

Mass Communication on the People Freeway: Or Piranesi Is Too Easy

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A third year studio project given in the fall of 1967 by Robert Venturi, Bruce Adams and Denise Scott Brown.

**Mass Communication
on the People Freeway
or Piranesi Is Too Easy**

Robert Venturi is well known for his book *Complexity and Contradiction in Architecture* and articles in various architectural journals. While maintaining an office in Philadelphia, he is at present Davenport Visiting Professor at Yale.

Bruce Adams is a practicing architect in New Haven and an Associate Professor of Architectural Design at Yale.

Denise Scott Brown has taught city planning and architecture at the University of Pennsylvania, Berkeley and UCLA. She is a partner in the firm Venturi & Rauch and a frequent contributor to the planning and architectural press. She is also Mrs. Venturi.

An introduction to the problem and extracts from the work program are here presented by two of the critics. This is followed by a description by two of the students of the class research work and their own group project.

The critics and students wish to thank the Urban Design Group of the New York City Planning Commission for much help and advice in the execution of this project.

The third-year architectural design problem at Yale grew out of one from the year before which was the analysis and design of a Commercial Strip. That problem emphasized the nature of communication and interaction over big, open spaces at high speeds along the highway. This problem attempted a similar study at pedestrian scale within the spaces of an existing New York subway station complex, emphasizing communication over circulation. Another source was our continuing belief that the everyday landscape is worthy of analysis, that its despised clutter is not so much chaotic as dynamic: we did not set out to neaten public images nor to reform public taste. This belief was reinforced by comparing the new and renovated subways designed by architects with the existing New York subway. In Montreal the new stations are designed each by a different Modern architect in his individual manner with an effect not unlike the eclectic variations of the Moscow stations but without their peculiar vitality. In Boston the old stations have acquired new graphics and very bright lighting. "The subway stations in the Nation's Capitol," to quote a well-known critic, "will not be cluttered by commercialism or advertising . . . [not even by] well-designed flower stands . . . The dignity of the architecture will not be marred by any commercial intrusion." To quote the architect: "We are designing this subway for the . . . enjoyment of the public. People will surely welcome the fact that here, for a change, we won't exploit them as a captive audience." Coffered vaults "flooded by warm light from concealed sources" and penetrated by Piranesian bridges will dramatize the architectural spaces.

I think the value of our architectural study came from not trying to make architecture. The architect has limited control in the first place over the shapes of subway spaces which are constrained by the street above, the basements of buildings and the underground utilities. But he can work with lighting and the words and symbols of advertising as well as with assemblages of conventional subway elements such as gum machines. Underground, the usual way of lighting the interiors of civic buildings does not work. Defining white-ish walls and architectural details in the low, residual spaces of the underground by flooding them with reflected light promotes neither spaciousness nor – ironically – cheer. But colored lights from visible sources – commercial kiosks and interior-lighted advertisements – set against architectural space with dark absorbent surfaces, obscure the limits of the space and therefore expand them. Recessed spots in the ceiling, like those in dark, low, roadside restaurants, illuminate

the people and promote safety. The advertising panels enrich this environment in another dimension: they provide grateful respite from the boredom of waiting. The three communication systems of the subway – for direction, safety and persuasion – are differentiated as in the "chaotic" Commercial Strip, by accommodation to the human, selective viewing process which allows one to pick out "B.M.T." from "Ladies" and "Buy Soap." Dark surfaces in the subway obscure dirt and the changing advertising signs insure maintenance as well as variety.

This studio was planned and the program written by Denise Scott Brown. It was based on studio methods used in urban design and city planning, and it suggests an innovation in architectural education. Everywhere traditional architectural education is being questioned. At a time when the value of studio is being debated and schools are considering its abandonment in favor of more efficient and information-giving course work, we proposed not a less-involving but a more-involving studio. However, it was a different type from the normal architectural studio because of its strong research base and its emphasis on group work and the careful preparation required to make these happen. The information-giving function was augmented to approach that of a good course, but at the same time, the synthesizing value, the "learning-by-doing" value, of a good studio – which gives the studio its intensity – was maintained in the belief that this is an educational good which professional education cannot do without.

Robert Venturi

Program Extracts:
Introduction and First Phase

Denise Scott Brown



Critics

Robert Venturi
Bruce Adams
Denise Scott Brown
Gregory Matviak: Assistant

Class

Architecture:

Simeon Bruner
James Caldwell
James Gage
David Hoeffner
Manfred Ibel
David Lessig
Ali Ramazani
Herbert Short
Robert Swenson
Paul Thompson
Lawrence White

Graphic Design:

Vincent Carra
Mario Cruz
Aaron Marcus
Bruce Michel
Ingo Scharrenbroich
Martha Wagner

Project Group

Vincent Carra
James Gage
Manfred Ibel
David Lessig
Bruce Michel
Ali Ramazani
Herbert Short
Martha Wagner

This studio is dedicated to the idea that life is too complex for a one-medium approach to architecture. To the fast moving driver the most important view from the road is the road sign. He reads a sign rather than trust his sense of direction. To the moving mass on the rush hour freeway or the New York subway – the big-game ball park stadium, the Expo, the movie house – communication becomes a very special problem involving functional use (ease of getting about), transmission of social and cultural messages (advertising, civic notices) and saving of life (emergency exits, safety from mugging, fire warnings). These engender a geometry of their own based on sightlines, perception and reaction time. For example, what space is needed for a thousand people to make a decision? Where and at what height must signs be placed to be read by a thousand people? Is this affected by the nature and importance of the sign? What kinds of information can and should be transmitted by signs and what other means are there?

Modern architecture has shied away from symbolism of form as an expression of or reinforcement of content. But in any city three types of formal symbolism can be found: physiognomic – symbolism of the surfaces of the city which show from the street (the hamburger shaped hamburger stand, the “monumental” piazza); locational – the “corner store”, living “across the tracks”, the capitol on high ground; and heraldic – barbers’ poles, billboards, traffic signs.

The subway stations at 34th Street on Sixth Avenue – the complex junction of three underground lines in Manhattan – provide the problem par excellence of orientation in the maze. Our problem may also be seen as a study of relations between the prototypical and the unique, the public and the private, the individual and the mass. Also as a set of systems – movement, service, communication, lighting etc. We shall ask you to consider new functions for the underground, particularly communication functions, and new ways of satisfying old functions such as shelter, waiting, and selling. Problems innate to the system will arise such as the conflict between the civic importance of the underground and its narrow, low restricted space. What is a low monumental space? How can movie, T.V., slide projection, be used as part of the communication system?

We are not treating this as a problem in circulation planning but as a problem in communications. We are not suggesting innovations in all systems (this is a “branch” not a “root” problem), only in some. Givens from existing phenomena will be our means of narrowing and also our strength. We will deal with spaces we can go and examine, not just dream up. We will be as interested in the existing subway as in architects’ projects for new stations. We hope to learn by looking (non-judgementally at first) at what is there.

Finally, people, including the poorest, illiterate, foreign and deviant, are brutalized in the underground. Air conditioning and more cars could help enormously, but they aren’t enough. Studies show the poor’s boundaries of city knowledge are poignantly restricted. The subway should help them to broaden these boundaries, not intimidate them. The subway is an enormous convenience; it could also be a welcoming civic offering, informing New Yorkers and visitors about the New York culture; and hence, as much as any other big shared experience, act as an acculturating, educating and civilising medium.

Suggested Studio Output

The presentation of an architectural problem which is underground mazes will involve new graphics for non-architectural systems.

The Movement System

We are concerned here with the movement of people, not trains. We want whatever data you can find on volume, speed and flow: (1) their fluctuations, over 24 hours, one week, seasonally, (2) their averages, (3) maxima and peaks, (4) design volumes. Compare standards for subway design with the figures you have found for the existing (use equivalent figures from other systems where information is lacking). Differentiate between types of movement, directed and searching, service-oriented and train-oriented, peak and off-peak. Are there other types? What are the problems of the movement system?

Required: maps diagramming different lines of movement from street to train and train to train. Flow maps showing volume at different times, “desire line” maps. Maps, charts, and tables of existing movement characteristics and desirable standards; written discussion of questions asked above; slides and films.

The Services System

Telephone booths, news-stands, shoeshine, locker storage, snack bars, barber shops, toilets, stocking counters, souvenir stands. These are all to be found in the underground in a variety of shapes and sizes, from the single kiosk to the department store and large hotel. What is the organization of this system? What is private, what public, and how do they relate? What is the scale of ownership of the concession stores?

Make a schedule of all these servicing elements by type, size, ownership and location (and any other characteristics that seem pertinent). Include small diagrams of prototypical elements in the schedule. To do this, refer to similar schedules by Cedric Price, Brian Richards and the Archigram Group, for trailer houses, pods and capsules in recent editions of *Architectural Design* and other sources, and also to the work of Ezra Ehrenkrantz and the English systems architects.

Make a map or a series of maps showing location of servicing elements in the overall subway, and typical groupings of typical elements, match scales with the movement systems maps. How does the location of service facilities relate to the movement pattern? Make suggestions for new elements or new groupings of elements especially those involving the communication function, and consider systems which allow for growth.

What are the problems with the system as it now is?

Use slides or film where necessary.

The Communications System

What are all the means, physiognomic, locational and heraldic by which messages are given by the subway system? What are the different types of messages given? Make a schedule of each of these by type, size and location (and any other pertinent characteristic), include diagrams in the schedule.

What are the problems with the present system of communication?

What suggestions do you have for improvement?

What new and different types of message could be communicated by the underground (see Dyckman on the city as education) and what new means could be used including electronic and cinematographic? Make suggestions for new forms of communication and new types of facility for the underground. What do you propose for the illiterate or foreign user?

Make maps to match those of the movement and service systems groups illustrating the subway as a communication system and as a perceived sequence of messages.

The Lighting and Ventilation Systems

Describe in general the operation of the ventilation system and illustrate with cross sections. Map the positions of vents and inlets.

Make a schedule of different types of lighting in the subway described by type, power, location and any other characteristics; include diagrams. Using a light meter take spot surveys and produce a light and shade map of the subway; match the scales of the other systems maps; show on this major unique lighting fixtures or sources and indicate the repeated elements on a portion of the map. Use a camera to illustrate the different light character of different portions of the system.

What are the problems of the lighting system, especially as regards visibility of signs and safety? Can you suggest any new possibilities or new uses for lighting? Are there any prospects for natural lighting at points in the system? What should be the character of light at different points in the movement system?

User Behavior

This study is to discover the qualitative nature of user behavior which is not indicated in the statistics on volume flow or facility use, and also to discover problems in the system.

Behavior characteristics: Kahn in "Plan for Midtown Philadelphia" developed several categories of movement type on city streets, "go", "stop-go" etc. Can you discern differences of movement type by location, or time of day, or for other reasons in the subway? Find ways to map this behavior. Can you set up similar categories for the other activities in the subway connected with the service system and the communication system?

"Time Lapse" survey: choose 4-6 points within the system — an entrance, and intersection, a "point of ambiguity", an unambiguous point, service area, others, and make a photographic survey of user behavior there at regular intervals over 24 hours.

Decision points: choose several points where a decision must be made in the movement system, including at least one where there is a problem involved in reaching a decision (e.g. poor signing, poor visibility). Record user behavior at these points. What do you conclude regarding the relation between movement flow and communication? What, architecturally, is a "decision space"?

Make a map of problem points within the subway; make a map of opportunity points within the subway.

Graphic Techniques

The traditional architectural graphic techniques are inadequate for the representation of many urban phenomena

particularly those to do with movement or change with time in space. Our problem is filled with movement patterns fluxes and flows which are hard to represent graphically, but also there are the small repeated objects, signs, lighting fittings, turnstiles whose orderly patterns of location we are hoping to investigate. Another problem in graphics is the differentiation of physical elements by type; public or private, service-oriented or movement-oriented etc. Finally, there is the problem of depicting these phenomena as percepts i.e., as seen by the user.

Experiment with techniques for showing in plan and section all the elements which are to be shown in this research. Place particular stress on solving the graphics problems listed in the first paragraph above. The Nolli maps of Rome look surprisingly like our base map reduced to scale. Could his technique be used to represent public and private in the subway system?

It is intended that these experiments in graphics be available to the systems researchers as they start to present their material. You are asked too, to take over the graphics coordination task for the class: obtain sufficient base maps for everyone, expedite the decisions on sheet sizes and on title format.

Materials, Sections and Working Model

Make a schedule of materials used in the underground system by type, use, location. Comment on success or failure of the material for its purpose. Show photographically or by detailing those portions of the movement furniture which receive the hardest wear.

Using the drawn sections available to the class and a process of "eyeing in" on the site, produce a series of cross sections through the subway sufficient to give the basic vertical characteristics of the system. From these cross sections produce a longitudinal section through the system and a working model.

Image

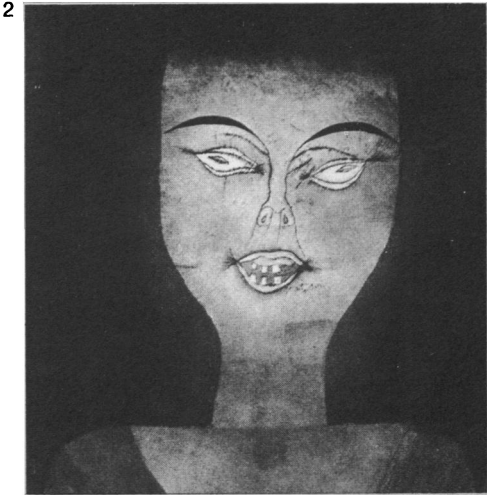
See Strauss, Wolfe, Ruscha, Lynch, or your own favorite for the urban image. Using mixed media, slide, film, collage, music; and sources, historical, modern, popular, high and primitive; and casting a glance now and then over the shoulder of the following topic, produce a set of evocative images of what the subway is and might be, for consideration during the design phase. Don't merely show moving crowds; physical and formal analogies — catacombs, freeways, commercial strips, opera houses — are important too.

Big, Low Spaces

Grand Central Station and the Baths of Caracalla could be 80 feet high. The big low civic space is a recent problem brought about by urban densities and the costs of air-conditioning.

Identify such spaces in our system. What should be our approach to them? Find analogies, successful and unsuccessful, in Place Ville Marie, the catacombs, Las Vegas casinos, Piranesi, New York Port Authority Building, cathedral crypts, Madison Square Garden, the new Pennsylvania Station and other sources.

Produce a set of images for the big low space.



The station is a network of underground passages, a place of transitions, of flowing crowds, of movement and change, a place without the defined spaces of traditional architecture. Objects and people glow in dark space.

The Project

Herbert Short and Manfred Ibel

Subway dirt is a stubborn mixture of steel dust, cast iron, and carbon dosed with a coating of oil on each particle and bound together with human hair. In the summertime, the system also has to contend with an added burden of sand that falls off people coming home from New York's beaches. The dirt is too heavy to be swept out with the changing air as would be the case with ordinary dirt and dust. It is insidious, drifting like fine sand into every crevice, and it clings tenaciously to whatever it touches. The oil polymerizes, soon making any layer of dirt an impermeable and virtually impregnable coating. It is electrically conductive, thereby adding to the problems of the power and lighting systems, but a thermal insulator, thereby defeating the heating and cooling systems.

1. Research

Although the world was in existence before any given designer lifted his pencil, he usually acts as though what he works out on his drawing board is the only reality. He is interested in what he can show the world about how it should be organized, when he should be interested in having the world show him why it has the character it does. Therefore the studio began with study of existing conditions in New York Herald Square and a search for analogies in architecture, nature, unconscious experience, and painting.

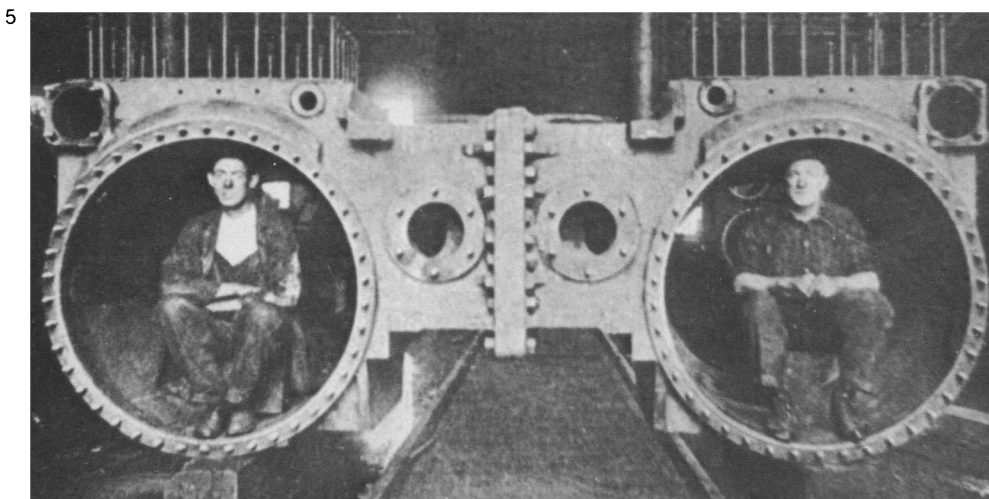
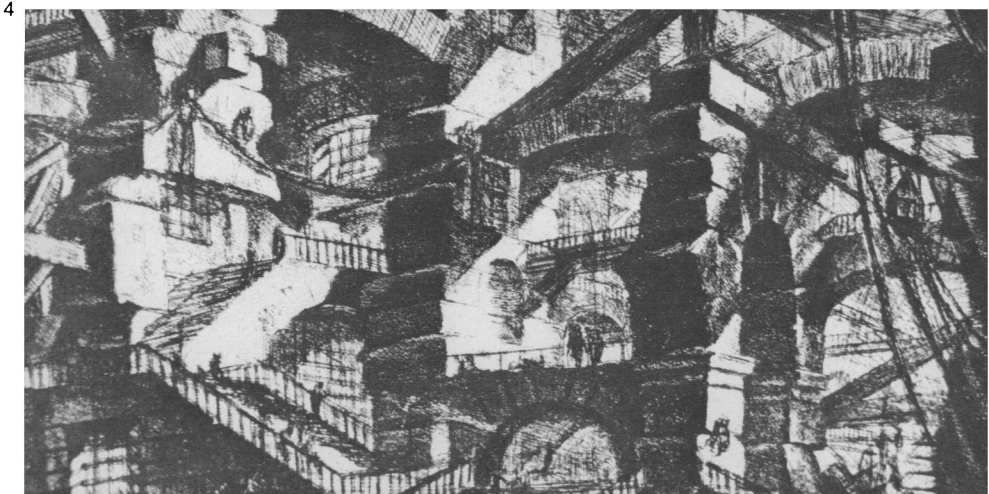
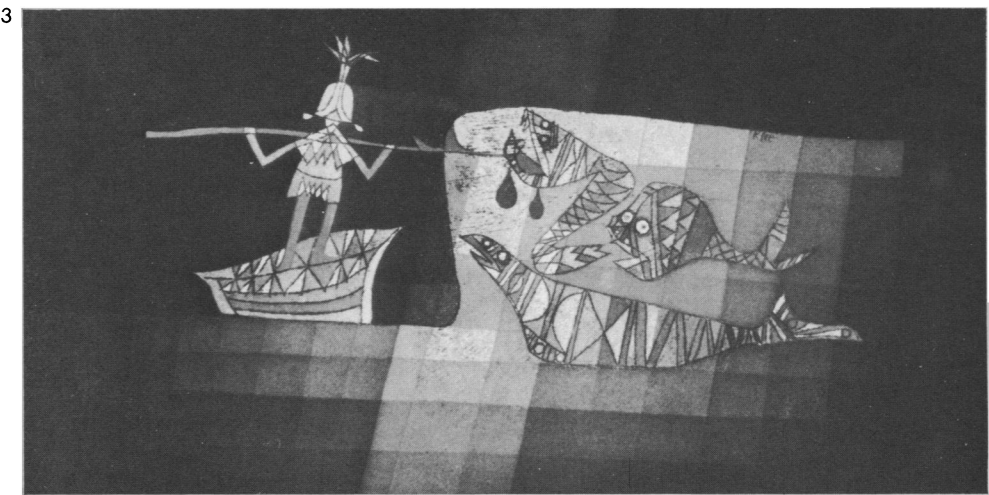
Description

The Herald Square subway station (34th St. and 6th Ave.) is a network of underground passages, a place of transitions, of flowing crowds, of movement and change, a place without the defined spaces of traditional architecture. It is a maze with no general plan, incomprehensible in its organization, laid out through a mechanical and arbitrary calculus of rights-of-way, property lines, utilities, excavation costs, etc.

The Herald Square Station is the three-level intersection of three underground lines, two subways and rapid transit from Newark. The station is 4 blocks long with underground connections to Penn Station, Times Square, three department stores, a hotel, and two dozen entrances from the street. The uppermost level is divided into three toll zones, a platform for trains to Newark, and a circuitous route for free passage through the station. The lowest level is the platform for the IND 6th Ave. line. Diagonally between the upper and lower levels squeezes the BMT Broadway line, displacing them by its bulk and warping the spaces of the other levels into Eisenstein forms. At the north end of the station a Piranesian set of ramps and escalators connects mezzanine to lower platform. At the south end the IND toll zone occurs at the intermediate level and connects to the mezzanine above by a half dozen different stairways tucked in niches around the periphery of a vast open space. Ceiling heights in this four block long station vary from ten feet to less than seven and a half feet through large areas. The mezzanines are not bounded spaces but forests of columns which appear to extend without limit. All structure is exposed and devoid of order; the column grid is largely random.

Existing Conditions

We were biased toward understanding the present situation. Non-judgmental study, observations, counts were made, interpreted, summarized, extrapolated and presented by individuals and small groups. We worked with



systems: movement system; services system; communications system; lighting system; patterns of user behavior.

Movement System: Volume. Peak hour counts were made at critical points and flows (thousands of people/hour) analyzed for street to train, train to street, and train to train transfer. Data were obtained for total station population varying through the year, broken into shoppers, commuters, and others. Visual quality of all entrances and exits was plotted and analyzed in relation to flow.

Services System: Analysis by type of commercial service (personal, food, soft goods, transit-related), scale of installation, business volume related to density and type of flow for mezzanines and platforms. Patterns of organization plotted and counts taken.

Communications System: All visual communications (transit and commercial) were plotted by type, size, and location. Transit signage was analyzed for inconsistency, redundancy, variations in wording, placement, typography, etc. Location of signage was studied in relation to patterns of movement.

Lighting System: A schedule of lighting types and a shade map for the mezzanine level were produced. Standards of brightness and lighting character were proposed for platforms, mezzanine, stairs, entrances, and other typical locations.

User Behavior: Desire lines were mapped. Decision points in movement patterns were analyzed for confused organization, poor signage, poor spatial definition of alternate routes. Movement was analyzed by speed, intensity, type (directed vs. searching).

Image

We looked at other underground systems: London and Paris (for their orientation systems), Milan (for use of materials), Montreal's cultivated new Metro, the Harry Weese plans for Washington, D.C., the design handbooks prepared for the Boston renovations. The designs were, we felt, sanitary, but monotonous and emotionally uninviting. Their criteria: make it work; insure security through uniform, high level of light; keep it hygienic. In articles about subway renovations the "before" pictures were often a more exact and exciting description of underground space than the "after". Adding light, painting ceilings white, and increasing police supervision were not, we felt, changes based on real understanding of the special problem of transit underground. Elementary human events are constant — we wanted to open our eyes to human nature, to observe and understand behavior in an underground station. Underground space touches on strong undercurrents in man. The first habitable and religious spaces were underground. We found images of the underground in fairy tales, myths, sagas, in Lascaux and Altamira, the animal gods and goddesses of the Egyptian pyramids, the black mass in the early Christian underground church, the catacombs, the magic thread leading through the Minoan labyrinth. We walked and crawled through escape tunnels of prisons and secret passages of monasteries, through railroad tunnels and mines, with Verne to the center of the earth, finding everywhere the underground spaces of man. Also in the work of artists. Paul Klee, the painter of underground space, images of the subconscious, colors and forces floating and resolving in black space. Bosch, Baumeister, Tobey, Moore.

2. Design

Behavior is not pure; therefore, go beyond the finished design. Invert monumental architecture; residual space rather than monumental space. Individual elements come forward, bounding surfaces recede. Elements are common and everyday as well as specially designed. Objects and people glow in dark space rather than white space lighting objects. Clarity and structure only within magic glitter and randomness.

Accept given conditions: low ceilings, sloped walls and floors, complex unsystematic circulation. Be expedient; make minimal structural change.

Let the eye work, not sleep. Action, not monotony. Expression rather than repression. The subway should permit response and participation; people are not just the passive crowd.

Orientation: in movement sequences complex by necessity. Use multiple media: color, material, shape — recognizable consistency where it counts. Repetition and intensity of messages keyed to movement, dense at decision points and also reassuring along the way. Increase contrast, exploit existing differences from place to place: orientation through recollection of unique places within the maze — the aquarium passage, the music passage, the passage with ceiling ads, etc. Choices correspond to true alternatives: reduce passage widths to requirements of flow; simplify circulation to Orange line (former BMT) by closing one set of stairs from mezzanine and adding direct transfer between the two platforms; free passageways from hard-edged and obstructive elements and give them the curvilinear shape of flow, shallow niches providing shelter from the moving stream.

Communication: employ overlap and redundancy in the underground maze of lights and colors. The repeated sign and symbol in conjunction with uniqueness of material and color. Transit information can compete with commercial ads: expand commercial and civic advertising. Ads are unpredictable, change with time and fashion, provide unexpected continuities to other places. Fight monotony. Exhibits by interested institutions — the aquarium by the Brooklyn Marine Institute, etc. Programmed projections on platform walls.

Safety: through continuous presence of other people. Compressed circulation ways designed for peak flow overseen by commercial and service booths. People watch people. (Supplementary closed-circuit television monitors for late-hour minimum flow.) Increase safety by expanding the freeway: new attractions underground; new Macy's entrance brought to center of station; larger, more recognizable entry kiosk; new Sam Goody's outlet; hold your prom in the subway. Underground climate can act as a magnet; caves are warm in the winter.

Self-expression: If advertising and other media of our society are aggressive, give everybody a chance to respond. Make posters and other wall surfaces accessible for human messages. Free graffiti. The scribbling and messages in the underground are the real truth, the wish for eternity, repressed desires, love and sex, hatred, sadness, happiness.

Maintenance: The subway cannot be kept immaculate (as in pictures of the Moscow underground or photos taken of transit

systems right after renovations are completed). Concentrate maintenance on particular surfaces and elements: signs, maps, white tile exit walls. Translucent signs and dark surfaces do not show dirt. Walls with continuous bands of advertising will be renewed periodically when ripped or saturated with graffiti. Transit and rest room furniture are designed for mechanical cleaning.

Schedule of Elements

Streets: the passageways of the underground maze, the linear connections between exchange points, where destinations are either ahead or behind. Simplify the network for greater compactness and variety. Throw away space if necessary. Commercial booths reduce vast areas to bounded streets. Streets are the place of the non-transit facilities; each street is unique.

Junctions: the places where directions of movement overlap. choices are made. Junctions contain transit furniture and written instructions. Concentric organization; major flow in outer circle, special flow (tokens, system information) in inner circles. Lockers, telephones, street maps at exits from junction. Information is provided for the next leg of the journey.

Platform: design for the mass of moving people on the levels above, for the waiting mass on the platform. Concentrate all vending machines on platform. Every column a servant column. Mount machines low to permit vision along platform. A system of projectors and screens on the dark station walls provides moving images for the waiting man. Projectors rented by advertisers, civic groups, politicians, etc. Special shows to be commissioned by transit authority.

Niches: provide refuge, safety, and shelter from movement and flow. Toilets, telephone booths, walk-in shops, curvilinear walls.

Chapel: a unique place to go — where there are modern gods and new ways of worshipping.

Capsules: enclosed spaces floating in the stream of movement. Round, on rollers. The stream of people will push them around until they find their place of rest.

Magic:

Transformation: barber and beauty shops, mirrors

Sound: Audio shops

Smell: Flower shops, cosmetics, food

Splendor: Jewelry shop, art book stores

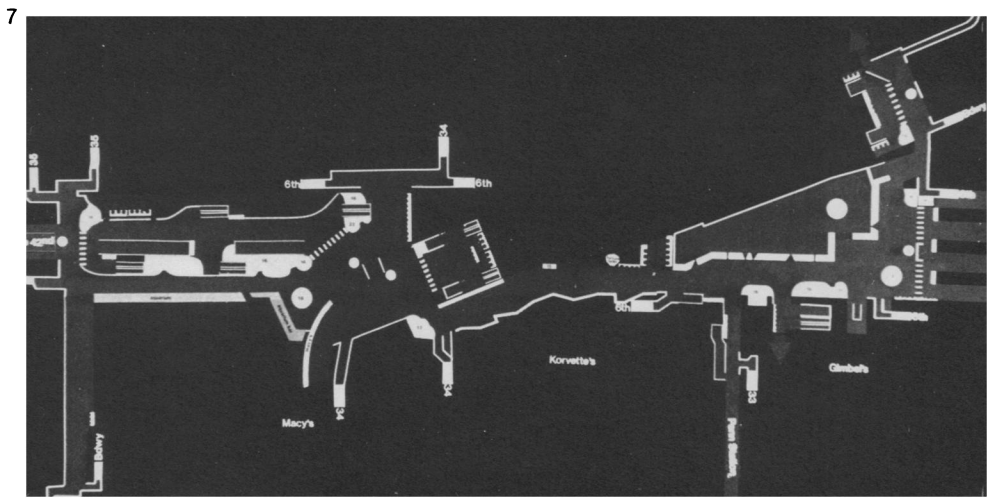
Dreams: Display, advertising, card shops

Play: Turnstiles, escalators, automats, vending machines

Water: The aquarium, aquarium bar

Nourishment: food shops, coffee and fountain service, newspaper stands, magazines, bookstores

Unique Elements: The aquarium — underground is underwater — flashing fish floating in darkness. The Music World Sam Goody Audio Spectacular — music is heard around corners, up distant passages. Macy's entrance brought to center of the freeway — sequential flashing lights pulling you in.



Color Coding and Schedule of Locations of Use

Aluminum:	Transit	Turnstiles, token booths, maps, directional signs, entry kiosk.
Orange:	Orange line (former BMT)	Arrow on kiosk, guiding threads, light over turnstiles, walls and ceilings of stairs to platform, signs on stairs and platforms, markings on train cars, station signs at platform.
Green:	Green line (former IND)	
Violet:	Violet line (former PATH)	
Yellow:	Warning	Handrails (stairs and escalators), platform edge, first and last risers.
White:	Exit	Street and exit signs, walls at stairs and passages to street.

Materials

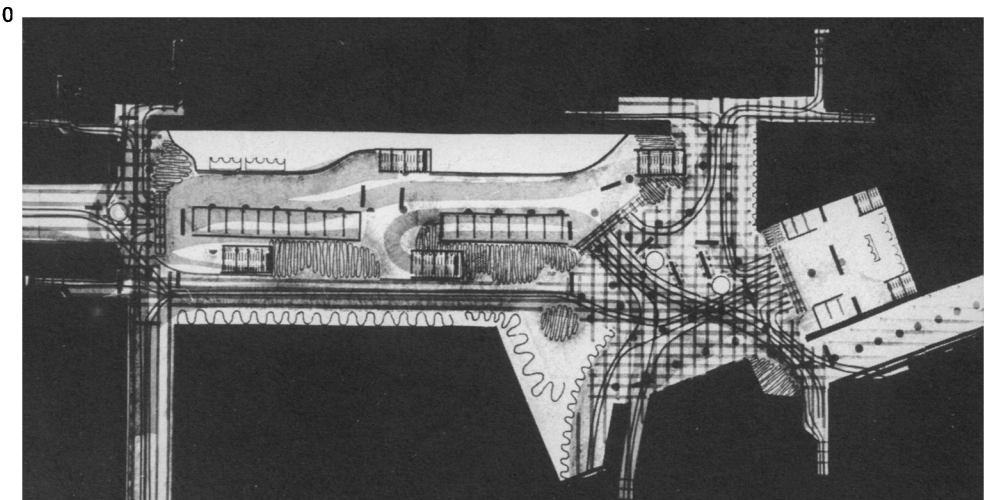
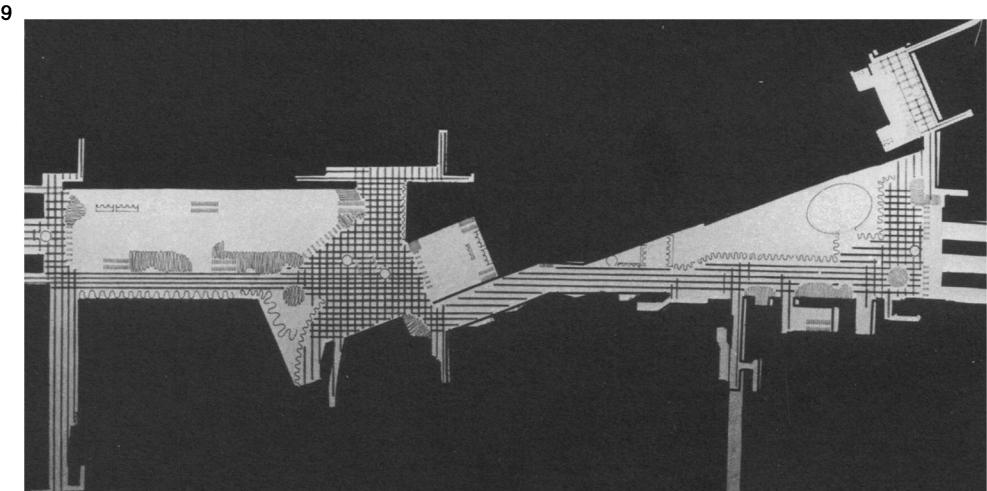
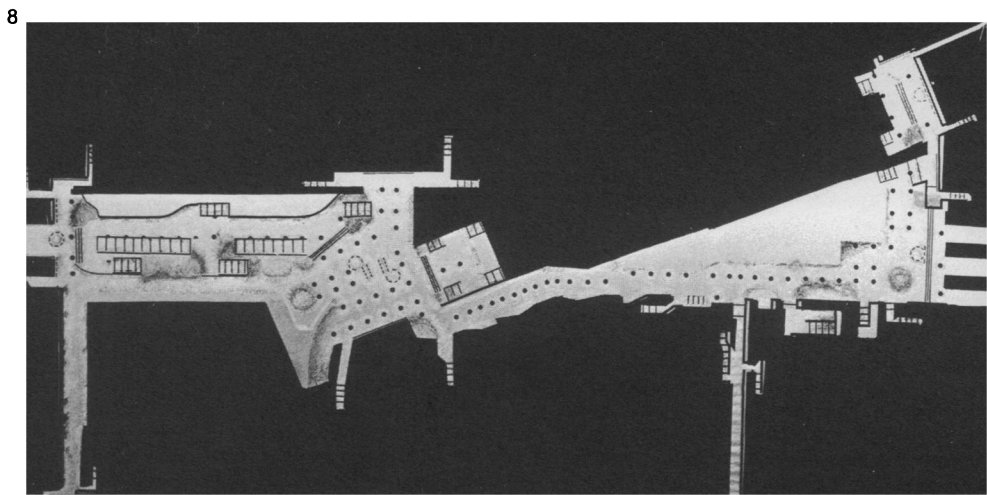
Brushed aluminum:	Transit furniture
White tile:	Exit walls
Molded plastic:	Rest room furniture
Concrete:	Floors
Grey epoxy paint:	Walls and ceilings
Rubber wheels:	On trains (for noise control)
Acoustic fuzz:	Platform ceilings
Paper, plastic, unspecified kinds of metal, etc.	Everywhere else

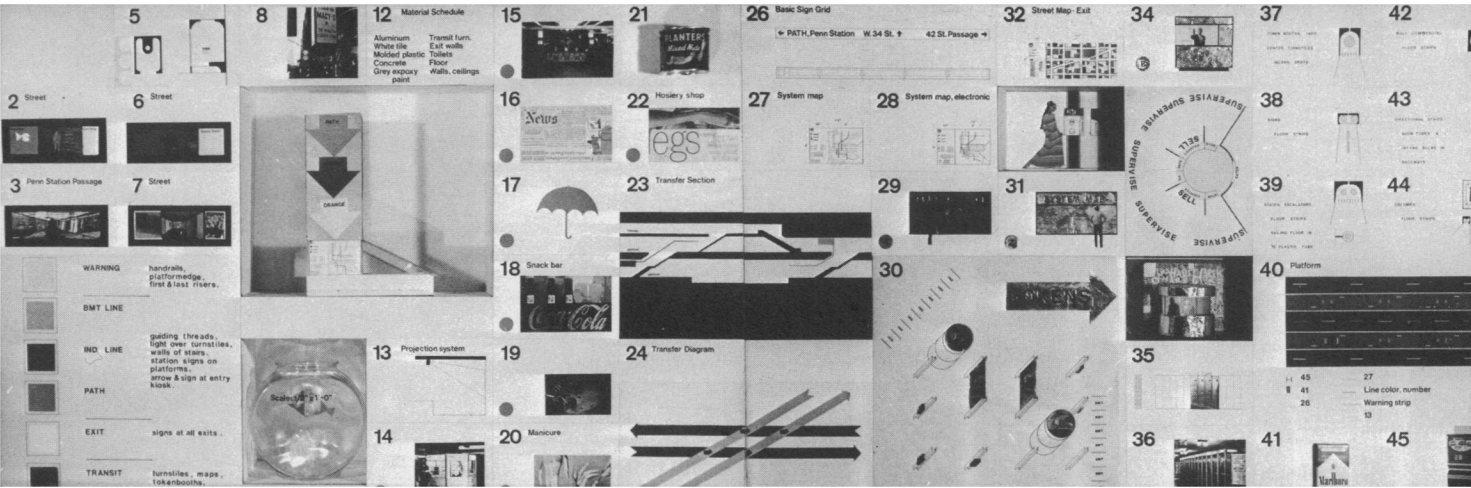
Lighting System

Objects radiate light, space is dark. *Nowhere is structure lit*, except for the white walls at exits to the street.

Commercial: Booths and niches provide light for the freeway — stipulated minimum levels to be maintained 24 hours per day, with electric power subsidized by the transit authority. Wall and ceiling ads reflect colored light — fluorescent tubes in four foot modules with colored plastic jackets fit the module of the paper signs. The signs are pasted to cement-asbestos panels installed free of the existing structure in four foot segments along curvilinear trajectories.

Columns: Lights at tops of columns shine down only, the ceiling is dark, floor (reflection factor for concrete = 30-40%) reflects some light. People move in direct light, heads and shoulders near the light are brightest, heads alternately lit and in silhouette. Fixtures use two foot long fluorescent tubes in clear





6. A composite photo showing a proposed entrance kiosk.

7-10. Proposed system plans show the flow pattern for peak traffic, the disposition of services inserted into the existing spaces, the location of light sources, and a diagrammatic indication of the interplay between areas of "magic", play, junctions of high traffic flow, and niches of slower movement.

Base plan: layout of transit furniture, commercial facilities, wall ads, toilets, telephones, entrances and exits, utility spaces, making residuals which are the public passages.

Lighting plan: lighting fixtures and shade map.

Analytic plan: identifying elements by kind:

street	chapel
junction	magic
capsule	nourishment
niches	play

Composite plan of all systems .

11. A composite board detailing the multiple individual elements and local decisions which were superimposed on the space to provide the solution.

plastic jackets four sides of columns. Because of floating grease and dirt, plastic diffusers are not used. Metal screens prevent vandalism. An alternate emergency system (incandescent bulbs using 600 volt DC current) is included in same fixture.

Transit Furniture: Downlight is provided individually for each piece. Where possible fixture and furniture are integral, giving freedom in repositioning of furniture. Token booths have a ring of incandescent downlights; direction signs are mounted to a fluorescent fixture which grazes light down across them, lighting the metal without glare. A battery of incandescent downlights is ceiling-mounted above the turnstiles. Incandescent light in telephone booths glows continuously.

Stairs, Ramps, Escalators: Receive additional incandescent downlight. Handrails are hard plastic tubes containing fluorescent light.

Platforms: Only pedestrian areas are lit, tracks, ceilings, and sidewalls are dark. Yellow edge stripes marking the platform are highly reflective plastic. Column fixtures similar to those on mezzanine are used. Column mounted vending machines float in pools of light.

Commercial System
Only the borderline of shops, booths, and spaces designated for commercial leasing is set by the overall design. A prefabricated wall and window unit system is available which fits any curvilinear or rectilinear border line, but other modes of construction may also be used. Certain locations lend themselves to specific kinds of commercial use, but these are only recommendations. The shopkeeper has complete freedom within certain limits: that he must produce a stipulated minimum light level radiating from the store and that he may not use the materials of the communications and warning systems. Mechanical vendors are installed where flow of people is low or intermittent.

Communications System
Form: The entry kiosk at street level, a tall, recognizable symbol, different from advertising, store fronts, street signs — identical at every entrance to the station. The simple round and rectangular forms of token booths, maps, and transit-related signs.

Color and Material: See schedules for specifics.

Uniform Type Face: All transit information.

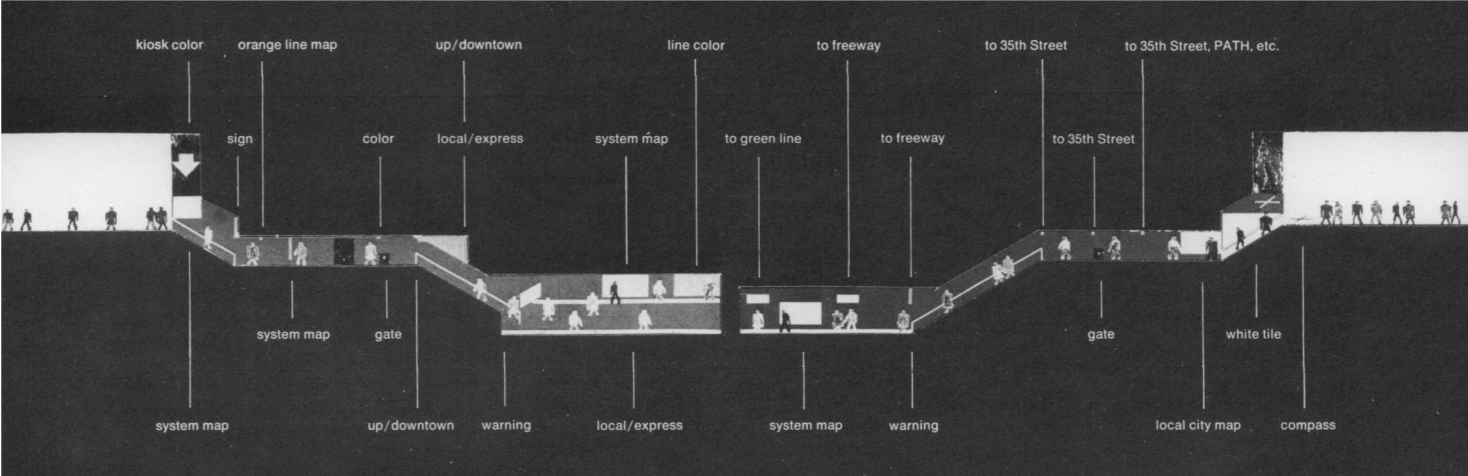
Threads: To lead you in. The problems of getting in and getting out are not equal; the wrong train is worse than the wrong street corner. Colored glowing light threads solve this basic problem: which way to the train? Simple and redundant.

Maps — of the Subway System: Plain and electronic. The plain map shows all lines in the city, color-keyed; those running through this particular station are shown as broader lines for emphasis. Lines on maps are keyed to trains with a letter symbol. The electronic map lights up the best route to any destination when the button for that station is pressed. Also a card is ejected showing a route, transfers required, and special information. A fixed set of such cards is pre-made, from which the machine picks the correct one depending on destination and time of day or week.

Maps — of the Local Area: Marking special places with inserts for messages, blocks, street numbers, advertising, etc.

Signs: Built up on a grid, six inches by two foot increments of length, corresponding to the fluorescent tubes which light them; always located approximately seven feet above the floor. Signs take on color from the jacket of the fluorescent tube according to the content of their message; see schedule of colors.

Typical Sequences
Street to Train: Moving along a crowded sidewalk, I see the tall kiosk. At side of kiosk a large system map and color key. Color threads beginning at entrance lead to the underground. I descend and arrive on the mezzanine. There is sound of Cretan music; I would like to buy this record. Following the sound of music: window shopping, elegant displays, fascination of mosaic stained glass wall, radiating deep color, peepholes showing electronic equipment. I leave the chapel, Sam Goody's World of Music, a new record in my hand, and follow the green thread. I notice a fortune teller, but there is a waiting line and I have to catch my train. The thread leads past information center in junction: a large system map with color key, and an electronic map, where I find my destination and transfer point. I receive a card from the map. Buying a token, I notice the bank of TV monitors inside the booth. The thread leads on to turnstiles, where line name is repeated. Just before the turnstiles I cannot resist the smell of freshly roasted coffee. Drinking a cup of "the best coffee money can buy", I watch a strange fish in the aquarium nearby. Again the thread and an evening paper at the corner stand.



Through the turnstiles signs lead to the next decision point: uptown or downtown and on to a pool of color for stairway or escalator to platform. Threads end. I descend by escalator to the Green Line platform with the scent of perfume from a nearby shop in the air. During descent a sign confirms my choice of uptown. At foot of escalator a sign giving local and express sides of platform. At intervals a large system map. Local and express repeated on stripe at edge of platform. Waiting for the Green train I watch previews of a movie projected on the dark wall opposite the platform. The movie cuts off suddenly signalling the arrival of the train.

Train to Street: Arriving in the station by train, I see a six foot high sign identifying 34th street; also small signs at three different heights on each column. White exit and street signs lead to escalators and stairs. Color signs lead to transfer stairs. Repeated white signs lead through turnstiles to white tile walls at passage to street. On this wall is the street map with its information about department stores, points of interest. North-south-east-west directions are given on kiosk ceiling above stairway to street and on sidewalk paving at exit from kiosk.

Conclusion
The multitude of elements in Herald Square station may give the impression of confusion and unresolved intentions. This is a misimpression: only a sightseer would experience the whole station — the average user will encounter only a few of these elements along his path. But there is a multiplicity of paths leading to any destination — the shortest vs. the long, adventurous journey. Multiplicity provides uniqueness — adding another dimension to a subway journey.

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14



12. A diagram of the complete information sequence, locating in a generalized section official transit information typically provided: redundancy, reassurance, safety.

13-14. Two collage impressions of the spaces in the subway by Manfred Ibel.