

M E M O R A N D U M

TO: File 2121 - Transportation Plan Evaluation

FROM: George Haikalis

DATE: July 28, 1978

RE: IS WESTWAY THE BEST WAY?

This memo represents a rough cut evaluation of one of the projects in Maintaining Mobility the Tri-State Region's Transportation Plan. This project has moved through various stages of plan development, alternatives analysis, and program approval. While the project is now in the implementation stage, i.e. "the ship has sailed", strong public opposition to this project continues. Numerous obstacles remain including granting of permits, clearance of court suits, etc. Each of these public events will require continued detailing of the pro's and con's of the project. That this continuing debate cannot benefit from the analysis efforts of the Region's largest transportation planning agency would be most unfortunate.

I. IS THERE A "BEST WAY"?

Like virtually all major projects Westway has its merits and its weaknesses. Though it is a large project it is still a miniscule part of the Region's collective investment in private buildings, and public facilities. In short the Region can easily survive a bondoggle, let alone a close call of marginal misinvestment. Within this context why bother with transportation plan evaluation at all?

Several reasons exist for taking some care in choosing our transportation investments wisely. First of all the outlook for long term growth of per capita income, resources, and wealth is less bright than it was a decade ago. For this Region very little growth has occurred in real income in contrast to the once-promised 2 to 3% per annum. When you are poorer you can afford fewer misinvestments. Second, there seems to be a growing resistance to unlimited expansion of government expenditures. The public is beginning to demand value for its tax dollar. In this Region in particular public resources are alleged to be kept under extremely tight control. Third, the ability to depend on the Federal government for solutions to local problems has become threatened. While the Region's Federal lobbyists have sharpened their pencils the representatives of all the states have become more alert. In order to obtain increased Federal aid for some program that benefits this Region, Federal aid for other programs that benefit other states must be traded off. The ability of the Region's Congressional delegation to out pork barrel competing states has not been proven. Furthermore, a growing interest in the efficiency of Federal investments is occurring. Local projects must jump through increasingly more difficult hoops of Federal requirements.

Returning to the Project it then becomes important to at least crudely optimize scarce public funds and look more than casually at the merits and weaknesses of the project or alternatives to it. If a major misinvestment is occurring it must be identified.

II. IS WESTWAY THE BEST WAY TO OPTIMIZE HIGHWAY INVESTMENT?

Purely as a highway project Westway is a poor performer. No freeway has been built in the U.S. at an average cost per mile of \$300,000,000 to accomodate an average daily traffic load of 80 to 100,000 vehicles.

Because of the substantial negative impacts resulting from highway construction in dense urban areas it is extremely important that a highway project have a very favorable benefit cost ratio if it is to be advanced. Maintaining Mobility identifies this as a key criterion in its highway planning objective relating to freeway projects.

From a highway transportation planning perspective the key benefit of a new freeway is travel time savings. These savings are best calculated using computerized traffic assignment networks. Traffic assignment allows the systemwide consequences of a change in the highway network to be calculated. Improved traffic performance on parallel streets, increased congestion on feeder routes, and other effects are included. The Westside Highway Project Study Staff has made a very comprehensive and fine-grained estimate of the travel time savings of Westway compared with a modest arterial. The Westway assignments were run using 1995 forecast data. A nearly constant trip table was used for each of the two network options.

The results of this analysis indicate an average weekday travel time savings of about 24,000 vehicle hours or about 1/2 of one percent of the total vehicle hours consumed in travel in Manhattan. Using a currently in vogue \$5.90 value of time savings per vehicle hour and a capital recovery factor of ten percent this translates into a capitalized benefit of \$508,000,000 compared with a net cost of \$1,116,000,000 (after deducting the cost of the arterial option.) This yields a benefit-cost ratio of 0.46 when considering travel time savings alone. A major part of these savings are due to fractional minute time savings spread over many motorists. It can be debated whether these small gains are accumulative and equivalent to the overall value ascribed. Other user benefits such as accident reductions and fuel and maintenance cost savings are small in comparison to time savings. For the Westway vs. arterial comparison they would be extremely difficult to calculate.

More serious in evaluating Westway in strictly highway engineering terms is a consideration of other alternates. The "modest" arterial used as a base for comparison in the Westway studies is truly modest indeed, and would be an embarrassment to the traffic engineering profession if it were implemented. The wide right-of-way of West Street and the total public ownership and control of waterfront uses adjoining West Street provide ample opportunity for traffic engineering ingenuity of the highest order. Assuming the existing piers were "flat-topped", repaired and repaved, and used for waterfront recreation only, virtually no vehicular cross traffic would exist. An at grade freeway similar to the FDR drive could be developed at very little more cost than the "modest" arterial. Diamond interchanges at Canal Street, 23rd St., and elsewhere if desired, and pedestrian ramps at three or four block intervals would complete this at-grade freeway. For \$100,000,000 a high quality facility would emerge. Countless less ambitious alternatives can also be devised.

Returning to the benefit-cost analysis Table 1 shows the results of a three-alternative comparison - (1) arterial, (2) at-grade freeway, (3) Westway. Since the Westside Highway Project has not made traffic assignments to option (2) an educated guess is offered. Direct ramps to the Lincoln and Holland tunnel would not be included in this option and south of Barclay Street the existing 10 lane West Street, would be utilized. The tunnel ramps appear to be lightly loaded in the traffic assignment and the volumes on the Southern segment of West Street would be modest. The at-grade freeway would probably produce about 80% of the travel time savings that would result from Westway. This assumption could be tested using the Westway traffic assignment model.

The result of this assumption is that the at-grade freeway does have a high payoff - a benefit-cost ratio of 6.55 - while the incremental payoff going from the at-grade freeway to Westway drops to a miniscule 0.10. Clearly from a highway transportation planning point of view Westway is a very poor performer. Some modest improvement over an arterial could yield sizeable highway user benefits, and would be worth considering in more detail.

Westway is not the best way to optimize highway investment.

III. IS WESTWAY THE BESTWAY TO GIVE NEW YORK A "FACELIFT"?

Westway is not a highway project at all, but a renewal and facelift for the West Side of Manhattan. A vast new area of landfill would be created as a bi-product of the highway to be developed as park land, space for housing, and industrial parks. Unfortunately Congress, and the Federal Highway Administration discovered this ingenious use of highway funds for civic beauty and disallowed their use, reducing the federal funding commitment for Westway by \$300,000,000. Only \$800,000,000 is available to build a \$1,100,000,000 project. The remainder must be raised by the city and the state to cover the cost of the "facelift".

TABLE 1
BENEFIT - COST COMPARISON OF WESTWAY ALTERNATIVES

ALTERNATIVE	BENEFITS AND COSTS			COMPARISON WITH ARTERIAL			INCREMENTAL COMPARISON		
	Total Capital Cost (mil.)	% of Westway Benefit Achieved	Capitalized Benefits * (mil.)	Differential Capital Cost (mil.)	Differential Capitalized Benefits (mil.)	Benefit Cost Ratio	Incremental Capital Cost (mil.)	Incremental Capitalized Benefit (mil.)	Benefit Cost Ratio
Arterial	\$ 38	0	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
At-Grade Freeway	100	80%	406	62	406	6.55	62	406	6.55
Westway	1154	100%	508	1116	508	0.46	1054	102	0.10

* Benefits are average weekday travel time savings for all Manhattan roadways. Value of travel time used \$5.90 per vehicle hour. Annual benefit is 350 times weekday benefit. Capital recovery factor is 10%.

The Need for a West Side Facelift

The West side of Manhattan from the Battery to 42nd Street is in the midst of major renewal and reuse. The freight and passenger steamship piers that dominated the overseas commerce of the U.S. for nearly a century are totally and completely unused in their original function. The waterfront delivery of domestic goods floated across the Hudson from rail heads in New Jersey has also completely ceased. The upland support systems associated with this waterfront activity - warehousing, trucking, wholesale marketing, manufacturing, etc - are in a state of decline, consolidation, relocation, and retrenchment. Many of the privately owned upland structures and land parcels are being creatively rebuilt and reused. Others await a needed stimulus. Often the new users conflict with the old. Nonetheless the process has begun and can be expected to continue with or without Westway.

The waterfront facilities, on the other hand, are municipally owned and in a state of disrepair and neglect. The remains of the elevated highway and the use of much of West Street for truck and auto storage further contribute to the sullen image of the West side.

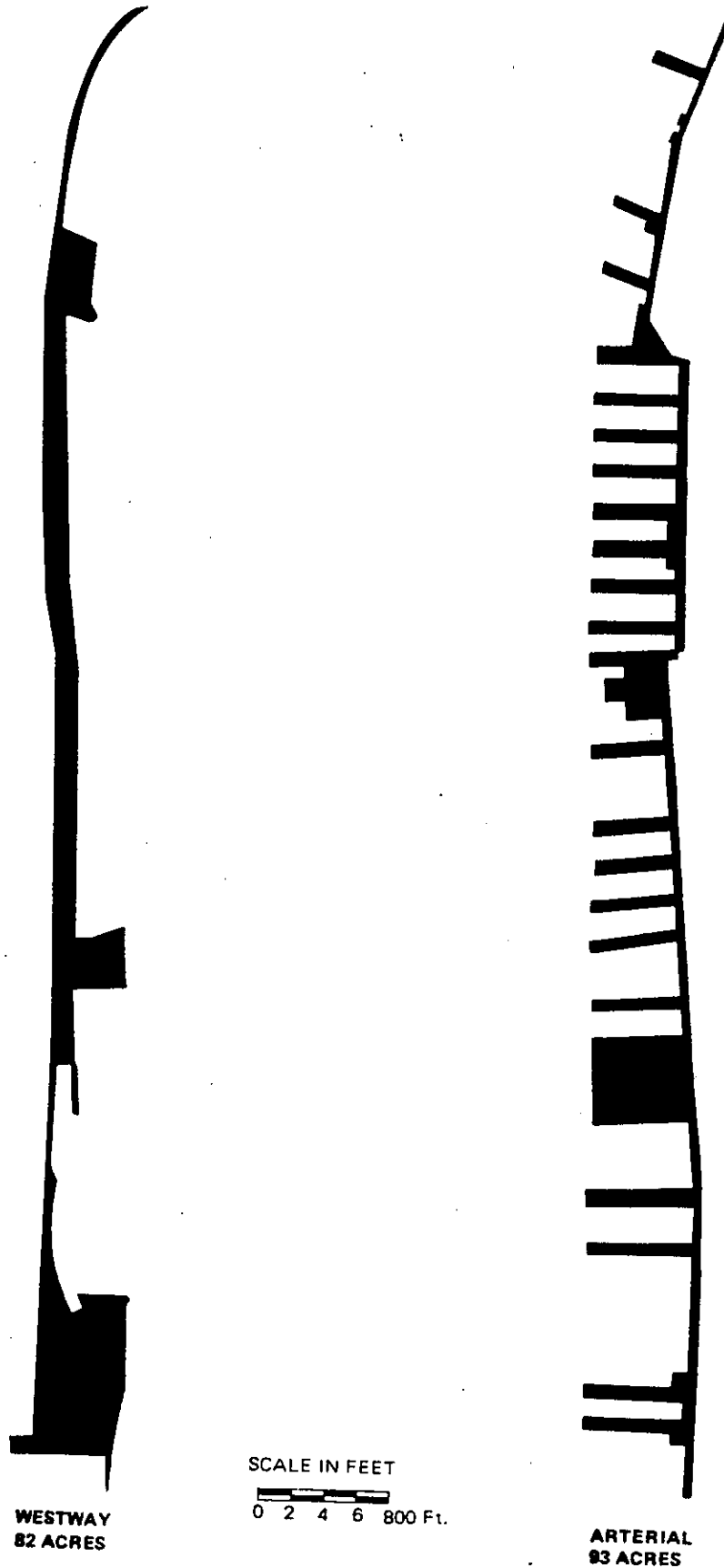
Cut-Rate Facelift

A cut-rate facelift could be envisioned. The decaying sheds could be removed from the municipal piers. The pier surfaces could be repaired and restored. Weakened pilings could be replaced. Planters and benches could be placed on these piers, which were designed to support heavy maritime cargos. The Morton Street pier provides an example of this effort. The arterial and the at-grade freeway alternatives to Westway, described earlier, offer opportunities for radical transformation of West Street. Good traffic engineering together with good civic design can produce a "facelift" of sizeable proportions. The city has demonstrated its ability to accomplish this type of highway effort on Lower Sixth Avenue in Manhattan and on Ocean Parkway in Brooklyn.

A comparison of the recreation land opportunity for this option vs. Westway is shown in Figure 1. The cut-rate facelift could actually yield more acreage for park space than Westway.

The landfill for housing and industry that would result from the creation of Westway would not be duplicated in the cut-rate option. The contribution of this landfill to the overall "facelifting" of New York City is both positive and negative. On the plus side is the obvious opportunity of adding to the overall inventory of raw land available for housing and industry. Detracting from this is the competitive effect this land would have on other development in declining areas of the city. Even more serious is the drawdown of scarce city resources that will be needed to provide the intra-structure support, for the Westway landfill.

**FIGURE 1 - COMPARISON OF RECREATIONAL LAND OPPORTUNITY
WESTWAY VS ARTERIAL**



Subway Facelift

Westway is a designated Interstate highway. This means that 90% of the cost of this project would come from Federal highway trust funds and the remainder from local (in this case state) funds. If an Interstate highway segment in an urban area cannot be built and is found not to be an essential link in the national system it can be dropped from the system and the Federal investment "transferred" to any other meritorious transportation project almost anywhere within the New York State sector of the Tri-State Region.

What more meritorious project than giving the subway a "facelift". The gruesome basement architecture of the New York subways contrast starkly with the splendor and pizzazz of most new office building lobbies. The same work force that is coddled and catered for in private buildings is treated to visual abuse of the highest order in the publicly provided subways. Subways are the horizontal elevators of the Manhattan business district and subway stations are the foyers and grand entrances to this center of world commerce.

Present funding efforts foreclose indefinitely any other than the most modest facelifting of the subway system. Existing funds must be used to keep the system in good mechanical working order and to connect together miscellaneous excavations in an attempt to complete small segments of once grandiose subway expansion plans. (Emphasis on face-saving rather than face-lifting.) The size of the city's subway program, once funded entirely by the city, is now determined by largesse of the Federal government. Federal funds for transit improvements must be pork barrelled throughout the country, and the city's share is barely more than its Federal tax bite. The fate of the city's basic subway maintenance effort rests on the ex-suburance of Indianapolis or Houston in seeking out Federal funds for downtown people-mover projects. Should this fad persist and the Federal transit pie be increased New York's slice would grow in proportion. This would permit the present on-going repair program to keep up with inflation and to allow for a more rapid obsolescence of the plant than is officially expected at present.

Within this limited context of Federal funds available for a "facelift" the city must carefully balance the Westway "Facelift" with a more modest west side effort and major thrust at improving the image of the subways. The Westway choice is almost certainly not the best way to give New York City a much needed facelift.

IV. IS WESTWAY THE BEST WAY TO LIVE WITH THE AUTO IN MANHATTAN?

One of the attractive features of Westway is the burial of the auto in Manhattan. About 2 1/2 miles of the roadway would be tucked away under an esplanade along the Hudson River. (Were it not for the ventilation

shafts this might indeed be the "final solution"). Actually less than 5% of the vehicle-miles of travel in Manhattan would be thus entombed. Traffic volumes on interior arterial streets would be changed only negligibly and this change certainly would go undetected by most pedestrians. Other traffic would be even more visible using the Westway elevated spaghetti connecting to the Lincoln and Holland Tunnels.

Motor vehicles are essential to the very existence of Manhattan. Goods movement cannot be accommodated in the subways. Emergency vehicles must be able to reach every structure in Manhattan. Autos and taxis provide essential assistance for travelers with luggage or packages, disabled or elderly travelers, repairmen with tools, etc. All other travel by auto (and taxi) represents the ultimate freedom and independence of travel, typically available throughout the U.S. In Manhattan the price of parking, and traffic congestion, foil this independence of movement. The upper limits of auto and taxi use depend on the city's ability to assert management responsibility for road space instead of relying on congestion and chaos to regulate traffic flow. Most of the bridge and tunnel approaches reflect the city's policy of Darwinian self-regulation. In midtown Manhattan the city does establish regulations and occasionally enforces them. These regulations are largely oriented to keeping vehicles moving and prioritizing users of scarce curb space. Pedestrians and bicyclists are nuisances that must be accommodated.

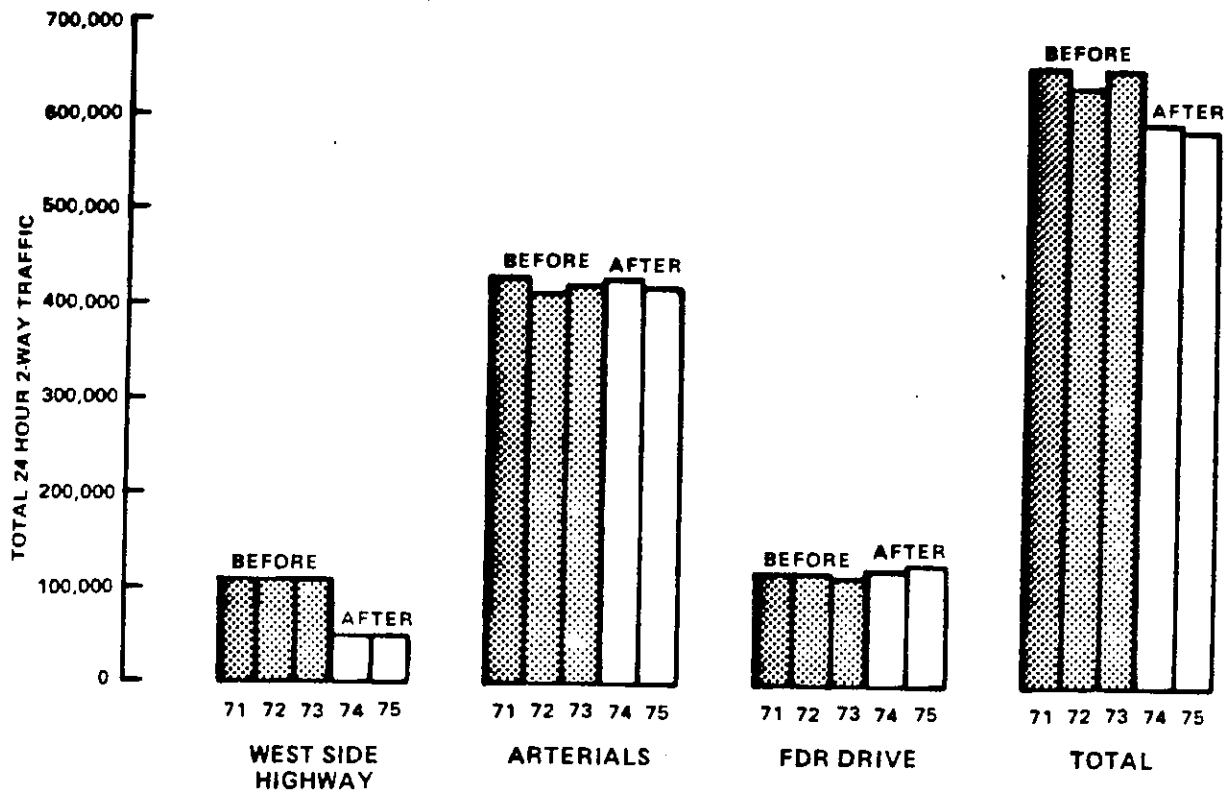
The contribution of Westway to the solution of Manhattan's traffic crunch is modest indeed. Recent experience with the abrupt closing of the West Side Highway at two locations - south of 42nd Street and between 72nd Street and 79th Street - provide an interesting case study. Traffic counts were made across Manhattan at 60th Street for three years before the collapse of the highway and for two years following its demise. These counts are shown in Figure 2. This discontinuous and debilitated West Side highway, though still open at 60th Street, lost 53% of its traffic load. This traffic did not relocate onto parallel north-south avenues. A small part can be traced to a gain on the FDR drive but the vast bulk of this traffic simply disappeared.

Presumably with the restoration of this artery either as a high-grade arterial or as a freeway this missing traffic will reappear. Traffic within the interior of Manhattan will remain at about the same level as it was before and during the cessation of West Side Highway service.

Bus Lanes

Westway offers a peace offering to transit riders - bus lanes. Special ramps will lead to these "with-flow" lanes, which will also accommodate other important vehicles. These ramps and related signing probably add \$20 to \$30 million to the cost of Westway. Their payoff is marginal indeed.

FIGURE 2
AVERAGE WEEKDAY TRAFFIC VOLUME ACROSS 60th STREET
BEFORE AND AFTER THE COLLAPSE OF THE WEST SIDE HIGHWAY



Source: Traffic Technical Report
West Side Highway Project
 Sept. 1976.

"With-flow" lanes, in contrast to "counter-flow" bus lanes successfully operated on the a.m. approaches to the Lincoln and Queens-Midtown tunnels, are not self-enforcing. In the context of a covered freeway and assuming a mix of important autos as well as buses the ability of law enforcement officers to monitor and police these lanes remains to be demonstrated. In Los Angeles, where a diamond lane "with-flow" operation was tried, public reaction was adverse and the demonstration was abruptly halted.

Shifting transit passengers from rail facilities to bus would be of marginal benefit to the transit system. In Lower Manhattan a bus terminal would be needed to accommodate New Jersey bus passengers who now travel by subway from the midtown Port Authority Bus Terminal. Brooklyn subway riders induced to travel by express bus to Midtown Manhattan would either be accommodated on crowded surface streets or serviced by the expanded PA Bus Terminal. In any event, the subway system would continue to be needed to serve the vast bulk of transit riders. Redundancy and duplication would result with transit deficits increased and service quality improved only modestly.

In contrast major improvement in transit service for the bulk of the ridership would result if the "transfer" option were exercised.

Air-Quality

A good deal of attention has been focused on the air quality impacts of Westway. Two major pollutants have been specified by Federal law as being hazardous to health and mandated for reduction. These are carbon monoxide and smog. The CO problems are localized and largely caused by motor vehicles operating on congested streets in densely built-up areas where buildings reduce natural ventilation. In Manhattan the most serious conditions exist in the center where large numbers of pedestrians are exposed to adjacent, slow moving traffic. Westway will reduce this exposure in the most modest way. In fact the "transfer" option and the subsequent facelifting of the subway could be just as successful if not more so in diverting motorists from these interior streets. Perhaps more importantly serious attempt to upgrade the transit system will make it easier to implement pedestrian streets, since motorists will have a less unreasonable alternative. State Street, Chicago and Woodward Avenue, Detroit are recent examples of pedestrian street implementation. A network of comparable street closings for Manhattan would greatly reduce juxtaposition of lungs and tailpipes.

As for the other pollutant, smog, the construction of Westway, or an at-grade freeway for that matter, will result in little change in this Region-wide condition. This is because motor vehicles contribute only part of this pollutant and it is transported over long distances. Building a freeway would increase the quantity of smog by inducing traffic and would reduce it to the extent that it improved traffic flow on crowded streets. The net result of these compensating effects is difficult to calculate and would hardly alter Regionwide smog production.

Catering to the auto for passenger transportation in dense places like Manhattan is unsound. While recognizing the need to accommodate auto travel it is important to concentrate efforts on improving pedestrian travel and upgrading the transit system. Westway would use scarce funds for developing a cost-inefficient highway improvement when a nearly as productive highway improvement and a major upgrading of the transit system could have been advanced. Westway is not the best way to live with the auto in Manhattan.

V. IS WESTWAY THE BEST WAY TO DEMONSTRATE NEW YORK CITY'S COMMITMENT TO MAINTAINING ITS DOMINANT POSITION AS THE COMMERCIAL, CULTURAL, AND INTELLECTUAL CAPITAL OF THE WORLD?

Westway was conceived as a vital force for economic and emotional renewal of New York City. The project was intended to rally forces of the business, labor, housing, and recreation communities in a demonstration of New York City's ability to move ahead on a dramatic project. The implementation of Westway was to show the city's final triumph over special interest "no power" which has bottled-up so many other valuable and worthwhile projects in the past. The project has thus far been a disaster in achieving these goals.

The Westway project has moved more slowly and raised more doubts and concerns than any comparable project in recent years. The economic consequences have been so enlarged and overblown that New York's credibility as the knowledge capital of the world could be seriously questioned.

Efforts to advance the Project have led to withdrawn campaign promises, mistaken assertions regarding alternative transit funds, and confused information regarding the Congressional disallowance of the \$300,000,000 "non-highway" Westway costs. These efforts together with the well-funded promotional effort of the West Side Highway Project have thoroughly tarnished the image of Westway as a moral force.

Non-New Yorkers must view with alarm the nation's largest city, more dependent on public transit than any other, attempting to force through a very marginal highway project instead of diverting these scarce funds to upgrading a noisy, dirty, and unnecessarily grisly subway system.

Westway is not the best way for city to restore confidence in itself as the world's truly greatest city.



APPENDIX

AN ALTERNATIVE FACELIFT FOR N.Y.C.

Transfer Funds

Approximately \$800 million in Federal interstate transfer funds would be available for an alternative facelift program for New York City's transit system. (Another \$300 million would be available if New York City could "convince" Congress to allow full highway financing of the non-highway land fill elements of the project). These funds must be matched 80-20 with local dollars if used for transit projects and 70-30 if used for non-interstate highway projects. (Pending legislation may change the match to 90-10, the same as for the original interstate highway project.) The transfer funds must be appropriated out of general funds, not the Highway Trust Fund. These funds are not to replace discretionary transit funds now flowing toward the city at about a \$200 million a year pace. Pending legislation would step up this pace considerably, with or without Westway, and would also eliminate the discretionary feature as it applies to funds to improve existing systems. Even if this feature is retained it is extremely unlikely that the Federal transit administrator would punish New York City for diverting highway funds to uplift a squalid transit system.

Almost all of the increase in regular Federal transit funds that might occur if legislation is passed, for this region, will be needed to maintain the existing system in a safe and reliable manner. Inflation and unanticipated obsolescence will consume almost all of these increased funds. A major facelift program, without the Westway transfer is unattainable.

Facelift Options

A transit system as vast and complex as New York's can present a bewildering array of facelift options. This Appendix will outline only one, to stimulate discussion by giving an example of what can be done. A wide ranging design competition might stimulate many more ideas and a thorough public review would be needed to select a set of finalists. Ultimately the decision would rest with the city and state governments laboring under an inflation-induced time deadline.

A portion of the transfer funds would be set aside for highway improvements to permit the rapid development of a West Side facelift and to preserve segments of the crumbling FDR drive. About \$100 million in Federal funds matched 70-30 would produce a \$143 million highway program. The remaining \$700 million, matched 80-20, would support an \$875 million transit facelift.

West Side Facelift

A total renaissance of the West Side of Manhattan would be achieved by demolishing the remains of the West Side elevated highway (south of 34th Street) and installing an at-grade freeway in the bed of West Street from 32nd Street to Barclay Street. Diamond interchanges would be constructed at 23rd Street and Canal Street (and possibly 14th Street if desired). The Canal Street diamond

would incorporate the graceful through arch bridge existing at that location. Service drives would be provided where needed and pedestrian overpasses would be located at regular intervals. The entire West Street right-of-way would be landscaped in a manner similar to lower Sixth Avenue, or Ocean Parkway in Brooklyn.

All piers west of the highway would be flat-topped, strengthened and repaired where necessary, repaved, and fitted with benches and planters. A continuous pedestrian and bike way would be developed along the waterfront edge of West Street.

The total cost for this project is estimated at \$100 million.

East Side Facelift

Emergency repairs to the FDR Drive north of 63rd Street would permit express buses from the Bronx to be rerouted off city streets in the East Side of Manhattan. Modest construction elsewhere along the FDR would permit closing the gaps along the waterfront and creating a continuous pedestrian and bike way from Carl Schurz Park to the South Street Seaport.

This program would cost \$40 to 50 million.

Surface Transit Facelift

Two major pedestrianization efforts would enhance the surface and sub-surface transit systems serving Manhattan.

In Lower Manhattan an extensive auto-free zone would be created, as shown in Figure 3. Traffic would be diverted to a ring road surrounding this concentrated urban core. Local circulation loop roads would penetrate the core providing truck and taxi access to within several hundred feet of every major structure. The remaining streets would be pedestrianized. These streets would include crosstown Wall, Fulton, Chambers, and North-South Church/Trinity Pl., Broadway, and Nassau. In the Foley Square-City Hall area a vast auto-free plaza would lead to the pedestrian walkway on the Brooklyn Bridge.

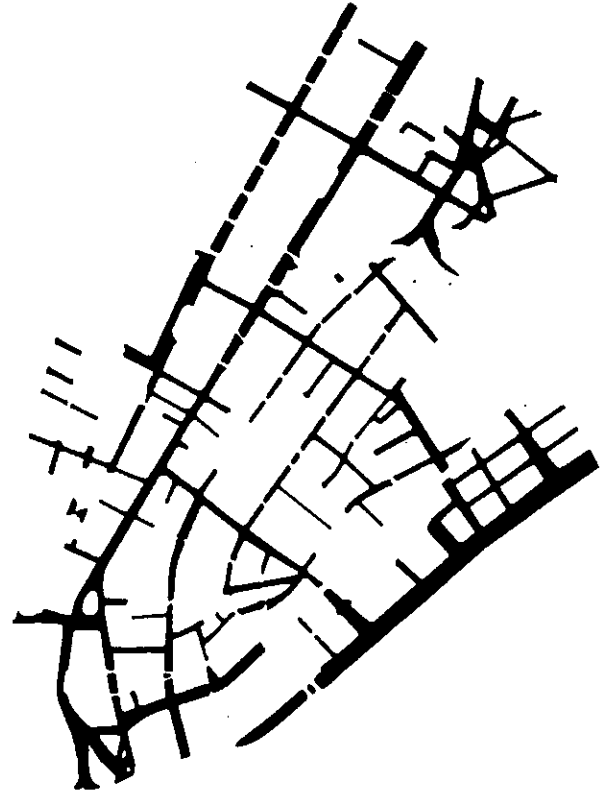
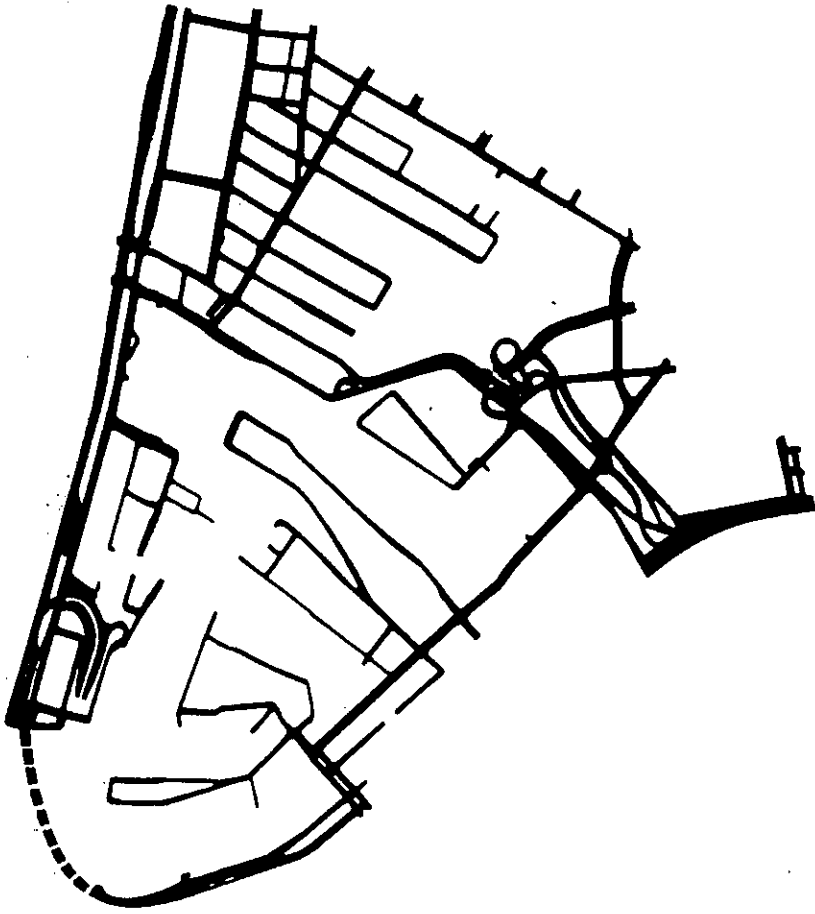
The cost of implementing this dramatic facelift for Lower Manhattan would be about \$75 million.

For midtown and elsewhere in Manhattan a similarly scaled program though practical and desirable would face formidable opposition. A smaller scale effort is envisioned. Transit malls would be installed on Fifth Avenue between 59th Street and 34th Street, and on 42nd Street river to river. The two-way Fifth Avenue transit mall would be complemented by a fleet of double-deck buses funded through regular transit sources. The buses and the mall would attempt to recreate an earlier mood when Fifth Avenue has both bustling and relaxed. The 42nd Street mall would be fitted with a light rail surface line, perhaps of nostalgic design. Two additional pedestrian-only malls would be developed -

FIGURE 3

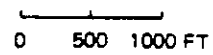
PAVEMENT RETAINED
FOR VEHICULAR MOVEMENT

PAVEMENT RETAINED
FOR PEDESTRIAN USE



LOWER MANHATTAN CBD

SCALE IN FEET



Broadway and Lexington Avenue. The Broadway mall would relieve midtown of its traffic-fouling diagonal, and on the upper West Side would provide a quiet haven for residents and shoppers to relax. Beneath both Broadway and Lexington lie IRT subway lines - crowded, poorly ventilated, and uncomfortable. Major opportunities for subway renovation exist once surface traffic is removed. For this reason the Broadway and Lexington malls would continue uptown to 103rd Street or beyond. The Broadway mall would have as its southern terminus 32nd Street and Lexington, 41st Street, to avoid implementation problems through the "valley" between midtown and downtown.

These four arteries contain the busiest, most overcrowded, and least comfortable pedestrian environments anywhere in the U.S. Creating pedestrian malls along these avenues will revolutionize the appearance of midtown restoring and stabilizing the commercial and entertainment complex that is so vital to the city's health.

Constructing this thirteen mile pedestrian haven would cost about \$80 million and the 2 mile light rail line, including rolling stock another \$20 million.

Subway Facelift

About \$700 million of transfer funds (including local match) would be available for a subway facelift. Since there are about 250 underground stations this funding level will not be able to revolutionize the appearance of the subway system. Given this constraint one program approach is outlined below:

1. Uniform image upgrading at all stations
 - a. shield glare from station lighting.
 - b. complete signing, including short train stop location.
 - c. repair stair treads, missing tiles.
 - d. remove all advertising and most concessions.
 - e. develop cosmetic "image" in place of advertising panels.
 - f. restore or highlight original ornamentation where feasible.Estimated Cost - \$250,000,000

2. Improve ventilation at 25 worst stations based on criteria such as number of passengers times discomfort level.
Estimated Cost - \$125,000,000

3. Improve connectivity of subway system by relocating platforms and constructing passageways to connect nearby stations.
 - IRT Lex. 51st - IND Lex. 53rd Station
 - IRT Lex. Bleeker (northbound) - IND Houston Station
 - IRT Bd'way 50th - IND 7th Ave 53rd Station
 - IRT Lex. 59th - IND Lex. 63rd Station
 - IND Jay St. - BMT Lawrence St. StationEstimated Cost - \$100,000,000

4. Major upgrade of 3 busiest complexes
 - Grand Central
 - Times Square/8th Ave/Bus Terminal
 - Herald Square/Penn Station

Estimated Cost - \$150,000,000

5. Pilot program, direct subway access to pedestrian streets including direct platform to-street escalators.

IRT BROADWAY LINE

- 66th St.
- 72nd St.
- 79th St.
- 86th St.
- 96th St.

IRT LEXINGTON AVE LINE

- 68th St.
- 77th St.
- 86th St.
- 96th St.
- 103rd St.

Estimated Cost - \$ 50,000,000

6. Accelerating Walkway System

The Times Square - Grand Central Shuttle would be replaced with an accelerating walkway system (AWS). This system will soon be demonstrated at Hoboken Terminal. The shuttle is the ideal first permanent installation.

Estimated Cost - \$ 25,000,000

This subway facelift program represents about a quarter of the effort needed to fully humanize New York City's greatest transportation asset - its subway system. Funds presently available are barely adequate to keep this system in good mechanical working order. Without a major infusion of Westway transfer funds for a facelift the subways will continue to depress and demoralize the vast bulk of the Manhattan work force and visiting population. The Westway transfer option is a windfall that will not be duplicated. The city's scarce resources can be stretched to include a much needed facelift for the subways, and for the West Side, through interstate transfer.

