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November 21, 1995

D.C. Zoning Commission
441 4th Street, N.W.
Suite 210
Washington, D.C. 20001

DISTRICT OF COLUMBIA
OFFICE OF ZONING
NOV 21 12 25 PM '95

Re: Zoning Commission Case No. 95-4
Union Station/North Capitol Street

Dear Members of the Commission:

I am enclosing copies of the cover page, the table of contents and the executive summary of the Union Station/North Capitol Street Transportation Study prepared for the Federal City Council by Barton-Aschman Associates. The study was referenced during my testimony at the public hearing and the Commission requested these excerpts from the study for the record.

Note that the traffic analysis indicated that future traffic congestion in the area would be primarily due to the high volumes of through traffic and not from development in the area (see page iii). The study also noted that a shuttle bus system would effectively expand the range of the Metrorail system and that a transportation demand management program could effectively remove vehicles from the road system (see pages iii-iv).

Sincerely,

Steven E. Sher
Director of Zoning Services

Enclosures

ZONING COMMISSION
CASE No. 95-4
EXHIBIT No. 95

ZONING COMMISSION
District of Columbia
CASE NO.95-4
EXHIBIT NO.95
11/21/95

Union Station/North Capitol Street Transportation Study

Washington, D.C.

DISTRICT OF COLUMBIA
95 NOV 21 PM 2:25

Prepared for

Federal City Council

Prepared by

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June 1993

ZONING COMMISSION
CASE No. 95-4
EXHIBIT No. 95

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The Council created a project Technical Committee, with representatives from the public and private sectors, to oversee the work of the consultants. The groups represented on the Technical Committee are:

- Federal City Council
- District of Columbia Office of Planning
- National Capital Planning Commission
- Federal Highway Administration
- Federal Transit Administration
- General Services Administration
- District of Columbia Department of Public Works
- US Department of Transportation, Office of the Secretary
- Union Station Redevelopment Corporation
- Washington Metropolitan Area Transit Authority
- Advisory Neighborhood Commission 6A
- Amtrak
- Architect of the Capital
- CSX Realty
- JBG Associates
- Quadrangle Development Corporation
- Greenbaum and Rose

The Federal City Council would like to thank all of the individuals and organizations who participated in this study, as well as our consultants, whose technical expertise and good judgment are much in evidence in this final report.

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Executive Summary

Executive Summary

The objective of the Union Station/North Capitol Street Transportation Study is to assess the transportation implications of large-scale commercial redevelopment of the area immediately north and west of Union Station to primarily C-3-C zoning. The intent of this study is not to suggest limits on development in the study area. A 2010 forecast year was chosen for the transportation analysis because it coincides with regional travel estimates by the Metropolitan Washington Council of Governments (MWCOG) that provide a context for evaluating study area travel. The study area is bounded by D Street on the south, North Capitol Street on the west, New York Avenue and Florida Avenue on the north, and the railroad right-of-way and Second Street, NE on the east. This transportation study includes an analysis of existing traffic conditions in the area; access issues; the impact of traffic generated by various levels of development in the study area, and by overall growth in the central employment area (CEA) of Washington on the transportation infrastructure including roadways, Metro and commuter rail lines, and the pedestrian system; parking issues; the traffic impact on the adjacent neighborhoods, a traffic impact mitigation program, and urban streetscape guidelines. The study also presents a capital improvement program (CIP) that includes transportation investments needed to support growth in the study area and other parts of the CEA. Elements of the CIP include roadway construction and widenings, traffic signal installation and operation adjustments, and streetscape elements. A transportation demand management (TDM) program and a circulator bus system are also presented to improve transportation system performance. Financing options to implement the improvements are also presented.

A summary of the major findings and results of this study follows:

- The study area currently consists of commercial, industrial, low density residential, government/institutional, and vacant developable land uses. The predominant zoning categories are C-3-C, C-M-3, M, and C-2-A. Approximately 12,000 people were employed in the study area and about 160 people resided in the area in 1990.

- Existing traffic conditions in the study area can be described as congested during the morning and evening peak commuter hours. Intersection capacity analyses revealed that 11 of 15 key intersections operated at or above saturated conditions (level of service E or F) during either one or both of the peak hours.

- There are presently 5,862 off-street parking spaces in the study area. Off-street parking utilization was observed to be about 75 percent. There are 1,204 on-street metered, free, or Senate permit parking spaces. The on-street spaces are fully utilized south of M Street and partially utilized north of M Street.

- Pedestrian activity is relatively light in the study area with the heaviest concentrations occurring adjacent to the portals of Union Station around the intersection of Massachusetts Avenue and First Street, NE. Bicycle volumes in the area are minimal.

- The transportation study evaluated three development growth scenarios assuming primarily C-3-C zoning for the area: (1) full buildout of the study area to its maximum permitted floor to area ratio (FAR) which yields 21.375 million square feet of development supporting 86,000 employees, (2) full buildout of the study area to 67 percent of its maximum FAR which yields 17.7 million square feet of development supporting 72,000 employees, and (3) partial buildout of the study area to support 50,000 employees within 11.85 million square feet of development. The estimates of commercial space and FAR were based upon an analysis conducted by the District of Columbia Office of Planning (DCOP).

- A review by the Technical Committee of the development assumptions, market conditions, and overall growth projections for the CEA of Washington concluded that the first two development growth scenarios are not reasonable projections for 2010. Therefore, the findings and results of this study are primarily focused on the 50,000 employee scenario.

- The 11.85 million square feet of commercial development assumed for the 50,000 employee analysis consists of 4.2 million square feet of existing commercial space that is expected to remain in place, 6.0 million square feet of planned development, and 1.65 million square feet of new development on land for which there has been no planning.

- In 1990, there were 12,000 employees in the study area. By late 1992 there were 22,000 employees with the opening of the Federal Judiciary Building, Postal Square development, and the American Psychological Association building. Additional development in the study area is projected to add another 28,000 employees by 2010 for a total of 50,000.

- MWCOG projects an employment growth of 102,700 in the CEA by the year 2010. This represents a growth in CEA employment from 454,600 in 1990 to 557,300 in 2010. Approximately 37 percent of the CEA employment growth would occur in the study area (assuming 38,000 new employees in the study area from 1990).

- It was estimated that 57 percent of the study area employment in 2010 would occur north of H Street. The remaining 43 percent of year 2010 study area employment would occur south of H Street.

- 50,000 employees in the study area would generate approximately 36,800 daily work-related automobile trips, and 33,500 daily work-related public transit trips. This trip generation is based on a transit mode share of 39 percent and an auto occupancy average of 1.4.

- Traffic analysis results indicate that congested conditions on principal area arterials will persist to a greater degree in the future, primarily due to the high volumes of through traffic oriented to and from other areas in downtown Washington and not specifically related to the level of development in the study area. Peak hour traffic assignments revealed that demand along major travel routes will be significantly greater than the capacity of the highway system. This will force traffic demand to the "shoulders" of the peak hour creating several hours of congested travel.

- Union Station Metrorail Station capacity is sufficient to accommodate increased transit demand from build out of the study area. The Washington Metropolitan Area Transit Authority (WMATA) schedules service on each Metrorail line to match capacity to demand at the peak-load point. Union Station is at the peak-load point on the Red Line. Increased ridership to Union Station would require increasing the amount of service operated.

- A circulator bus system would connect the Union Station Metro station to the northern portion of the study area, thus extending the range of

this Metrorail station. The circulator bus would accommodate approximately 2,500 daily riders. With a circulator, approximately 1,200 riders who would otherwise arrive by automobile would use transit. By attracting these new transit riders, the circulator would increase the transit mode share of the study area employment to 41 percent and would remove 800 daily automobiles from the street system. Based on the same 1.4 auto occupancy and a 41 percent transit mode share, 50,000 employees would generate approximately 36,000 daily work-related automobile trips and 34,700 work-related transit trips.

- An effective transportation demand management (TDM) program in the study area, in addition to a circulator bus program, could increase the transit (and other non-auto) mode share to 45 percent and the auto occupancy to 1.6. The TDM actions could include a rideshare matching program, transit and non-motorized travel incentives, preferential parking, subsidized HOV parking, flexible work hours, and an information dissemination program. With this program the 50,000 employees would generate 29,000 daily work-related automobile trips and 38,200 daily work-related transit trips. In effect, 7,000 more daily vehicles would be removed from the road system and 3,500 more daily work-related public transit trips would be added.

- Recommended improvements to the roadway system address both regional and local traffic concerns. Regional traffic improvements will remove bottlenecks in the highway system. Local street improvements will improve access to and from the study area and circulation within the area. The roadway improvements are described below:

  Regional Improvements
  - New York Avenue/Florida Avenue grade separation.
  - Widening of North Capitol Street to create left turn lanes between Florida Avenue and G Street.

  Local Improvements
  - Widening of M Street and conversion to two-way operation between North Capitol Street and Florida Avenue.
  - Construction of Second Street, NE west of the railroad tracks between Florida Avenue and M Street.
  - Extension of N Street from First Street, NE to new section of Second Street, NE.
  - Widening of G, K, and L Streets in the study area

  - Widening of First Street, NE between Florida Avenue and K Street.
  - Modifications to First Street, NE south of K Street.
  - Construction of a north-south serviceway midblock between North Capitol Street and First Street, NE.

- Existing traffic controls at intersections within the adjacent neighborhood east of the railroad tracks already discourage commuter traffic from using more residential east-west streets such as L Street, G Street, F Street, and E Street. Recommended street modifications to L and M Streets are intended to channelize east-west area traffic onto arterial and collector routes. Traffic levels within the neighborhood should be monitored as new projects in the study area are completed to determine the need for further mitigating actions. Enforcement of the existing permit parking program will effectively prevent non-residential parking on the neighborhood streets.

- A new second Metrorail station in the study area on the Red Line over M Street would increase the transit mode share of the study area employment to 48 percent (assuming 1.4 auto occupancy and no TDM program) and 52 percent (assuming 1.6 auto occupancy with a TDM program). However, a new station does not appear to be needed based on 2010 ridership projections. The number of daily trips to and from a second Metrorail station would be about 15,500. However, two-thirds of these trips would be diverted trips by people who already use Union Station Metrorail station. While it is unlikely that the employment level in the study area will exceed 50,000 by 2010, it was estimated that a new Metrorail station may be viable if employment exceeds 50,000 sometime beyond 2010. When future employment projections for the study area exceed 50,000, further study should be conducted as to the benefits of a new Metrorail station.

- Pedestrian system improvements recommended to improve circulation and the pathways to Metrorail include:

  - Widening of sidewalks on First Street, NE.
  - Redesign of the north entrance to the Union Station Metrorail station on First Street, NE.
  - Opening of the Metrorail pedestrian tunnel from Union Station to the H Street portal; moving walkway is not essential.

- Enhancement to railroad underpasses on M, L, and K Streets.
- Construction of a north-south serviceway in the blocks between North Capital Street and First Street, N.E. to improve interparcel access.
- Visible demarcation of crosswalks at all signalized intersections.

- If the study area were to be developed under existing zoning, primarily an even split between C-3-C and C-M-3 categories, the transportation implications would be essentially the same as the rezoning scenario analyzed in this study. All of the infrastructure improvements recommended in this study would still be required. While there is only a 0.5 difference in FAR between C-3-C and C-M-3, there is a significant difference in the parking requirements between these two zoning categories. C-3-C requires one space per 1,800 square feet while C-M-3 requires one space per 800 square feet. Buildout under the existing zoning would permit 35 percent more parking spaces than the total number of spaces required under the rezoning scenario.

- C-3-C zoning requires 1 space per 1,800 square feet of development. Meeting these minimum requirements would only provide sufficient parking to accommodate the projected vehicle trips to the study area if most of the undeveloped land in the area was utilized for surface parking and a TDM and circulator bus program was implemented. If a second Metrorail station was built, surface parking would still be required to meet the parking demand. This study has assumed transit use and auto occupancy levels that can be considered optimistic for this area of the City; any further reductions in auto travel may not be reasonable. As the area builds out beyond the projected levels, the availability of surface parking will be limited. With this in mind the parking requirements for sites within the study area may need to be evaluated, based on their proximity to Metrorail, to determine if more than the minimum parking required by the zoning code is necessary for the feasibility of the project. Providing adequate parking within the study area is one way to reduce the likelihood that commuters to the area will park in the residential neighborhoods.

- Streetscape guidelines are suggested to encourage a local identity through common elements consistently used throughout the study area. These elements include lighting, sidewalk paving, trees and landscaping, and street furniture.

- The capital improvement program (CIP) required to support growth in the study area is estimated to cost $46 million. The annual operating costs of the recommended circulator bus system would be $400,000. The annual cost of providing a 50 percent reduction in parking fees for all high occupancy vehicles is estimated to be approximately $3.5 million. Providing a $15 a month subsidy to all transit riders who work in the study area would cost approximately $3.9 million annually. Potential funding sources are the Federal Highway Administration, Federal Transit Administration, District of Columbia, and developers in the area.

- The establishment of some form of transportation improvement district (TID) is recommended to direct the implementation of the CIP. The Technical Committee favors a TID option that calls for initiating and administering the local transportation demand management program, including operation of the circulator bus service.