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CITY

• WEEKLY •

Polaroid seeks to move home

Cambridgeport residents fear daily impact of 500 cars

By Theo Emery
GLOBE CORRESPONDENT

CAMBRIDGE - It is only a short distance down tree-lined Florence Street in Cambridgeport to the Bauhaus-style Polaroid building facing Memorial Drive, but Stash Horowitz can speak at length about what happens to the avenues leading to the corporation's former - and possibly future - headquarters.

At rush hour, he says, residential streets around the historic Polaroid building are clogged with traffic heading to the turnpike; cars cut through nearby neighborhoods seeking to shortcut the idling traffic. Polaroid wants to develop the vacant, 6-acre site and reoccupy its former headquarters building, but Horowitz warns that plans must be made to ease the traffic flow from the additional 500 cars expected each day or what he calls the "near gridlock" on Memorial Drive will spill over into his neighborhood.

"They're converting our streets into traffic arteries," says Horowitz, who lives on Florence Street. "We'd like to work coop-
POLAROID, Page 6

(over) →

Traffic impact of Polaroid move feared

THE BOSTON SUNDAY GLOBE • AUGUST 3, 1997

■ POLAROID

Continued from Page 1

eratively to get a development in here that works for everybody."

The vocal and often controversial cochairman of the Cambridgeport Neighborhood Initiative is taking on a company that many city residents and officials want to keep within Cambridge city limits. The company has 1,500 employees at the current headquarters in Technology Square, although only a fraction of them will move to Memorial Drive, and the company is among the top 10 contributors to city tax coffers each year, adding about \$2.9 million.

Development plans for the site, which might otherwise have gone unscrutinized by city officials, have been carefully examined by the 75-member neighborhood group composed of abutting residents. They have raised questions on a spate of issues including traffic congestion and possible hazardous waste at the site.

Bob Guenther, vice president of communication at Polaroid, said Polaroid has long considered Cambridge home and company officials believe fears about the project are unfounded.

"We pride ourselves on being a good neighbor," says Guenther. "That's been our history in Cambridge, and I don't think there's any change in that."

While some city officials fear strong neighborhood criticism could discourage Polaroid from using the site and might convince the company to move outside Cambridge, Horowitz is finding many allies in his quest to force officials to give a closer look to the project.

Julia O'Brien, planning director of the Metropolitan District Com-

mission that oversees Memorial Drive, said neighborhood concerns do merit attention.

"These areas are all highly congested intersections," she says. "It appeared that there would be an anticipated increase in traffic within a couple of blocks of those intersections."

Neighbors learned of the proposed development in May, when Polaroid announced plans for a joint venture with developer Spaulding & Slye to revamp the property. Details of the arrangement between the two companies have not been made public.

Polaroid plans to refurbish the building on Memorial Drive as its corporate headquarters, erect two six-story office buildings, and build a parking garage for more than 500 cars. In addition, as many as 30 units of housing are planned for a segment of the property bordering Pleasant Street.

The site has been empty since the last Polaroid employees moved to the company's current headquarters in Technology Square last year.

The only approval required by the city was permission from the Cambridge Historical Commission to demolish several buildings on the site, listed in the National Registry of Historic Places as a prominent example of international-style Bauhaus architecture.

Because there were no zoning changes or plans for such things as curb cuts or a larger garage that would have triggered an environmental review, neither Polaroid nor Spaulding & Slye is required to go before the Cambridge City Council for permits.

Nonetheless, neighborhood association members believe aspects of

the plan need more scrutiny. While Polaroid has agreed, at the City Council's urging, to study the impact on traffic that would be caused by the new garage, residents believe company officials have tailored their development plans to avoid submitting what is called an "environmental notification form" with the state Office of Environmental Affairs. That office could force Polaroid to undertake a more costly and time-consuming environmental impact review.

Fueling that suspicion is the fact that Polaroid backed away from a plan to sell the property for \$10 million when prospective buyer Equity Co. ~~refused~~ ^{demanded} as part of the sale agreement, to hold public hearings or submit any environmental approvals.

Environmental review "is a constructive part of the development process," said Rick Williams, president of Equity who has sued Polaroid for renegeing on the deal. "You can't do a development of this size without going to any public hearings or having an environmental review of the project."

While Polaroid already has cleaned up some hazardous waste on the site, Horowitz believes there could be other soil or lead contamination. Dover Stamping and Manufacturing used the Pleasant Street side of the site until the 1940s, while B&B Chemical, an adhesives company, was the original occupant of the main building. Horowitz believes the soil could be contaminated from either company or from soil used to fill in marshland along the riverbank.

In the 1980s, in fact, the environmental consulting firm Haley and Aldrich did find contamination on the site, according to documents obtained by Equity in connection with

its lawsuit against Polaroid. The environmental company performed soil analyses for prospective buyer Vertex Corp., which later pulled out of an agreement to purchase the property, forfeiting a \$500,000 deposit.

Last year, when Vazza Associates of Braintree sought to buy the property, after the deal with Equity fell through, a Haley and Aldrich analyst wrote in a memo to an architectural firm that had also been contacted by Vazza, that "contamination will be an issue" at the site.

In addition, the nearby Stop & Shop lot, which is also managed by Spaulding & Slye, has lead levels too high to allow the property to be used for residential housing, raising fears that lead levels on the Polaroid site may also legally prohibit construction of the proposed housing.

Responding to neighborhood concerns, City Council members have asked Polaroid to test the soil. But Guenther said there is no basis to fears of contamination.

"The only contamination we're aware of has been cleaned up," he said. "For anyone to speculate otherwise is nothing other than that: speculation."

Hamilton Street resident Steve Kaiser said that although he sees Polaroid dragging its feet when it comes to providing answers to the community, he sees the development moving in a positive direction.

"There's an inclination for all developers to avoid permits," said Kaiser, a traffic engineer who is undertaking an independent traffic study for the project. "You avoid the process; you speed things up. My sense is that the democratic process has to work. The ideal thing would be for the neighborhood to come to agreement with Polaroid, and we would then be in support of the project."

To remain a walkable city, Boston must limit parking

THE BOSTON GLOBE • FRIDAY, AUGUST 1, 1997

SHIRLEY KRESSEL

Boston is attractive in part because it is a historic, walkable city. Yet as enlightened cities invest in mass transit for the 21st century, Boston, the cradle of transit, is retrofitting for the automobile.

For decades, highways and parking garages in Boston have been built for suburban commuters and shoppers, with disastrous environmental impacts.

We are all aware of the damage caused by the traffic generated by parking availability: pollution, congestion, noise, and hazards to pedestrians. Less obvious is the damage to the physical and functional urban fabric. The actual parking spaces, and access to them, cause the most insidious harm to the walking city.

Parking garages destroy streetscape. Instead of doorways, windows, steps, and gardens, new buildings have garage entries and blank ramp walls that erode the lively street-face of the walking city, discourage pedestrian activity and cumulate in an unused, unsafe public realm. Pedestrian life is further diminished where garages provide direct internal entry into buildings.

In residential neighborhoods, parking is replacing gardens, closing alley space, filling ground-level floors

that should remain housing, occupying vacant lots that should be rebuilt, and dissipating the dense proximity of housing and commerce essential to pedestrian environments. The historic districts are filling up with parking for an incoming population accustomed to suburban, car-dependent lifestyles. We are suburbanizing behind what will become a screen of historic wallpaper.

Since the most effective point of control on traffic is parking capacity, a freeze was legislated in 1973 to restrict downtown parking construction and to meet federal air quality standards.

By 1977, litigation limited the freeze to spaces "available to the general public for a fee," exempting as "accessory parking" spaces for employees and patrons of businesses providing the parking. By thus circumventing the intent of the law, Boston has kept the freeze bank at 35,503 public spaces (existing spaces in 1973 plus 10 percent), while allowing construction of more than 30,000 new "accessory" spaces, not counting residential parking. Development pressures are again rising, and projects currently proposed within and beyond the freeze area include more than 6,000 parking spaces.

Parking pressure by any specific project is difficult to resist. Developers insist on ample parking, targeting a middle class averse to the perceived risks and inconvenience of mass transit. City agencies are eager to sup-

port development, usually striving to accommodate developers' wishes instead of negotiating for the broader benefit of the city.

Project by project, arguments for more parking seem compelling. But in the long term, they are counterproductive. Studies of business location decisions reveal that quality of life is a more important criterion than parking. Certainly the same is true of residential location. Boston's quality of life is extraordinary among American cities, but if current trends continue, we will destroy the very qualities that draw new businesses and residents.

We are competing with the suburbs on impossible terms. We cannot revitalize our cities at suburban parking levels, nor should we try to reconstruct the suburban lifestyle in the city. Instead, we need to reconstitute an urban culture that accepts the benefits of the walking city and build a middle-class constituency for mass transit. The cost of the driving city is the destruction of Boston's character and quality of life.

Because the problem is embedded in our culture of individualism, the solution will take a major public policy commitment.

First, city and regional agencies involved in environmental, transportation, and development issues should develop a comprehensive regionwide parking policy with strict quantitative limits. The city should perform a de-

spaces

tailed study of parking issues, including an expanded update of its 1987 parking inventory. Zoning, which currently specifies parking minimums, should use zero-parking as the base and require justification for new spaces. Transportation demand management should be required for new developments - for example, transit rather than parking subsidies, car pools, guaranteed ride and cab fare provisions, and shared parking space. Proposed new parking, currently evaluated on the basis of projected "demand" by developers and tenants, should instead be assessed by its impacts on the pedestrian environment.

Second, city planning and economic development, both now in the Boston Redevelopment Authority, should be separated. Guarding the overall welfare of the city and promoting individual development projects are often conflicting goals. Planning should not be entrusted to development interests, public or private.

Third, neighborhood residents should be educated on long-term impacts of parking policy and offered more appropriate options so they can make decisions that benefit their neighborhoods.

The question is not whether each individual project can justify its garage. The choice is this: In 20 years, will Boston be a first-rate city or a second-rate suburb?

Shirley Kressel is a landscape architect.

these reports. We have some reservations about soil-testing methods and the chemical profile studied, and are particularly concerned about the absence of heavy metal testing.

CNI adamantly maintains that soil-testing, including VOCs, lead, and asbestos, must be done, in the interest of public health and safety, *before* the site is uncapped, at the former locations of BB Chemical Co. (adhesives, 1936-1966), at Buildings #8, 2, 3 & 1, and Dover Stamping & Manufacturing Co. along Pleasant St. (sheet-metal fabrication and treatment, 1886-c.1950).

The MDC has determined that the traffic generated from a 500-plus car garage would be a significant burden on a road of the Commonwealth (MDC's Memorial Drive) and on key intersections nearby, and should require the filing by the developer of an Environmental Notification Form (ENF) and a full traffic study including mitigations (Cf. 3rd attachment).

CNI's traffic engineer, Steve Kaiser, is doing a traffic study. He will issue a progress report to the City Council on August 4. His prior communications to CDD on traffic issues connected with the Polaroid development, from May 27 through July 21, are included (Cf. 4th attachment).

We look forward to Polaroid's responses to the unanimous City Council order of June 23, and to our July 24 letter to Roger Norwood.

Several of our co-chairs will speak to the City Council at its August 4 meeting.

17 pages,
Submitted to City Clerk,
Hand-delivered 7/31
by Steve Horowitz

CNI Attachment #1

Cambridgeport Neighborhood Initiative
c/o Elie Yarden
143 Pleasant Street, 2A
Cambridge, MA 02139
(617) 491-5350

July 24, 1997

Ralph Norwood, Vice-President & Treasurer
Polaroid Corporation
575 Technology Square
Cambridge, MA 02139

Dear Mr. Norwood,

The Cambridgeport Neighborhood Initiative (CNI) is a group of seventy-five abutters and neighbors to the Polaroid site at 784 Memorial Drive, Cambridge. Proposed for this site are 285,000 sq. ft. of office space (which include the renovation and use of the 45,000 sq. ft. of historic building bordering the Drive).

It is our understanding that a 500-600 car garage will have two-way access onto two neighborhood residential streets, Pleasant St. and Putnam Ave. It is also our understanding that you propose to sell an acre or more to a housing developer to construct 25-30 housing units.

The CNI has invited representatives from Polaroid, Spaulding & Slye (your broker and future partner), and Cannon Associates (your architect for the project) to attend its public meetings to provide information so that we might assess better the impact of this large development upon the neighborhood. We are especially concerned with traffic, design, environmental issues, the proposed occupancy of the office towers, and possible mitigations of anticipated effects on the community.

After attending several meetings with CNI, Spaulding & Slye refused to participate further. Requests to have your architect share information have met with no response. We have not yet met with any representative from Polaroid Corp. It is our understanding that Polaroid is still the sole owner. Since we have a high regard for the reputation of Polaroid in our city, we are distressed by the lack of your participation.

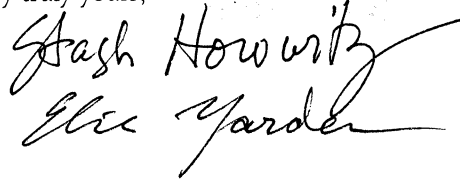
Equally disturbing is the statement made at a meeting, Monday, July 21, at Cambridge's Community Development Dept., by Paul Messina of Spaulding & Slye, that Polaroid Corp. would occupy 45,000 sq.ft. of the proposed 285,000, one-sixth of the total. In previous conversations with CNI and the City, Polaroid was mentioned as the primary tenant, occupying two-thirds of the proposed footage. Would you clarify this aspect of your plans?

CNI Attachment #1

Also, we would very much like a representative from Polaroid Corp., perhaps yourself, and from Cannon Associates, to attend the next public meeting of the CNI.

We look forward to a positive response.

Very truly yours,

Handwritten signatures of Stash Horowitz and Elie Yarden. Stash Horowitz's signature is written in a cursive style with a long horizontal stroke extending to the right. Elie Yarden's signature is also cursive and positioned directly below the first signature.

Stash Horowitz, Co-chair, CNI
Elie Yarden, Co-chair, CNI

copies: Cambridge City Council
City Manager Robert Healy
Assistant City Manager for Community Development Susan Schlesinger
Director of Traffic & Parking Susan Clippinger

CNI Attachment #2



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
METROPOLITAN BOSTON - NORTHEAST REGIONAL OFFICE

WILLIAM F. WELD
Governor

TRUDY COXE
Secretary

ARGEO PAUL CELLUCCI
Lt. Governor

DAVID B. STRUHS
Commissioner

July 31, 1997

Polaroid Corporation
750 Main Street
Cambridge, MA 02139-3583

Attn: James Harrison

RE: CAMBRIDGE - Polaroid Corp.
Memorial Drive

Dear Mr. Harrison,

The Department of Environmental Protection's Bureau of Waste Site Cleanup has recently been informed that the Polaroid Corp. site on Memorial Drive in Cambridge is earmarked for future re-development. We have been further informed that the proposed re-development includes extensive excavation of subsurface soil.

This site is the location of two separate "releases" of oil or hazardous material, which have been addressed under the Massachusetts Contingency Plan. Moreover, the site has a lengthy history of industrial and commercial use.

At such locations with an industrial history and proposed subsurface excavations, DEP encourages developers to ensure that adequate soil testing has been performed to provide assurance that the excavation, handling, and disposition of the soil is performed in a manner that protects public health and the environment. Failure to conduct this testing prior to excavating may result in considerable delay of the project. If adequate testing of the site has not yet been conducted, DEP recommends that it be done well in advance of the start of construction.

Based on our telephone conversation earlier this week, I understand that you intend to recommend that an environmental consultant be hired to evaluate the need for additional soil testing for this project. DEP requests that the results of any additional soil testing be forwarded to this office so that we can assure the public that future soil excavation will be done safely. If you have any questions about this letter, please feel free to contact me at (617) 932-7600.

Sincerely,

A handwritten signature in black ink that reads "Stephen M. Johnson".

Stephen M. Johnson
Chief, Site Management Section



The Commonwealth of Massachusetts
Metropolitan District Commission

CNI Attachment #3

20 SOMERSET STREET
BOSTON, MA 02108

WILLIAM F. WELD
GOVERNOR

ARGEO PAUL CELLUCCI
LT. GOVERNOR

DAVID B. BALFOUR, JR.
COMMISSIONER

TELEPHONE: (617) 727-5114
FACSIMILE: (617) 727-0891

R. Jeffrey Lyman, Director
MEPA Unit
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

June 23, 1997

Dear Mr. Lyman:

It has come to the attention of the Metropolitan District Commission that the Polaroid Company and Spaulding and Slye are proposing a new development at 784 Memorial Drive in Cambridge.

As we understand it, the development proposes the reuse of the original, historically significant, Polaroid building and the development of two new office buildings and a parking garage with more than 500 spaces. While the two existing curb cuts onto Memorial Drive are apparently unchanged, the development at this site can be expected to have a significant impact on Memorial Drive and the adjacent River Street and Western Avenue intersections. Each of these areas is a marginal traffic facility at this time due to peak hour volumes and resulting lengthy queues.

Given the volume of peak hour traffic proposed and the close proximity (200+ feet) of the Pleasant Street curb cut to Memorial Drive, it would appear that there is a significant new traffic burden on a road of the Commonwealth and that an evaluation of this burden and a program for traffic mitigation would be appropriate. Such an evaluation could best be accomplished through the filing of an Environmental Notification Form with back up traffic data and mitigation proposals.

The MDC would like to work closely with both the developer and the City of Cambridge and its neighborhoods to minimize the traffic impacts that will result from this project,

Sincerely,

Julia B. O'Brien, Director
MDC Planning Office

cc. D. Vickery, Spaulding and Slye

May 27, 1997

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*Stephen A. Kaiser
191 Hamilton Street
Cambridge, Mass. 02139*

Susan Schlessinger
Assistant City Manager for Community Development
57 Inman Street
Cambridge, Mass. 02139

CNI Attachment #4
(11 pages)

**SUBJECT: Traffic Implications of the Polaroid Site
Development on Memorial Drive**

Between press reports, community meetings, and phone conversations, I understand that the City of Cambridge has requested its traffic consultant, Rizzo Associates, to review at least some of the traffic aspects relating to the proposed office and housing proposal for the Polaroid site on Memorial Drive.

I do not know what is the scope of the Rizzo work, but I would suggest that a fairly precise scope and work product should be the goal, so that we can avoid another Alewife. The proposed 500-car garage can be expected to release about 250 cars an hour onto Pleasant Street during the afternoon peak hour, with 70-75 % of it headed towards the Turnpike or other points to the West. The resulting 175 cars would encounter long vehicle queues on both Memorial Drive and Putnam Avenue. Currently, there is no space for more traffic and no traffic mitigation plan. On Memorial Drive, another 175 cars joining the queue would extend the traffic backup by 2000 feet. Since today's queues regularly extend to Strawberry's and often back to Magazine Street, the queuing problem should be obvious.

The afternoon peak hour is most significant for congestion problems and for traffic diversion through the adjacent residential community. The morning peak hour would reasonably be expected to operate without new congestion on the Cambridge side of the Charles River, but the added traffic problems will occur at the bottlenecks on the Boston side, at the Turnpike exit. The morning problem in Cambridge will be one of safety for school-children, since entering traffic would likely pass through two intersections on Putnam Avenue which today have traffic safety officers and a school bus stop.

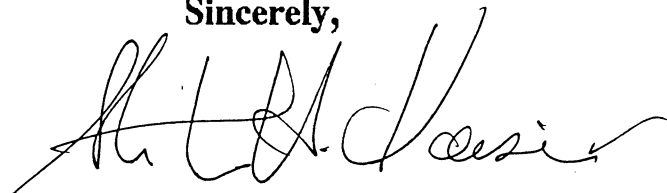
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We need to develop a mitigation plan for the 250 peak hour trips. Rizzo should explicitly consider traffic queues and diversions through the neighborhood -- topics which were ignored by the proponents of Stop and Shop. The location of driveways should be assessed, including the desirable relocation of the existing Putnam Avenue and Pleasant Street driveways. The possible use of Florence Street for traffic heading South or East should also be evaluated. It appears that the current development strategy is to display a "building only" plan, in order to avoid any environmental or City Council review. At some later time, possibly during building construction, there would be submissions to rebuild entrance drives, curbcuts and sidewalks. Such a segmented approach is bad planning process. I would hope that we could agree that the integrity of the planning process should be a priority for respect by all sides.

Currently, Spaulding & Slye/Polaroid has retained a traffic consultant to perform an analysis of zip codes of existing Polaroid employees. Surely, the developers should be expected to provide a more substantive traffic assessment, and such information should become part of the City's overall analysis. At Alewife, Spaulding and Slye did prepare a fairly thorough traffic analysis -- one I found very useful -- but City officials did not seem to appreciate the value or the effort of that study. We should not repeat that error in Cambridgeport.

The City should have an active but neutral presence on the Polaroid traffic problem. The City should not become an advocate for Polaroid at the expense of the neighborhood and should not be an advocate for the neighborhood at the expense of Polaroid. Furthermore, the City should be working to develop traffic expertise on the staff of Community Development and the Traffic & Parking Department, without having to rely so exclusively on outside consultants. The more people we have being paid directly by the taxpayer to serve the taxpayer, the better our city services should work. In the meantime, the City should assemble its best consultant and city expertise to deal with the many traffic problems in Cambridge.

Sincerely,



Stephen H. Kaiser
Traffic and Transportation Engineer

cc. S. Clippinger, Traffic & Parking
P. Dietrich, Planning Board

*Stephen H. Kaiser
101 Hamilton Street
Cambridge, Mass. 02130*

To : Susan Schlessinger, CDD

From : Stephen Kaiser, Traffic Engineer,
Cambridgeport Neighborhood Initiative

SUBJECT: Scope for Traffic Study, 784 Memorial Drive

The May 30 scope for the traffic analysis needs to be made more precise, in order that all parties understand the work that needs to be done. As I understand it, Rizzo Associates will be undertaking that part of the study which CDD has identified as the City's responsibility, while the bulk of the responsibility lies with the Developer. However, the developer has reportedly announced that he will no longer meet with the neighborhood, so an important element of study coordination may be lost. Has Spaulding and Slye retained a traffic consultant yet? Have they had the opportunity to review and accept the City's scope?

The scope itself needs to be more specific with regard to study area, types of traffic impacts assessed, assessment of existing conditions, and effectiveness of mitigation. For example, the study area should include :

- * Memorial Drive -- Western Avenue to Magazine Street
- * Putnam Avenue -- Western Avenue to Magazine Street
- * Pleasant Street -- Memorial Drive to Putnam Avenue
- * River Street -- Soldiers Field Road to Putnam
- * Western Avenue -- Putnam Avenue to Memorial Drive

The assessment of existing conditions includes peak hour traffic counts, morning and afternoon, calculation of intersection capacity conditions, and observations of typical queue lengths within the study area. Intersections which do not regularly clear traffic in one signal cycle should be identified. Past studies of the area which may be relevant may be the University Park (Forest Cities EIR), Stop & Shop EIR, as well as a traffic study made several years ago by Vanasse-Hangen for the Genzyme building in Allston.

In my May 27 letter to you, I indicated an estimated peak hour flow of about 250 cars from the parking garage. Because today there is no way for these vehicles to go without either running into backed up traffic, or using local streets and parking areas for cut-throughs, the mitigation plan must be

very specific as to how approximately 250 trips will be removed from the existing local circulation system -- either through on-site changes in trip-making from the 530-car parking garage, or by Polaroid/Spaulding & Slye contributions to the effectiveness of the Charles River Transportation Management Association.

A 3 to 5 year evaluation of intersection accidents as reported should include an assessment of accident rates and comparison with city averages. A safety assessment should also be made of the project driveways, with an identification of how much traffic would be expected to use each driveway. The main driveway from Pleasant street should be studied very closely, since I cannot see why the current driveway design would be in the interests of either the neighborhood or the drivers who would use it. The driveway involves a 120-degree acute right-hand turn for any traffic leaving the site to enter Memorial Drive from Pleasant Street. This lane is only 9 feet wide today, so any vehicle would be required to swing out into the opposite direction of traffic, which could include vehicles waiting to get into the site. This outbound right hand turn would be extremely difficult for even the smallest of cars. Trucks are not a question, because they are not allowed on Memorial Drive, but the inability of cars to make a safety turn at the proposed driveway should be seen as a serious defect in the current design.

No city permits should be given to the developer of the site, without the approval and stamp of a Registered Professional Engineer who would put his name and reputation on the design of the driveway.

I consider the driveway design so defective -- and quite obviously so -- that I fully expect the developer to approach the city at some time in the near future to remedy the situation. For this reason, the development of 784 Memorial Drive should not be considered devoid of driveway permit action by the City. City officials should recognize the inadequacy of the proposed driveway plan. Their evaluation should include the May 21 plan from the architect showing a relocated driveway on Putnam Avenue, as evidence of the developer's intent to relocate the driveway. The developer has never denied the desirability of relocating the driveways -- he has instead stressed his desire to avoid City Council and any other public review of the driveways.

Overall, the contribution of the developer to understanding the traffic problems is crucial to the public process. Rizzo Associates cannot do a thorough analysis of the situation by themselves, and CDD is not staffed to either prepare or analyze in detail such a study. At the moment, I can conceive of a general strategy for reaching a resolution of traffic problems and mitigation, but I cannot see clear evidence of a strategy by the City of Cambridge to implement such a solution.

June 17, 1997

Stephen H. Kaiser
191 Hamilton Street
Cambridge, Mass. 02139

Susan Schlessinger
Assistant City Manager for Community Development
57 Inman Street
Cambridge, Mass. 02139

**SUBJECT: Addendum for Traffic Study :
Polaroid Site on Memorial Drive**

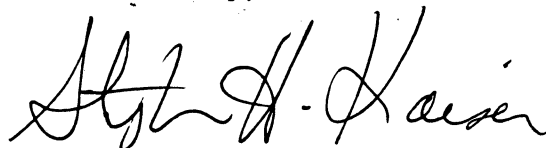
This letter is intended as an addendum to my comments on June 12 on the scope for the traffic study of the Polaroid site at 784 Memorial Drive. Clearly, Polaroid cannot be responsible for the traffic implications of other development sites, so the City of Cambridge should provide estimates of the peak hour trips from University Park (under construction) and Bread & Circus which would be added to existing 1997 traffic counts.

The Cambridgeport Neighborhood Initiative is also planning to make a traffic video, which among other things will provide visual evidence of the congestion which now occurs on Memorial Drive and Putnam Avenue. This graphic evidence should provide the base condition of traffic queuing from which the various traffic consultants can assess the situation.

I propose to make my own traffic counts and field observations, from which to assess the capability for any improvements in traffic signal timing. My primary focus will be on long signal cycle times and inefficient use of approach lanes, which is a common problem in Cambridge.

In my opinion, both proposed driveways in the most recent developer's plan are highly suspect on traffic safety grounds and no sober and self-respecting professional engineer would ever stamp such plans. Therefore, I believe that permits for new driveways will be needed for this site, and the Community Development Department and Traffic & Parking Department should plan accordingly, so that the City Council acts with the best possible information and analysis.

Sincerely,



Stephen H. Kaiser

*Stephen M. Kaiser
191 Hamilton Street
Cambridge, Mass. 02139*

Susan Clippinger
Director of Traffic and Parking
57 Inman Street
Cambridge, Mass. 02139

**SUBJECT: Traffic Measurements with flows and timings
at Alewife Brook Parkway & Mass.**

Enclosed is a BETA disk for a traffic measurement program called MOUSE-MEASURE which I have been developing for use with a laptop computer and a mouse. The idea is to place the computer on a table or other firm support and click the mouse for any rapid series of traffic measurements which are needed. One can measure vehicle, bicycle or pedestrian flows -- recording both the nature of the event and its time.

The program package contains many small files, and it has fairly minimal requirements, such as a PC 386 with DOS capability. The user can select different modes from an initial menu, and after recording data in the field can save all the data to a disk. This raw data is in ASCII form and after some simple formatting, the data can be imported directly into a spreadsheet template for any calculations of timings and flow rates.

I have attached both numerical and graphical printouts of some initial data I gathered at the intersection of Alewife Brook Parkway and Mass Avenue on May 1. In all cases, I was measuring the combination of both northbound lanes on Alewife Brook Parkway, and the queue extended almost as far as Whittemore Avenue, even after 6 PM. As a result, all cycles were saturated with demand.

The signal timings show cycle lengths in the range of 142 to 162 seconds, with the longer cycle occurring whenever there was an actuation of the 20-second pedestrian phase. This time is longer than I observed last spring, when it appeared that the cycle length had been reduced to a range of 122-142 seconds. I believe that there has been some cycle "creep" -- probably by someone who still believes in the value of long signal cycles. As my data shows, long signal cycles are inefficient in terms of capacity, as well as delay. I strongly urge that these signals be retimed by the City of Cambridge to permit 100-second normal operation in the peak hour and 120-second

maximum with pedestrian actuation. Such timing would bring this location into compliance with the signal timing policy of the City, as you presented in your April policy statement.

I have used the mouse measurement program to plot both total flow and the saturated lane flow, which requires that for each lane we begin counting after the fourth vehicle. For two parkway lanes, I have started counting with vehicle #9. Cycle #1 began in the middle of a cycle and was a practice run to get used to the mouse.

The best measurements occurred in cycles 2 through 8 and the graphical results show the cumulative flow rates for saturated measurements, beginning at vehicle #9. Cycles #2,4,5 and 6 all show evidence of a drop-off in flow rates in the latter half of the green cycle. Cycles 3 and 7 show a drop-off in the last 10 % of the green phase, while only cycle #8 shows the traditional expectation that the flow rate remains continuous after the 8th car.

Clearly, there are inefficiencies here based on the long phases and cycles in the current signal timing. Not only are delays very long but the second half of the saturated vehicle movement is moving at a rate of only 1435 vph, compared to 1850 for the first half of the phase -- a drop of 22 %. I also calculated the lost time for the first 4 cars in each lane, and it was about 1.5 seconds, which compares reasonably well with other modern measurements. However, the equivalent lost time due to the less efficient flow of the last half of the phase is 5 seconds per cycle, which is three times as great.

Since every cycle had an overloaded queue, the explanation must lie elsewhere. I did observe the turn slots overflowing (a key deficiency of long signal cycles) but there are probably other factors which contribute to the overall loss of lane efficiency at the end of long phases. However, the data does show that there will indeed be efficiency improvements at Alewife and Mass by switching to shorter cycle lengths. If this letter is insufficient to explain the problem of delays and inefficiency from long cycle lengths, I would be happy to meet with your signal engineers and discuss the issue further.

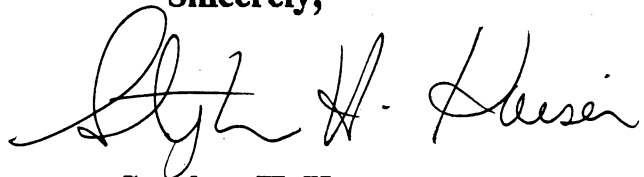
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A few further notes on the MOUSE-MEASURE disk. The program is usable directly as a floppy, but at some point the disk will run out of storage space for data -- a total of about 2 to 4 hour's worth. Installing the program on a hard disk allows much more room to store data, as well as faster operation. Make sure you have a disk cache in operation, otherwise the screens will be very slow on display.

The spreadsheet template is still under development but should be ready for distribution in a couple of weeks. The current disk includes measurement capabilities for dense pedestrians (mode #21) and for vehicle turning movements (#81), as well as an editor to format the data in a way that is compatible with spreadsheets (CSV format). By the end of the month, I hope to have added several modes, including bicycles, escalators, gap acceptance, etc.

I expect to use the MOUSE-MEASURE procedures in my analysis of the Polaroid parcel on Memorial Drive. Also, through WalkBoston, I hope to make the program available to ITE and other interested planners and engineers, including participants at the ITE convention in Boston in early August.

Sincerely,



Stephen H. Kaiser
Traffic and Transportation Engineer

cc. CDD
Community Groups

*Stephen A. Kaiser
191 Hamilton Street
Cambridge, Mass. 02139*

Susan Schlessinger, Asst. City Manager for Community Development
Susan Clippinger, Director, Traffic and Parking
57 Inman Street
Cambridge, Mass. 02139

**SUBJECT: Work Plan for Traffic Study :
Polaroid Site on Memorial Drive**

This work plan represents my current determination of what work I need to do regarding the traffic implications of the Polaroid site development at 784 Memorial Drive. At our meeting on July 21, I may gain additional ideas on what other work needs to be done or what elements of the following list can be handled by others.

I have a copy of a "Traffic Analysis Scope," dated May 30, 1997, apparently prepared by CDD but with no further authorization or indication of official approval. In response, I commented twice to CDD, on June 12 and June 17, and I believe you have received both of these letters.

My starting point from a traffic viewpoint is that in the afternoon peak hour the traffic is congested on Memorial Drive past the front of the site and along Putnam Avenue at the rear of the site. In traffic terms and in physical terms, there is no room for any more cars and no amount of political or planning persuasion can provide for any new cars to the area without mitigation. This mitigation must come first and it must be effective -- we cannot have a traffic disaster and then seek to desperately find solutions after the problems are well established.

The work program will focus on mitigation specifically -- the needs, methods and effectiveness. The beginning point will be the presumption that we have no traffic on the site but we can build up allowable traffic as we are able to demonstrate effective mitigation. In effect, we begin with a zero-car parking and gradually build it up.

The study area will include :

- * Memorial Drive -- Magazine Street to Western Avenue
- * Putnam Avenue -- Magazine Street to Western Avenue
- * Pleasant Street -- Memorial Drive to Putnam Avenue
- * River Street -- Soldiers Field Road to Putnam Avenue
- * Western Avenue -- Putnam Avenue to Memorial Drive

The initial step will be to gather up past traffic study reports for the area, notably the 1994 EIR for Stop & Shop and an earlier traffic study done for the Genzyme development on Soldiers Field Road. Additional counts for update and spot check purposes will be made, especially for the four key locations of Memorial at River and Western plus Putnam at River and Western. I also hope to document through photographs and a brief video clip the congestion conditions along Memorial Drive and Putnam Avenue.

The City should also be responsible for providing traffic volumes to be generated by non-Polaroid development, such as Bread & Circus and University Park.

The first form of mitigation I will pursue will be to determine what forms of traffic signal timing efficiencies can be achieved at the signals along Memorial Drive, and Putnam Avenue, as well as the linked signal at the Turnpike exit on Soldiers Field Road. From my general observations of cycle lengths of up to 140 seconds, I suspect that these very long and inefficient cycle lengths can be improved on, and whether benefits of 5% or 10% are possible only detailed measurements and analysis will tell. I expect to use computer methods of measurement and analysis to determine what optimization can be achieved in signal timing.

The second form of mitigation is on-site trip reduction, especially in the peak hours. Unfortunately, recent data on trip generation rates is rather meager, especially for Cambridge. Too much past data has been gathered by survey and not enough by direct measurement. It may be necessary to make direct garage flow measurements at Tech Square, including the effectiveness of designated ride-sharing parking spaces and other inducements to reduce the amount of SOV commuting.

The third form of mitigation is more difficult to control and predict, but it includes off-site mitigation in the form of getting other drivers to change their driving patterns. For example, if Polaroid can persuade an employee of another firm in Cambridge to carpool rather than use Memorial Drive, the traffic impacts are virtually the same as if Polaroid persuaded one of its own employees at the 784 Memorial site to do the same thing.

In terms of both on-site and off-site trip reduction, my effort will not be the production of a specific plan, since the project proponent would be in the best position to affect employee commuting choices. Rather, I will - and I hope the City will too - concentrate on identifying different mitigation methods and verifying their effectiveness and accuracy, as well as highlighting those methods which are either least effective or most likely to be fictitious, ephemeral or otherwise vacuous.

In terms of overall mitigation targets, I believe that the goal should be 250 reduced trips in the peak hour (or increased traffic signal capacity at the bottleneck). There is a legitimate question if I determine that improved signal timing will allow for a capacity increment for Memorial Drive and/or Putnam Avenue : should all of these improvements be credited to the Polaroid site, or should they also include allowances for any other local development in the area, such as Bread and Circus, University Park, the David Clem project in Cambridgeport, or any building currently vacant which might generate new traffic? How about pedestrians using Memorial Drive?

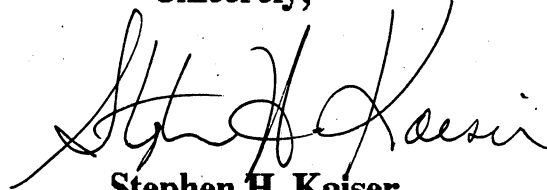
SAFETY :

A 3 to 5 year collection of intersection accidents for the study area should be the responsibility of the City of Cambridge. Once this data is available for the traffic engineers, we can calculate accident rates and assess the safety situation.

The main driveway into the site occurs at a very acute angle, making existing right turns almost impossible without swinging well out into the opposing lane on Pleasant Street. I find this driveway design totally unacceptable, but we should ask the design engineer for the developer whether he concurs and would be willing to put his professional stamp on the proposed design,.

While it is clear that Vanasse & Assoc are expected to prepare a traffic study for the developer, it is not clear whether this study will be sufficient to meet the requirements of the City Council order that the City Manager prepare a traffic study. What is the role of Rizzo and Associates? Are they only to review the developer's report? Will they also review my report for the Cambridgeport Neighborhood Initiative? Will they review any other traffic-related submissions from the neighborhood? What is their scope of work?

Sincerely,



Stephen H. Kaiser
Traffic Engineer

The Cambridgeport Neighborhood Initiative

PROGRESS REPORT ON PROPOSED POLAROID DEVELOPMENT,
784 Memorial Drive,

Prepared by CNI Co-Chairs,
Daphne Abeel, Gordie Fellman, Stash Horowitz, Anastasia Leotsakos, Elie Yarden

July 31, 1997

RECEIVED BY
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To the Honorable, the City Councillors:

The Cambridgeport Neighborhood Initiative (CNI) had its fifth public meeting on Wednesday July 9, attended by 32 people. No representative from Polaroid, the owner of the property, nor from Spaulding & Slye, the broker and putative future partner, attended. Both were invited. Also not present but invited was Polaroid's architect, Cannon Associates.

After several unsuccessful attempts to contact seniors executives from Polaroid and Spaulding & Slye, the CNI wrote a letter to Roger Norwood, Polaroid Vice President & Treasurer (their executive in charge of the project) urging him and the architect to participate in our next meeting, with more detailed architectural plans. (Cf. 1st attachment)

A meeting of CNI with CDD and traffic engineers from Robert Vanesse Associates (contracted July 9 by Polaroid), Barry Pell of Rizzo Associates (the City's traffic consultant), and Steve Kaiser (traffic engineer for CNI) occurred Monday, July 21.

At this meeting, Paul Messina, Senior Vice President of Spaulding & Slye, said Polaroid has made a commitment to occupy the front historical building, 45,000 sq. ft. of the 285,000 sq.ft. development, less than one-sixth. Rob Dickey, project manager for Spaulding & Slye, said that the number of parking spaces in the garage could be as high as 600 plus (using the standard criterion of two spaces per 1000 sq. ft.). CNI has addressed its concerns about this in the above letter.

The Department of Environmental Protection's Waste Site section chief, Stephen Johnson, has written a letter to Polaroid's chief engineer, recommending that soil-testing of areas with a prior industrial/chemical use history be properly tested *before* any excavation proceeds (Cf. 2nd attachment).

CNI participated in a meeting held on Wednesday, July 30, at CDD during which several City officials offered explanations of the reports on two previous spills and clean-ups on the site, involving six buried tanks, 1000-2000 gallons each, containing toluene and 1,2-dichloroethane (DCE) under and near Buildings #7 and 4).

There was insufficient time at this meeting to express all of CNI's environmental concerns, and we anticipate working with City officials further to obtain a fuller understanding of

Consent Communications #68

S-488

Communication was received from Stash Horowitz, transmitting a progress report on proposed Polaroid development at 784 Memorial Drive.

In City Council August 4, 1997

PLACED ON FILE