people, teenagers, vendors, people saying goodbye. Even at off-peak times one has to look sharply to find a clear path; at the rush hours, when the pedes-

trian traffic reaches an intensity unmatched anywhere, the scene appears utter chaos.

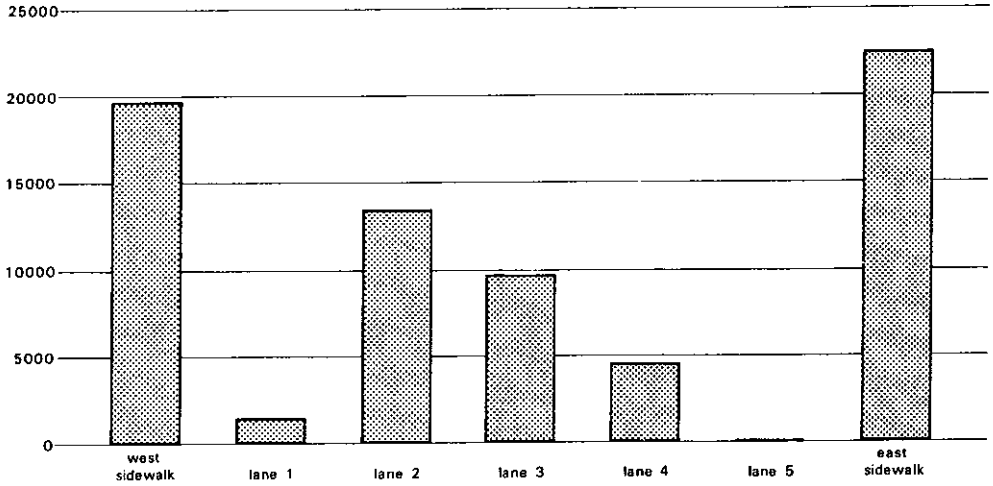
But it isn't. Somehow, people sort themselves out and for all the density the pedestrian speeds remain quite high; indeed, it is at rush hour that one sees the most running. By rights, people should be bumping into each other all over the place. They don't seem to; our studies were informal but neither in our memories nor our film was there an observed collision. While it may be a subjective judgment, we also got the impression that a good many of the pedestrians were rather stimulated by the challenge, and perhaps a bit pleased with themselves.

With good reason. Pedestrians in cities like Tokyo and New York are fast and expert because they very well have to be. Not only are there more fellow pedestrians to contend with, there has been increasingly less space given to them. In New York, pavement widths were periodically narrowed over the years to make room for vehicles. Today the imbalance is almost ludicrous.

Lexington Avenue is the clearest example. As a transportation corridor it measures 75 feet in width. Fifty of these feet are given over to cars. The remaining 25 are given to two 12-foot sidewalks. This is just about the inverse of the way people use the space. In the stretch between 57th and 58th Streets, one of the most crowded in the city, about 12,000 vehicles pass between 8:00 a.m. and 6:00 p.m. carrying a total of about 28,000 people. During the same period some 42,000 people use the sidewalks. The 12-foot widths, furthermore, are only nominal; be-

CHART 4

Daily Distribution of People through Lexington Avenue Corridor



The most people in the least space: this chart shows the imbalance in space use on the heavily used block of Lexington Avenue, between 57th and 58th streets. Approximately 70,000 people pass through between 8 a.m. and 6 p.m. Of these about 40% are people in vehicles, about 60% are people on foot. But space allocation is the reverse; 66% for vehicles, 33% for people on foot. Note the minimal use of lane 5. It is pre-empted by a small number of long term parkers.

cause of obstructions such as trash containers, signs, grates, the effective width is as narrow as five feet in places. It's a feat that so many people manage to traverse the space, but it is a bad mismanagement of space that forces them to. In less extreme form, the same imbalance in space use can be found in most large U.S. cities.

Tokyo treats its pedestrians even worse. Save a few main avenues its sidewalk widths are narrower, and ratios between vehicular space and pedestrian space are heavily weighted in favor of vehicles. The small scale of the streets parallel to the avenues is an offsetting amenity and the very narrowness of their sidewalks induces pedestrians to use the center space as their own. The fact remains, however, that in the places where the most people have to walk there is relatively little walking space. On Harumi-Dori, for example, effective walkway space on the south side by a main subway entrance is twelve feet. I counted pedestrian flows there between 4:30-5:30 p.m. of up to 6,000 people an hour. (In terms of people per foot of walkway width, the theoretical result should be complete stoppage.)

On major avenues pedestrian overpasses have been provided. But these are more a concession to the car than the pedestrian. Cars don't have to stop for as many lights; it is the pedestrians who do, and because of the way the lights are set, for a long while, it's notable that many people wait for a chance to cross at street level rather than mount the stairs for the overhead crossing.

Tokyo's pedestrian crossing areas are well marked, well policed, the lights and the rules clear cut. At some main intersections the pedestrians get almost a minute for their crossing (vs. 30-40 seconds in New York). But the government does seem to regard the pedestrians as children, and incipiently naughty ones. The dainty girl voice on the loudspeaker: gently, this pitchwoman for authority chides people, "From now on the pedestrian crossing is dangerous. ... Let's cross safely at the next green light."

Tokyo does have heavy vehicle traffic to accommodate. But in good part the traffic may be heavy for the accommodating. That is the way it has been in the U.S.; but Tokyo has less reason. It has a splendid subway system and is in a far better position than most cities to shift some space away from vehicles. Not only on the grounds of amenity, but of transportation efficiency it could well gain if it did so. As a user of space the pedestrian is a far better unit than a vehicle and the space now alloted him is so minimal that even modest additions could have a high leverage effect.

New York is being forced to such opportunities. For air pollution control the federal government is demanding that the city sharply curb vehicle use in the central business districts. The city is aghast at the prospect; it fears that a curb on street parking will keep customers out of the stores. If our studies of parking and vehicle use are any criterion, no such result will come about, and eventually this will be recognized.[4] Willy-nilly, a lot of vehicular space is going to become redun-

dant and the opportunities for creating pedestrian space are going to be increasingly evident. They may seem unrealistic today, but now is the time to lay the groundwork.

FIFTH AVENUE AND THE GINZA

Both Tokyo and New York have experimented with traffic-free pedestrian streets. They have done it gingerly, and so far most of the street closings have been temporary. But they do afford an excellent basis for comparison. Fortuitously, the physical characteristics of the streets are similar—and so, to a surprising degree, have been the patterns of use.

In 1972, New York designated a fifteen block stretch of Madison Avenue for a test. Every weekday over a two-week period the avenue is a busy one of stores and office buildings, but it is canyon-like and treeless. The rudimentary benches the city was going to put out seemed a highly inadequate way to furnish the expanse. Merchants were unenthusiastic; some very hostile. They feared the absence of cars would mean less customers but many "undesirables" (i.e bums, winos, hippies, characters, young people, very old people, teenagers, students, etc.). To find out just what the results would be we mounted time-lapse cameras and began to record the entire trial period.

Here is what we found out:

1. The number of pedestrians doubled. From a rate of about 9,000 pedestrians per hour, the flow increased to 19,000.
2. This increase was not at the expense of pedestrian flows on the parallel avenues, Park and Fifth. Rates there were about as high as they usually were.
3. Most of the pedestrians, 60% of the total, stayed on the sidewalks—where the shop windows were. The street was favored by people in groups, promenading.
4. The benches, which were placed in the middle of the street, got very heavy use. No places remained empty for more than a minute.
5. Food vendors were centers of activity. Wherever they set up their carts, usually at the curb, knots of people formed.
6. Most of the people were the people who ordinarily worked or shopped in the area. The undesirables that so obsessed merchants were seen by some merchants, but not by our cameras.

Subsequent plans for a permanent mall on Madison fell through, largely because of the objections of a merchant's group and the taxi drivers union. But other projects did go through: Sunday closings of Fifth Avenue; a permanent mall on Nassau Street in the Wall Street area; on Fulton Street in Brooklyn. New York has been less venturesome than a number of other U.S. cities but it has learned a basic lesson. With a well conceived pedestrian facility, supply creates demand. The existence of the amenity where none was before sets up new patterns of use, and new expectations.

The Ginza experience provides an interesting parallel. As of 1970, a sixteen block stretch of Chuo-Dori Avenue was closed to vehicle traffic on Sundays for a pedestrian "paradise." It was an immediate success. There was surprisingly little use of the street itself, however; as had been the case on Madison Avenue, most of the people stayed on the sidewalks. To liven things up, the department stores began putting tables and umbrellas and chairs along the center line of the street. In its dimensions, as well as in the character of its stores, Chuo-Dori resembles Fifth Avenue. From building line to building line, the right of way is about 95 feet wide on Chuo-Dori; 100 feet on Fifth. Sidewalks of both are about 22 feet. Pedestrian volumes, however, are markedly higher on Chuo-Dori. On weekdays, our counts indicated volumes at rush hour and lunch time of about 6,500 people per hour on the sidewalk alongside the Matsuya Department Store. Even during the mid-afternoon lull the rate was around 4,000. And this was just one sidewalk.[5] For both sides peak volumes ran between 10,000 and 12,000 people per hour. Fifth Avenue volume at comparable periods range between 7,000 to 9,000.

Since I am later going to take up the elusive question of the ideal width let me note that Chuo-Dori and Fifth Avenue are similar in the degree of congestion—or, to be more accurate, of perceived congestion. Pedestrian flows are high, very high, and by conventional standards of people per foot of walkway width, they could be very uncomfortable. But they are not.

In part this is because of the breadth of the sidewalks. You cannot equate a given flow per foot of walkway on a narrow sidewalk with the same flow on a broad one. The figure may be the same; the psychological experience is not. Another factor is the attractiveness of the street: Chuo-Dori and Fifth Avenue are both lively and attractive streets and the people on the street are among its chief attractions. At choke points, such as subway entrances, the congestion is intense and this can color one's sense of the whole area. Along the most of the way, however, the weekday hustle and bustle is quite tolerable, and to many, enjoyable.

Now let us look at Sunday. On the Chuo-Dori, pedestrian volumes about double. Though there is now fifty more feet of walkway to traverse, the sidewalks get more traffic than they do on weekdays. Here are comparison pedestrian flows we checked on the Chuo-Dori by the Matsuzakaya Department Store (expressed in rate of pedestrian per hour).

	Weekday—1:30 P.M.	Sunday—1:30 P.M.
East sidewalk	4,160	4,280
West sidewalk (next to store)	2,060	3,820
Street	—	5,000
	6,220	13,100

Checks made later in the day at other spots show a consistently high level of activity; even at the northern end, by the Takashimaya Store, flows were about 8,000—10,000 an hour. These flows, let it be noted, are quite different in character than those of the weekdays: the pace is slower, there are no rush hour peaks. But it is still a very heavy flow.

About 41% of the activity is on the sidewalks, 38% on the street. That the sidewalks continue to get the main play is understandable. This is where the vendors are. It is also where the stores are and Tokyo's are much more aggressive than New York's in beating vendors at their own game. They put out displays, special promotions, fast food stands, and they hustle for the business.

The street is less used but well used. The line of tables and chairs in the center of the street has proved successful in seeding activity. As soon as they are put out, the people come. Sitting there they can watch two strands of people traffic and the watching seems the main pastime. There is plenty of room for promenading, and as in New York groups tend to spread out as they make the tour. Eccentrics do their acts: we followed one man along the Chuo-Dori as he harangued people and waved his arms, an object of much interest to the seated groups he passed by.

In Tokyo as in New York, Sunday crowds are strongly weighted with family groups and children are much in evidence. In Tokyo they appear to be setting the pace, with the parents indulgently following as the children veer this way and that. There are impromptu games, much throwing of balls. And the eating is prodigious.

THE STREET AS A SENSORY EXPERIENCE

Some of the streets people favor most are physically and visually a mess—indeed, by most yardsticks, almost the antithesis of modern urban design. Some such streets pose interesting questions about people—and urban design; we have been particularly interested in studying them. One is New York's Lexington Avenue: specifically, the four block stretch from 57th Street to 61st Street. As noted before, the sidewalks are narrow and crowded; their pavements are cracked, full of holes, subway gratings; they are obstructed by a host of badly designed light standards, parking signs, mailboxes, trash containers, and much of the surface is in permanent use for temporary storage of crates, newspapers, displays of merchants, signs and whatnot. Further obstructing the flow is a host of street operators: handbill passers, demonstrators, hustlers for second floor establishments, pitchmen for stores, pushcart food vendors, knick-knack vendors, beggars. There are all sorts of noises—the cries of the vendors (three for a dollar, check us out), the blare of transistor radios, overamplified rock music from the record stores. From adjacent food counters come all sorts of smells—of pizza, knishes, hot dogs. At the sides and above is a wild miscellany of awnings, rickety marquees, flags, neon signs. The streetscape in New York is more chaotic. It is so awful that photo-

graphs of it are the standard horror examples in presentations on street design.

Why, then, do people persist in using the place? Many, of course, have to get somewhere else; it is a route to the business district, has one of the key subway transfer points. It also has such traffic generators as two department stores and a nearby complex of movie theatres.

If you track pedestrians, however, you find that many of them could use alternate routes just as well. You also find that on Lexington itself some of the sidewalks with the fewest obstructions attract less traffic than those with more. People have terrible things to say about Lexington and its crowding; some mean it enough to avoid it whenever they can, and these people—the ones not there to be studied—are worthy of consideration too. But it is obvious that many of the people on Lexington are there because they have elected to go there. This is very much the case on Saturdays; then you will see many family groups, with children perched on their father's shoulders; it is a time for shopping, browsing, eating, and looking at the crazies.

Now it is primarily a recreation area. The crowding reaches its peak in early afternoon and it is of a different character than the weekday rush. The pace is slower, more amiable and there is a lot of cruising back and forth. Puerto Rican teenagers come down from The Bronx and East Harlem to catch the action—and if you stay in one spot long enough you'll repeatedly see the same ones passing up and down the street and across, stopping to greet friends, sitting on car hoods to watch the goings-on.

J. B. Jackson once observed in *Landscape* that billboards on the edge of a city can have a special function for the stranger; they acknowledge him. They tell him where he ought to lodge or eat. They address him. Lexington Avenue does the same, and this in part explains the love/hate feeling many people have about it. You are not alone on Lexington. It is interested in you. It wants your attention, your interest, your money, your agreement. Its people thrust handbills at you, ring bells to get your attention, rattle collection cups, walk alongside to importune you. The street touches you. You touch it. Watch people as they go past a display of ferns, reaching out to touch; tapping a sign pole as they pass by, as if it were a chime. The sense of passage is strong; even when slowed almost to a halt, you are so close to what you are passing. And look sharply. The path ahead is to the earnest.

Overload? In many cases, yes. And it would be better if some elements were left out—the phony pitchmen, the hustlers, the holes in the pavement. It would be better if there were more room on the sidewalks, as our group has been advocating to planning boards. But one must be chary in sorting out the good from the bad. Lexington is an intensely urban experience because it is such a mixture, and you cannot have one without a good bit of the other. Lexington is demanding, peremptory, often annoying; but it is a challenge to your senses and to your wits—and this is why it is so attractive.

Tokyo has miles of streets with such qualities and they are consistently more interesting. There are many reasons—the succession of coffee shops, food counters, outdoor displays; the profusion of neon and illuminated signs; most important, a people who so obviously enjoy the life of the streets. The Shinjuku area alone has more such streets than most U.S. cities put together, and for sheer sensory impact there is nothing to match its back alleys with their charcoal grills and smells and clouds of smoke.

One of the most interesting of all streets is the alley-like one in the Asakusa district leading to the Kannon Shrine. It is laid out in the traditional Japanese fashion: as a linear progression of shops, and it is narrow. The width is about seventeen feet and because of the open stalls on each side the effective walkway width is about fifteen feet. We were fortunate to be there on the day of the shrine's annual celebration and see it tested by some of the heaviest crowds of the year. The pedestrian flow was that of a downtown sidewalk—running at a rate of about 3,800-4,200 people per hour in mid-morning. The pace was slow. There was considerable self-congestion; people stopped frequently to look at the merchandise, reassemble their groups, buy something to eat. Two handbill passers stationed themselves in the middle of the flow.[6] But it was a congenial kind of crowding, quite appropriate to the time and place.

It is probably not happenstance that so many of the most popular walkways range between fifteen to twenty feet in width. This is narrow by modern planning standards, but it seems to be quite functional, for both heavy and light loads. The walkway is broad enough to take care of very heavy flows; narrow enough to feel comfortably busy when there are fewer people. At peak times or slack, furthermore, the pedestrian experiences both sides of the street as he walks along. The various stores and attractions reinforce each other. It was with this in mind, that the merchants of Osaka developed guidelines over a proposal for a broad Ginza-type avenue. The merchants decided against it; they felt that the traditional 15-17 foot width was better for their mutual business.

I am not trying to suggest that the optimum width is 15-20 feet, or indeed, that there is any one optimum. Context is all important and this has to be studied just as much as such quantitative factors as lane width and people per foot of lane width per minute. But if this were done for a cross-section of highly liked walkways, however, observation would likely reveal significant consistencies, some obvious, some not so. The range should be eclectic; in addition to the walkways chosen in our joint studies in Tokyo, New York, and Manila, there could be included such places as the Ponte Vecchio in Florence, the Burlington Arcade in London, the Stroget in Copenhagen; Jan Gehl's excellent studies of the latter furnish fine basis of comparison. There should also be included highly liked places that are unusually expansive: the Champs-Elysees in Paris, the Galleria in Milan, Las Ramblas

in Barcelona. How dispersed or concentrated are the flows in them? What are the paths? What channels them?

But we need not await further study to apply one finding already clear. The places people like most are places where there are lots of other people in a fairly contained amount of space—in a word, somewhat crowded. This is a lesson many planners and architects ignore. They over-scale, and especially so in the development of new areas. In the mega-structure approach now fashionable in the U.S., they have done away with the street almost entirely; they have buried it in vast underground concourses, dispersed it over great stretches of concrete, put it up in the air in glass-enclosed walkways. In creating pedestrian malls in smaller cities, they have often diluted what street life there was by spreading it over too much space. The vital frictions of the street are eliminated; the attractions placed too far apart to support each other. There is no critical mass of activity to seed more activity.

Tokyo provides examples too. Compare the old streets of Shinjuku with the new ones in the redevelopment area. As seems to be the case when designers are given a large blank canvas, the scale is Olympian. The streets are laid out expansively, with visual order and coherence. And they are a bore. They are far easier to negotiate than those of the older section and because of the office population the pedestrian flows are heavy. But they are essentially transportation flows; along most of the streets there are no bordering stores or coffee shops to cause one to tarry. Save in the pedestrian tunnels there is no sense of enclosure. The sides of the streets are so far apart as not to belong to the other. There are some good spaces at the destination—the plaza of the Mitsui Building, especially—and as the area is unfilled, there should be more. But it all could have been so much better. In one of the liveliest subcenters in the world, it does seem a shame that the planners were unable to replicate the factors that help make it so. This does not mean slavish copies of the picturesque, gratuitously complex street patterns. In eminently contemporary terms it should have been possible to incorporate some of the basic factors.

The most basic factor is mixture. This is the reason Tokyo's streets are consistently more interesting than New York's. Tokyo's present an amiable disorder of activities, up and down and sideways, with pachinko parlours, offices, coffee shops all mixed-up together, and restaurants going up two, three, and four floors. Actually, there is a great deal of order. Tokyo's streets have long been structured as a linear succession of uses, and if they are experienced that way they are eminently sensible as well as interesting. Significantly, the one area in Tokyo that is supremely dull is the one most rational by western planning standards—the single purpose Kasumigaseki government district. In its imposed order, it is like the civic center areas of many U.S. cities, and its streets have as much interest.

Some of the characteristics of Tokyo's streets may be too rooted in Japanese culture to be transferable. But in such basics as mixture of

uses the U.S. has a great deal to learn from Tokyo. For years the whole impetus of our zoning has been to enforce a rigid separation of uses. Market forces have further accentuated this by pricing out marginal uses. Now office buildings are erected where once stores and cafes were. But the new rents are too high for stores and cafes, and in their stead are windows of banks. In the case of mega-structures, as Los Angeles is demonstrating, there may be no windows at all: just blank walls. (At the biggest tourist attraction in the area, Disneyland, people pay money to walk along a replica of a regular street, with sidewalks and stores.)

There have been counter-trends. New York has introduced vertical zoning to encourage multiple use buildings, combining stores, office space, and apartments. In the new open space zoning, developers of office buildings qualify for floor space bonuses only if 50% of the frontage is given over to retailing or food.

But far more needs to be done; if nothing else, there should be programs to assure mixture where there still is mixture. The areas that have a street life most like Tokyo's are the mixed use areas on the fringe of the office and residential areas—such as Lexington in the upper 50's. Keeping them mixed is going to be no easy task.

In both New York and Tokyo more space should be given to pedestrians. One way is to create space in new construction. New York has done well in this respect. Through incentive zoning it has induced developers to provide plazas and arcades; in total, more new space than in all U.S. cities put together. Many of the plazas lacked basic amenities but this is a curable defect; guidelines have recently been adopted by the city to assure that the plazas be inviting and enjoyable.

Another way is to transfer space from vehicular to pedestrian use. This can be done with little hurt to space needed for vehicular movement. It is space for non-movement—parking—that is redundant. Elimination of just one ten-foot lane along a street could free up large amounts of space and the leverage effect would be great. Five feet added to most sidewalks would more than double the effective walkway width.

So it can be with other kinds of spaces—small parks, arcades, sitting places. In high density core areas they can be a very efficient use of space. In New York the most heavily used and yet pleasant and amenable of spaces are among the smallest; the two best measure 42 by 100 feet and 65 by 100 respectively. In Tokyo, similarly, the spots where people most like to tarry are small, busy places—a sidewalk with shoeshine people, the benches alongside a store, a meeting place outside a station. These are the kind of bits and pieces usually scorned in orthodox planning, with its emphasis on order and structure. But in them is the genius of the place, and with just minor reallocations of space many more can be created.

For Tokyo and New York, in sum, the opportunities are incremental, small scale, subtle—and therefore immense.

REFERENCES

1. One example is the urban open-space grant program. When it was enacted in 1961 a provision was stuck in disqualifying any open-space project less than 25 acres. This was to prevent cities from squandering the money on "bits and pieces" of space—i.e., about the only kind that center cities could acquire. The provision has been lifted but thanks to other constraints, the great bulk of open-space grant funds disbursed through federal programs had gone to suburban and rural areas.
2. In spot checks of pedestrians in 1929, Mr. Kon found that in the Ginza area 64% were younger people; in Shinjuku, 59%. This tendency still seems to be true today.
3. To earn the plaza bonus of extra floor space, developers must provide at least one linear foot of sitting space per 30 square feet of open space. We did not measure the Mitsui Plaza's sitting space but cursory estimates indicated it would far surpass these minumums.
4. One result will be that store owners won't hog the spaces the way they have been; or diplomats or doctors or policemen or the special privilege parkers who have accounted for the bulk of the center's parking, legal or otherwise. The idea that parking meters encourage bulk turnover by shoppers is a myth. Spaces are dominated by long haul parkers—such as store owners.
5. Pedestrian counts are generally given as a total figure for both sidewalks. In many cases, however, there can be a substantial difference between one side and the other, especially when there is a traffic generator as important as a department store on one side.
6. The handbill passers were as efficient as any we have studied. The best we've checked in New York is Handbill Frank: his completion rate averages about 50% acceptances to offers, rising to 58% at rush hour, when he works best. The two at Asakusa were averaging 63%. They had, it should be noted, a superior routine. Both were dressed in ancient garb. One worked as advance man, holding aloft a sign counseling people to take the interesting card that would be given them. The other gave out cards (they were for a nearby restaurant featuring eels). As in New York, most of the people who took handbills read them. Unhappily for the litter problem, handbills are a very effective form of advertising.