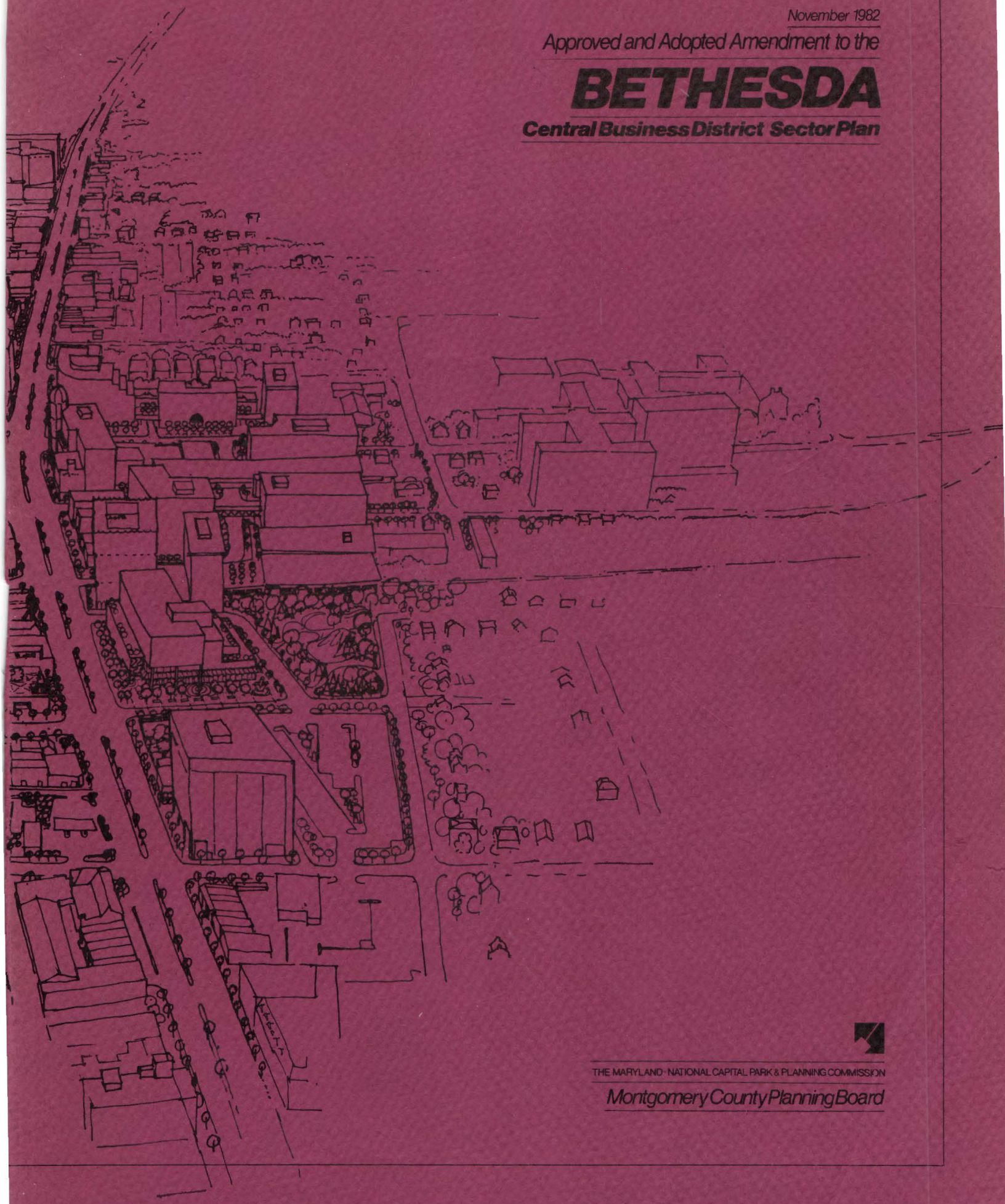
November 1982

Approved and Adopted Amendment to the

BETHESDA

Central Business District Sector Plan



THE MARYLAND-NATIONAL CAPITAL PARK & PLANNING COMMISSION

Montgomery County Planning Board

ABSTRACT

TITLE:	Approved and Adopted Amendment to the Bethesda Central Business District Sector Plan
AUTHOR:	The Maryland-National Capital Park and Planning Commission
SUBJECT:	Revision of the development scale and staging elements in accordance with a new transportation analysis.
DATE:	November 1982
PLANNING AGENCY:	The Maryland-National Capital Park and Planning Commission
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ABSTRACT:	This Sector Plan Amendment modifies the development scale and staging elements of the 1976 Adopted Bethesda CBD Sector Plan, as amended. The new proposals are based upon a reanalysis of the transportation bases of the Sector Plan.

$1.50

APPROVED AND ADOPTED AMENDMENT TO THE SECTOR PLAN FOR THE BETHESDA CENTRAL BUSINESS DISTRICT

November 1982

An Amendment to
the approved and adopted Sector Plan
for the Bethesda Central Business District (1976)
the Bethesda-Chevy Chase Master Plan (1970),
the General Plan for the Physical Development of
the Maryland-Washington Regional District and
the Master Plan of Highways
within Montgomery County, Maryland

THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION

The Maryland-National Capital Park and Planning Commission is a bi-county agency created by the General Assembly of Maryland in 1927. The Commission's geographic authority extends to the great majority of Montgomery and Prince George's Counties: the Maryland-Washington Regional District (M-NCPPC planning jurisdiction) comprises 1,001 square miles while the Metropolitan District (parks) comprises 919 square miles, in the two Counties.

The Commission has three major functions:

(1) the preparation, adoption, and from time to time amendment or extension of the General Plan for the physical development of the Maryland-Washington Regional District;

(2) the acquisition, development operation, maintenance of a public park system; and

(3) in Prince George's County only, the operation of the entire County public recreation program.

The Commission operates in each county through a Planning Board appointed by and responsible to the county government. All local plans, recommends on zoning amendments, administration of subdivision regulations, and general administration of parks are responsibilities of the Planning Boards.

CERTIFICATE OF APPROVAL AND ADOPTION

This amendment to the Bethesda Central Business District Sector Plan, being an amendment to the Master Plan for the Bethesda-Chevy Chase Planning Area, the General Plan for the Physical Development of the Maryland-Washington Regional District in Montgomery County, Maryland, and to the Master Plan of Highways within Montgomery County, Maryland has been approved by the Montgomery County Council, sitting as the District Council, by Resolution 9-2001 on October 19, 1982 and has been adopted by The Maryland-National Capital Park and Planning Commission by Resolution 82-32 on November 10, 1982 after a duly advertised public hearing pursuant to Article 66D of the Annotated Code of Maryland, 1976 Supplement.

Norman L. Christeller, Chairman

Charles A. Dukes, Vice Chairman

A. Edward Navarre, Secretary-Treasurer

THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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TABLE OF CONTENTS

SUMMARY

The Amendment to the Bethesda Central Business District Sector Plan provides for the following:

- The Staging Plan is revised to permit development applications prior to the opening of Metro, in the Stage II area, including most of the CBD-2 and the TS-R area. Optional Method applications containing at least 30 percent residential floor area may be permitted in Stage III, while at least 80 percent residential floor area is required for applications in Stage IV.

- Trips are set as the overall limiting factor in granting development approvals. Two thousand one hundred (2,100) trips are allocated to specific use mixes, as follows:

  . 200 trips for standard method development;
  . 225 trips for residential projects; and
  . 1,675 trips for the office/retail mix of uses.

- The Amendment provides general guidance concerning the use mix and describes desirable features and amenities for individual properties.

- The Amendment provides that if Optional Method Applicaitons in Stage II, during the first 90 days after adoption, would result in more than 1,675 new trips, then applications will be compared and ranked based upon a set of Standards For Comparison. Those applications with the highest ranking will be approved, up to 1,675 new trips.

- The Amendment will remain in force until the 1976 Sector Plan is amended after a new traffic analysis is completed approximately two years after Metro opens in Juny 1984.

INTRODUCTION

This document amends elements of the Bethesda Central Business District Sector Plan, adopted in 1976. The Sector Plan required that a hearing be held when 1.5 million square feet of new development was committed (building permits issued or optional method applications granted). Subsequently, the 1976 Plan was amended in 1980 to permit a development commitment level of 2.5 million square feet which has now been reached. As required, the Planning Board held a second public hearing on May 6, 1982. During susequent worksessions they determined that the 1976 Plan should once again be amended. Accordingly, the Planning Board established, by administrative rule, a moratorium on any further optional method applications until the County Council acts to amend the staging elements of the Bethesda Central Business District Sector Plan.

Adoption of this Plan Amendment lifts the current moratorium on optional method development imposed by the present Sector Plan. This Amendment is solely related to staging issues and development scale. It does not deal with changes in zoning or public facility location. In particular, this document amends the Staging Element of the 1976 Plan, contained on pages 139-141, and statements about development scale contained on page 15 and elsewhere in the Plan.

GENERAL BACKGROUND

The 1976 Plan "recommends that development at the Core occur in the early years of the planning period, and that the Metro Center, ideally, should be the first part of the Core to be developed" (p. 139). Some development has been built prior to the Metro Center--to the east of Waverly Street within the Core, in the Montgomery Triangle, and in the south CBD-1 area. A large, well-designed retail-office-hotel complex has been approved for the Metro Center area and is proceeding towards construction. This mixed-use development, with its pedestrian plazas conveniently connected to the transit station, should be open concurrently with the opening of the station in 1984. Thus, the general staging intent of the Plan regarding private development is being followed.

Although there has been some delay in programming public facility improvements, the most important facilities are in progress. The transit opening is delayed until 1984 due to difficulty in acquiring rail cars, but is otherwise proceeding as contemplated. With the construction of the library and park on Arlington Road, the public facility buffer strip between the Edgemoor single-family residential neighborhood and the TS-R multi-family residential area has been largely accomplished. Similarly, the Elm Street local park buffer on the east side of Wisconsin Avenue has been built. The extensions of Woodmont Avenue south from Old Georgetown Road, first to Montgomery Avenue, and then to Leland Street, are programmed for FY 1984 and 1986 respectively. The site for a major public parking garage in the south-east corner of Woodmont Avenue and Old Georgetown Road, which includes spaces for Metro use, has been approved. These facilities, together with others such as the conversion of East-West Highway and Montgomery Avenue to a one-way system when Woodmont Avenue opens, should be capable of accommodating planned future growth in the central CBD area. With these and other major public facility elements committed, the remaining questions become those of fine-tuning the timing of events.

CURRENT SITUATION

The Bethesda CBD Sector Plan proposed a development scale approximately double the amount of additional square footage thought to be accommodated by existing and proposed transportation systems. This was done to allow flexibility in the market. It established zoning for approximately 6 million square feet of additional new development, recognizing that only 3 million square feet might be accommodated. The requirement for a hearing after 2.5 million square feet of development was designed to assess the staging assumptions of the Plan.

The latest annual Bethesda CBD Monitoring Report (December 1981) describes in detail the current status of outstanding development permits, traffic counts, sewerage conditions, etc. It shows that the major significant public facility to measure in assessing interim staging capacity is transportation. This, of course, is the same public

facility element on which the original land use and staging elements in the 1976 Plan were primarily based.

The Planning Board's first consideration in contemplating a staging plan amendment was to reassess the traffic capacity outlook. They determined that in spite of postponement of the original target date for the transit station from 1980 to 1984, there are other conditions that make more traffic capacity available than was contemplated in 1976. The Planning Board proposed to allocate the extra capacity among the various parcels of land within the CBD.

These two criteria, traffic capacity and capacity distribution, are the elements that have been explored in assessing the current situation. The approach and conclusions are discussed below.

TRAFFIC CAPACITY

The following is a summary of the Transportation Reanalysis. Appendix A outlines in greater detail the methods and conclusions.

The 1976 Sector Plan measures traffic capacity in terms of the total number of P.M. peak-hour, outbound vehicle trips that can be accommodated by the combination of all the streets feeding out of the study area. The level of service (LOS) criterion used is that of not exceeding an average level of service 'D,'[1] spread over all of the intersections on each of the feeder streets that lie just outside the cordon line of the study area. To achieve this average, some of the intersections will operate below LOS 'D' and some above. The method acknowledges that localized congestion may surge or peak in some areas more than others, but also acknowledges that traffic tends to be intelligent, and can modify its behavior slightly in terms of time and space when faced with excessive localized congestion. This Plan Amendment does not change the previous average LOS 'D' assumption. Furthermore, it supports the provision of adequate parking in the CBD, and traffic entry restrictions during peak hours to protect neighborhoods from intrusions associated with increased trips.

In addition, three other important criteria have been evaluated in the light of experience gathered and data monitored since the adoption of the 1976 Plan. These are: (1) current trip capacity, (2) mode split assumption, and (3) induced vehicle-passenger density. These criteria were carefully reviewed to determine if additional trip capacity could be justified. For all three criteria the original plan assumptions now appear too conservative and restrictive. A reasonable reassessment of these criteria suggests the ability to accommodate about 2,100 trips[2] over and above all projects committed in Stage I. This total derives from an increase in each of the three factors.

For current trip capacity, several revisions have been made as a result of the reanalysis, which compared 1980 traffic counts with the 1974 data and public hearing comment on the calculations. This analysis demonstrates that the average trip generation rates used in the Sector Plan were somewhat high for office and residential uses. In addition, a change has been made in the assumption concerning traffic on minor streets (not counted in 1980) and in the capacity at two cordon points. Allowing for changes in anticipated through traffic and Metro-related through traffic, the capacity available for local development is 11,021 P.M. peak outbound trips. Traffic generated by existing and committed development (post-Metro assuming 20 percent mode split) is estimated to be 9,969 trips, leaving a balance of 1,052 trips available for new development. It is possible that the generation rate for future retail uses includes some double-counting, but the degree of double-counting is limited. The Sector Plan Amendment uses a rounded total of 1,100 trips. The retail trip generation rate for future trips will be re-examined, based on post-Metro studies.

The 1976 Plan assumed a 20 percent mode split for transit which is now recognized to be overly conservative. Intervening events reinforce the

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1 *See p. 44, 1976 Sector Plan.*

2 *Mode split, as used in this Plan Amendment, is the percent of trips that are made by transit, either Metrorail or bus transit. For example, 25 percent mode split for office trips means that 25 percent of the peak hour trips that are generated by office space in the Bethesda CBD are expected to be transit trips.*

reasonableness of accepting a 25 percent mode split for planning purposes. This conclusion is based on the experience with Metro operation in Silver Spring and elsewhere, the programming of Ride-On bus service to the Bethesda area, the increase in the price of gasoline and parking, and the greater acknowledgement of a long term need to conserve fuel consumption. While the Silver Spring station currently operates as a terminal station, the Bethesda station will provide two-way service when it opens. Due to the larger service area, a greater use of rail transit by Bethesda oriented traffic is expected. If Ride-On service is not in place substantially before Metro opens, there is a considerable risk that the CBD will experience unacceptable levels of traffic congestion. The availability of Ride-On service when currently committed development is complete will enable new employees to choose transit as their method of travel to work. The increase in the transit mode split assumption from 20 percent to 25 percent is the equivalent of removing approximately 500 trips from the road system.

The anticipated 25 percent mode split is an estimate. Achievement of this mode split should be monitored while recognizing that other factors may change over time and could provide additional or diminished traffic capacity within the Central Business District. Should future monitoring indicate a traffic situation developing lower levels of service than forecast, then efforts should be undertaken to increase utilization of already planned transit service and otherwise improve traffic conditions. These efforts may include: the increase of parking charges, enhanced marketing of ridesharing, adoption of staggered working hours by major employers to stretch out the peak period traffic, enhanced marketing for the use of mass transit, increased transit service, increased parking policy supports for carpooling, and other similar approaches to assure that the currently anticipated traffic capacity is realized or bettered. Finally, increases in transit service can be considered in addition to the above listed efforts.

Regarding induced vehicle-passenger density, experience since 1976 demonstrates that people can be induced to carpool, vanpool, and otherwise share private vehicle use to a considerable degree if there exists a personalized matching approach designed to serve the specific employment area. An important aspect of that approach is regular and continuing follow-up to help replace carpool drop outs. Based on this experience, and in particular the data obtained from the Silver Spring Share-A-Ride program, it appears that the provision of some similar or equivalent program in Bethesda could remove approximately another 500 trips from the road system. The assumption of 500 trips is valid only if the experience of the Silver Spring Share-A-Ride or a similar program is duplicated in Bethesda. If the program is not functioning, then the associated trip capacity must be reduced by 500 trips.[3]

This Plan Amendment accepts all three of these traffic reanalysis elements and assumes that a new development equivalent to about 2,100 more trips may be safely permitted to occur under a new staging element and development policy that would become effective upon adoption of this Plan Amendment. The 2,100 trips will provide for approval of development beyond Stage I after January 1, 1982. It is necessary to allocate the 2,100 trips since they are not sufficient to allow full optional development on all land in the Sector Plan area. If Ride-On service is provided but a ride-share program is not implemented, then only 1,600 trips will be available for allocation. After Metro opens, an analysis of actual traffic conditions will reveal if additional trip capacity is available.

CAPACITY DISTRIBUTION

The 2,100 trip capacity will support varying amounts of new development depending upon how trips are allocated among various land uses. The Transportation Reanalysis (Appendix A) includes new trip generation rates[4] for each of the major land use categories. The lowest rates are for residential use, meaning that a given number of trips can support a relatively large amount of residential development compared with commercial uses. Retail uses generate greater numbers of trips per unit of space; trips generated by office uses fall in between the extremes. This

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3 *Other references to a personalized ridesharing program are intended to reflect the description in this paragraph.*

4 *A trip generation rate is the numbers of vehicle trips expected to be produced for each 1,000 square feet of office or retail floor space, or for each dwelling or motel unit.*

Plan Amendment recommends that the limited numbers of trips be allocated according to the following general principles.

Functional Allocation

Standard Method:

All properties in the study area are zoned for a base amount of development which can occur by right within the standards set out for each zoning category. Most of the area is already developed up to base zoning capacity or is otherwise inhibited from redevelopment (e.g., lack of parking). This is particularly true for the large areas of CBD-1 where property ownership is fragmented and therefore ineligible for density bonuses under the optional method. The large area of C-2 zoning to the southwest of the business district is likely to experience only a limited amount of redevelopment. Some properties are presently being renovated from office and warehousing uses to retail.

Nevertheless, a small amount of standard method development has occurred over the years (as shown in the annual Bethesda CBD Monitoring Reports) for those few properties not now fully developed under the base zone. Therefore, a reasonable number of trips should be allowed for standard method development over the expected five-year life of this Plan Amendment. The recommendation is for an allocation of 200 trips for this purpose.

Housing

One of the stated objectives of the 1976 Sector Plan is the encouragement of a balanced mixture of commercial and residential uses. Virtually all new development in recent years has been for office use and associated retail space. The 1976 Sector Plan established no guidelines to achieve the use mix, and the multi-family (TS-R Zone) housing area west of the Metro station has been subject to a staging restriction. This Amendment proposes to redress this imbalance, to implement the new Housing Policy and to encourage activity during both the day and evening hours. Therefore, this Amendment recommends that sufficient trip capacity be set aside to encourage a reasonable amount of residential development. Several sites in the Battery Lane area are already appropriately zoned (R-10) and may develop by right at any time. A portion of the TS-R area is expected to be assembled, thereby producing about 600 new units. This Plan Amendment supports and encourages the production of housing in the TS-R area. This Amendment also recommends that any project in any of the three CBD Zones which devotes at least 80 percent of floor area to housing will qualify to proceed if 2,100 trips are not exceeded. The addition of housing to the Public Parking Garage 49 site is also supported.

Based upon considerations of market absorption and the holding capacity of possible sites, about 1,200-1,500 dwelling units are justified. This Plan Amendment, therefore, recommends that a minimum of 225 trips be set aside for the development of residential units.

Mixed-Use

The remaining capacity of 1,675 trips should be available[5] in support of office and street oriented retail uses in the central part of the CBD. This Amendment recommends that approximately 88 percent of the floor area ratio (FAR) available under optional method be used for office uses. The remaining 12 percent should be devoted to retail and activity-generating uses on the ground floor. This Amendment further recommends that, a minimum amount of retail be provided to generate activity along the pedestrian areas. The amount of retail in a given project will be determined on a case-by-case basis, depending on the location of the project and its relationship to the design guidelines concerning pedestrian activity.

Any CBD site may use the minimum 80 percent residential option at any time, using or exceeding the trip allocation set-aside for housing. The 1076 Sector Plan, the CBD Zones, and this Plan Amendment encourage mixed-use projects which include residential development. Therefore, projects which contain 25 percent or more residential use will be given priority for approval.

Figure 1 shows a typical mixed-use design having a combination of office and retail use with a public amenity space.

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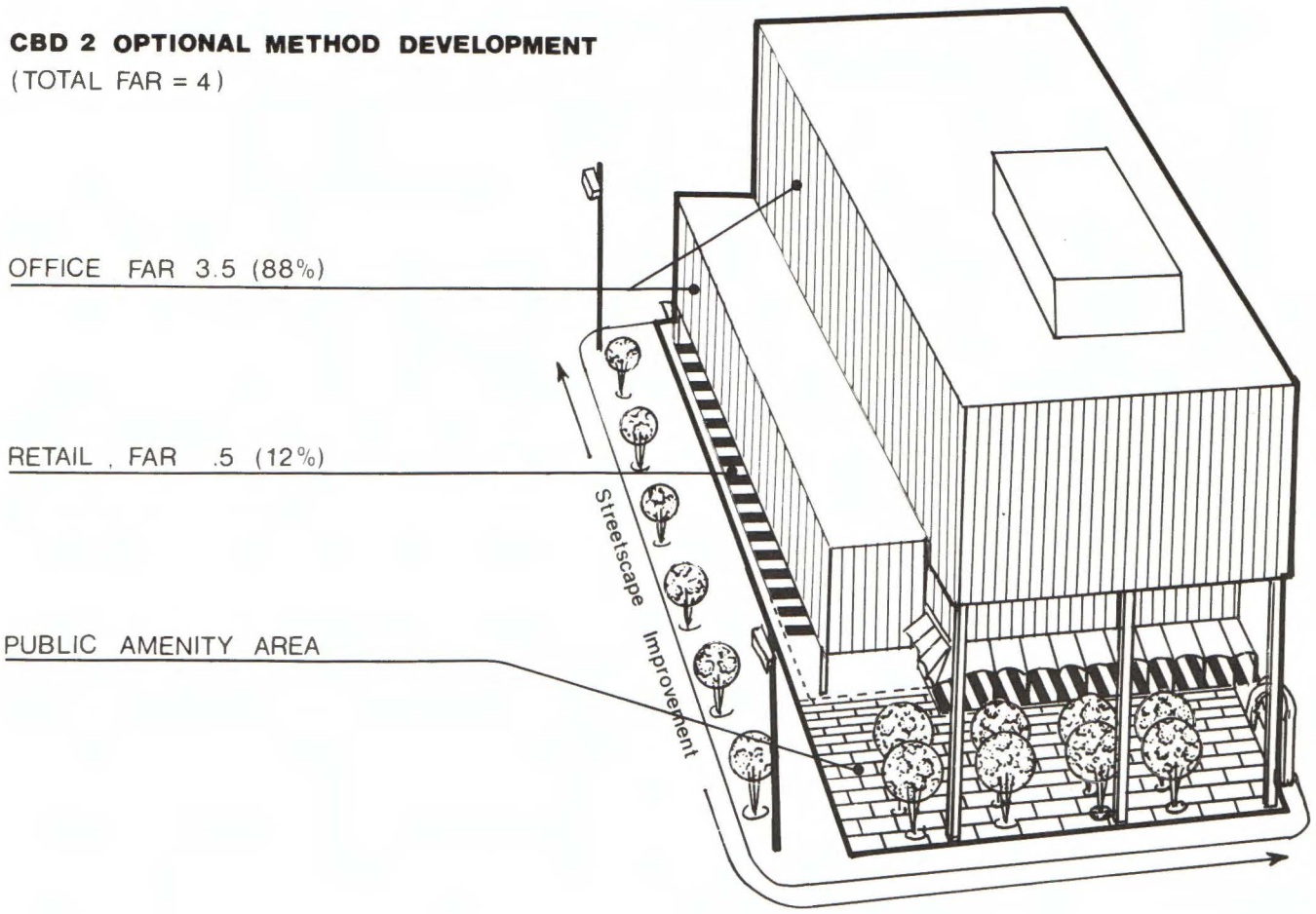
5 *Only 1,175 of the 1,675 trips will be authorized absent a personalized ridesharing program.*

Bethesda Central Business District

Figure 1
OPTIONAL METHOD – ILLUSTRATIVE DESIGN

CBD 2 OPTIONAL METHOD DEVELOPMENT
(TOTAL FAR = 4)



Geographic Considerations

The Metro Center (CBD-3 Zone) contains the "heart" of the sector plan area. It will contain the Metrorail and bus facility and the radial, north-south and east-west roads converge at this point. It will be the focal point of new development and employment. In order to provide for safe, convenient, and enjoyable interchange of the various transit and auto modes of transportation, as well as to enhance the journey of pedestrians to their destinations, the Metro Center will contain a pedestrian plaza linking the new development to the connecting sidewalk systems radiating out from the center. (See Figure 2, Amenity Pathways and Places.)

A central theme of this Amendment is the paramount importance of continuity in the pedestrian pathway environment. In order to carry out this theme, the intent of this Amendment is to favor those developments which can best achieve incremental extensions of and improvements to the sidewalk environment, as part of their overall amenity packages. In particular, these should be along the major pathways, such as East-West Highway, Wisconsin Avenue, and Old Georgetown Road. (See Figure 2.) Logically, these will tend to be more centrally located sites.

The "heart" of Bethesda is now being developed in a well planned and orderly fashion, as per the Sector Plan and the Urban Design Study Guidelines for the Metro Center. The 1976 Plan should now advance to the next increment of development by radiating out from the center so as not to overburden the intersections near the center. The resulting effects will be a dispersion of the traffic away from the center and a greater extension of amenities along the major pathways linking employment concentraitons to the "heart" and Metro. (See Figure 3, Highway Plan.)

The two objectives should be kept in balance: concentrate development along the major pathways to foster incremental extension of the pedestrian environment and disperse development to avoid overloading certain intersections. Figure 4 shows an illustrative aerial view of the functional allocation of uses proposed in this Plan Amendment.

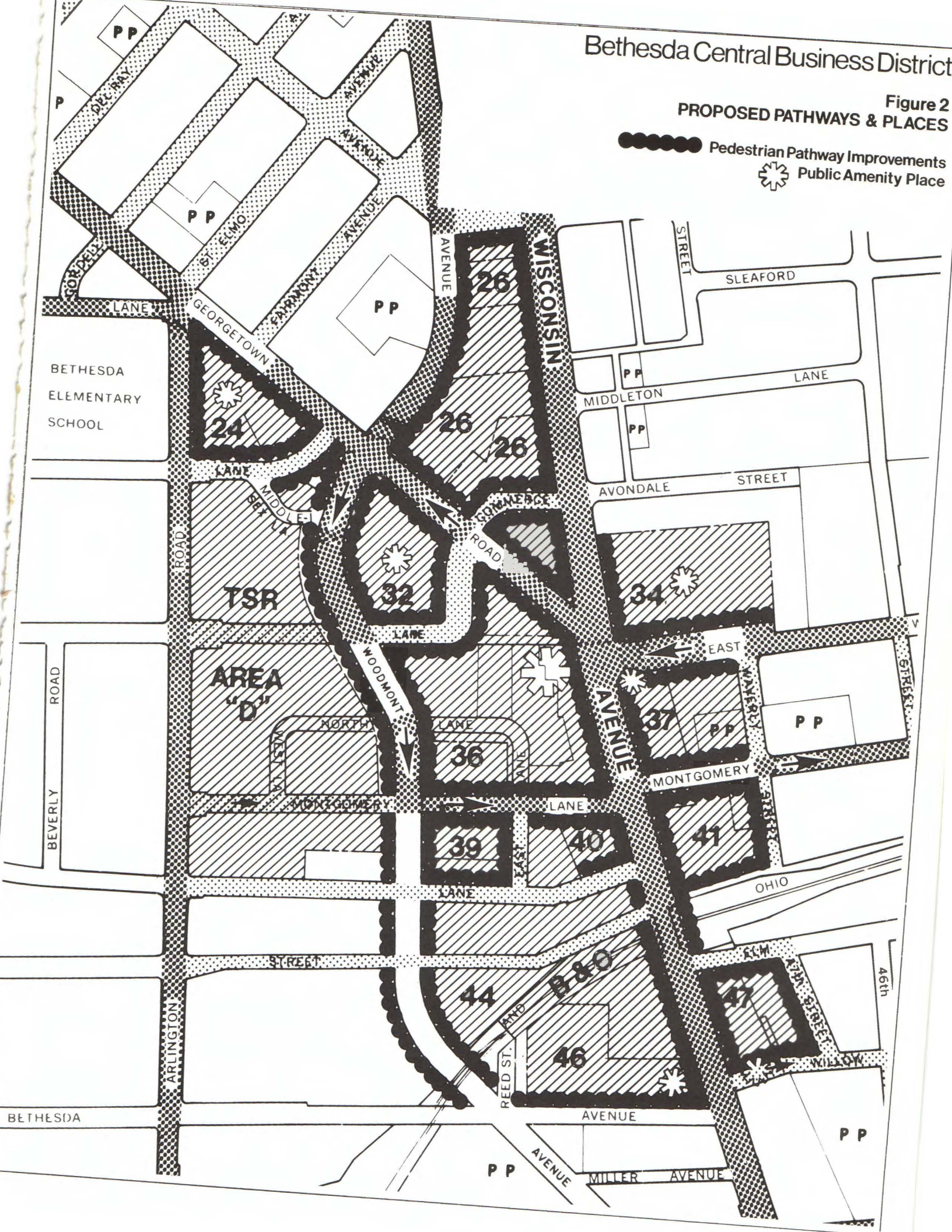
Development Readiness

Over the past few years, various properties have been assembled in anticipation of development opportunities. The owners of several assemblies are prepared to move ahead into the development process, once given approval. Several have taken preliminary steps such as resubdivision, architectural studies, and arrangements for stand-by financing. By contrast, other assembled properties are encumbered in estates, long-term leases, or for other reasons are not prepared to develop in the near future. To the extent that "ready" properties fit other criteria of location, traffic capacity, and design objectives, they should be afforded an early opportunity to proceed. An attempt has been made to include other suitably located parcels, even though they may not currently be known to be in process of preparing an application.

Staging Process

The Stage I area, which includes all properties within the existing CBD-3 Zone, remains unchanged from the 1976 Plan as amended in 1980. (See Figure 5, Staging Plan.) The Stage II area is shown in Figure 5. The general boundaries are Old Georgetown Road (north), Arlington Road and future Woodmont Avenue (west), Hampden Lane, Bethesda Avenue and Willow Lane (south), and 47th Street and Waverly Street (east). Also included in the Stage II area are properties in the northeast portion of the East-West Highway/Wisconsin Avenue intersection. The Stage III area includes all of the CBD-2 area not included within the Stage II area. In the Stage IV area, which includes the CBD-1 area, only optional method applications with 80 percent or more residential floor space are approvable under this Amendment.

Because development capacity is limited, those sites within the Stage II area (see Figure 5, Staging Plan) which are ready will receive an early allocation of trips. The allocation process requires that they move into development within the time limits specified in the zoning ordinance. If properties in the Stage II area do not develop, this Amendment recommends that trip allocations become available to properties in the Stage III area. The same use mix guidelines would apply. The opening of Metro is to be the cut-off point for the Stage II area sites to apply for optional method approval; any remaining unallocated trips could then be granted to properties in either the Stage II or Stage III areas. Projects in the Stage II area containing 25 percent residential floor area and projects in the Stage III area containing 30 percent residential floor area will be given priority for approval in the Stage II time period (before


Bethesda Central Business District
Figure 2
PROPOSED PATHWAYS & PLACES
Pedestrian Pathway Improvements
Public Amenity Place
PP
DEC RAY
AVENUE
ST. ELMO
FAIRMONT
AVENUE
CORDELL
LANE
GEORGETOWN
AVENUE
WISCONSIN
STREET
SLEAFORD
BETHESDA
ELEMENTARY
SCHOOL
MIDDLETON
LANE
AVONDALE
STREET
24
26
26
26
LANE
MIDDLE
BETHESDA
ROAD
COMMERCE
ROAD
TSR
32
34
LANE
AREA
"D"
WOODMONT
AVENUE
EAST
WAVERLY
STREET
37
PP
PP
NORTH
WEST
LANE
36
LANE
MONTGOMERY
MONTGOMERY
STREET
LANE
39
EAST
LANE
40
41
BEVERLY
ROAD
OHIO
STREET
ST. ELM
ALLEY
46th
STREET
WILLOW
44
B&O
AND
47
REED ST.
46
ARLINGTON
BETHESDA
AVENUE
PP
AVENUE
MILLER
AVENUE
PP

Bethesda Chevy Chase Planning Area

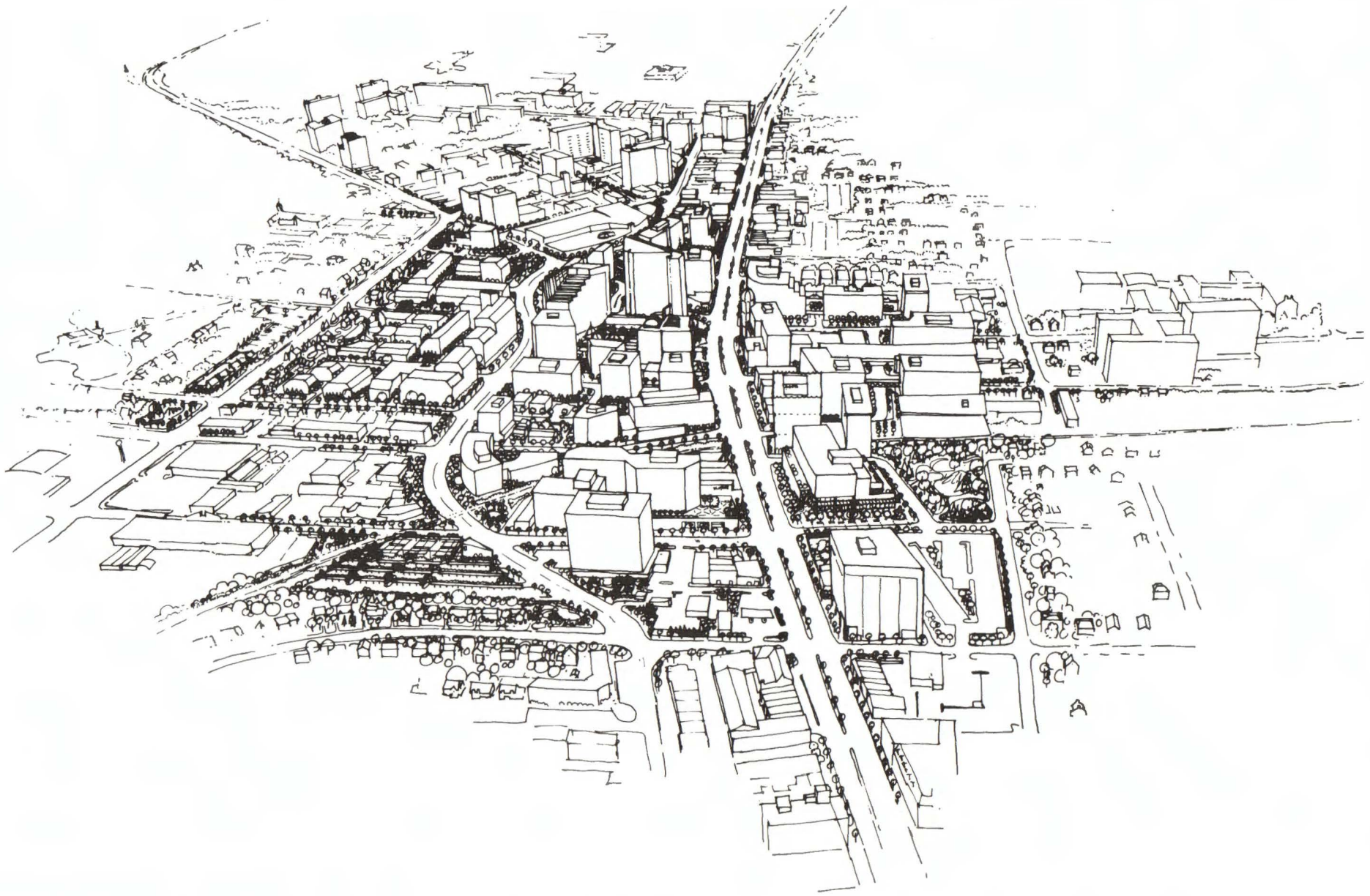
Montgomery County, Maryland

Bethesda Central Business District

Figure 3
Highway Plan

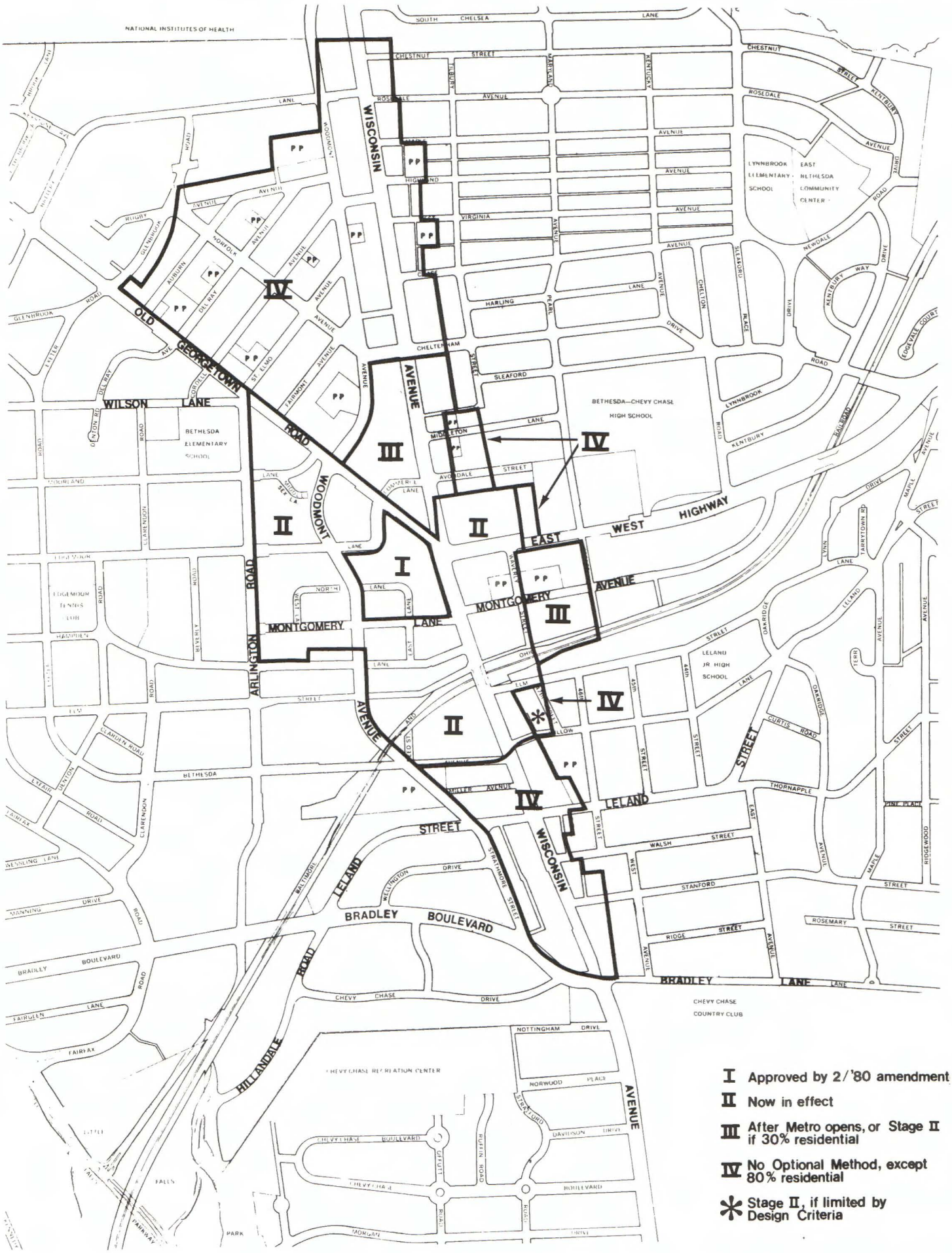
Bethesda Central Business District

Figure 4
ILLUSTRATIVE AERIAL VIEW - LOOKING NORTH



Bethesda Central Business District

Figure 5
STAGING PLAN



I Approved by 2/'80 amendment

II Now in effect

III After Metro opens, or Stage II if 30% residential

IV No Optional Method, except 80% residential

* Stage II, if limited by Design Criteria

Metro opens). Furthermore, any optional method project containing at least 80 percent of the floor area in residential use may be approved at any time and at any place within the CBD.

This Amendment places a limit on when property owners may apply as described below under Optional Method Administration Procedure. Applications will be processed and optional method approvals shall be granted until the trip allocation for office/retail uses is exhausted. If the total requested trips for office/retail development in the center exceed trip allocations during the first 210 days after adoption of this Amendment, applications will be judged based upon comparative merit as defined by the Standards for Comparison, which appear later in this report.

ALLOCATION PLAN

The Plan Amendment allocates 2,100 trips to specific uses or mixes of uses within the Bethesda CBD Study Area. Any new development committed after January 1, 1982 will be subtracted from the 2,100 trips. The approval of new development shall be limited by the maximum trips allocated, as shown on Table 1. The uses shown on Table 1 are a guide to the use mix which could be approved within the maximum trips allocated.

The Plan Amendment recognizes that some development under the standard method will take place in the Bethesda CBD Study Area. Accordingly, 200 trips are set aside for this purpose. Since such development may build by right, use of more than the 200 trips would reduce the trips available for the office/retail development category. (See Table 1.)

A minimum of 225 trips are allocated for residential projects in the Bethesda CBD Study Area. Projects containing 80 percent residential floor area can be approved in any CBD Zone. Residential trips from mixed use projects will be taken from the residential allocation. Additional projects (having at least 80 percent residential floor area) which exceed 225 trips may be approved. Such approvals will reduce the trips available for the office/retail development category.

The office/retail mix of uses, anywhere in the Stage II area, can accommodate 1,675 allocated trips. Projects shall generally conform to the desired use mix (in floor area) of 88 to 100 percent office and up to 12 percent retail. The Planning Board will determine retail floor area on a case-by-case basis. Any property in the Stage III area is eligible for optional method approval in the Stage II time frame, if approximately 30 percent (1.2 FAR) or more of the project is residential. Such projects should generally provide up to 12 percent (0.5 FAR) retail and the balance in office use. A small increase in the office or retail amounts may be approved if residential unit sizes result in more than 45 units per acre.

The suggested use mixes shown on Table 1 and in Appendix C are intended to provide general guidance. The Planning Board may approve variations from these amounts when: (1) proposed uses, especially residential, contribute to the general objective of increasing vitality and after-hours activity in the CBD, and (2) the use mix would not result in substantially greater trip generation than shown for each block in Table C-1.

Projects shall generally conform to Land Use and Site Design Considerations provided in Appendix C. These considerations are established so that an applicant can provide the necessary pedestrian oriented shopping and other amenities for a number of sites. The goal is to achieve an environment which encourages pedestrian movement and public activity at all hours.

The primary advantage of this approach is that any project in Stage II which generally conforms to the use mix guidelines may apply for optional method development. In addition, an adequate trip reservation for standard method and residential projects is provided. This approach generally insures that trips will be available for most key parcels needed to provide public amenity and pedestrian pathway continuity near the Metro Center. When trips are fully allocated in Stage II for office/retail uses, then no additional optional method applications may be approved.

The Plan Amendment proposes that a small area along Old Georgetown Road be evaluated for possible change in the Sector Plan land use recommendations and a corresponding change of zoning (by Sectional Map Amendment). The area is bounded by Old Georgetown Road, Moorland Lane, Middlesex Lane, and the future right-of-way of Woodmont Avenue (located between Blocks 24 and 32, shown on Figure C-1). Part of the area is in the CBD-1 Zone and part is proposed for the TS-R Zone. The CBD-1 portion is smaller than the 22,000 square feet required for optional method development. An analysis of traffic movements and land use relationships should be prepared as a basis for establishing whether the

TABLE 1

BETHESDA CBD STUDY AREA
ALLOCATION BY USE SHOWING SUGGESTED USE MIX

Development Category	Use Mix	Floor Area Square Feet	Dwelling Units	Trips Allocated
STANDARD METHOD				
Office	(75% est.)	111,276		128
Retail	(25% est.)	37,092		72
Subtotal		148,368		200
RESIDENTIAL[1]				
Residential	(80-100%)	1,606,369	1,444	179
Office	(10% est.)	31,415		18
Retail	(10% est.)	35,920		28
Subtotal		1,673,704		225
OFFICE/RETAIL[2]				
Office	(88% min.)	1,183,936		1,362
Retail	(12% max.)	161,446		313
Subtotal		1,345,382		1,675[3]
SUMMARY OF USES[4]				
Residential		1,606,369	1,444	
Office		1,326,627		
Retail		234,458		
Grand Total		3,167,454		2,100

1 *Floor area calculations reflect site specific use estimates shown on Table C-2, Appendix C.*

2 *Office/retail trips may be allocated for those sites in the Stage III area that provide a minimum of 30 percent residential.*

3 *Only 1,175 of the 1,675 trips will be authorized absent a personalized ridesharing program. In that case, the Grand Total would be 1,600 trips.*

4 *Building demolitions are likely to result in additional square footage. Trips associated with demolitions will be included in the trip calculations for each site approved.*

change in zoning is appropriate.

The Plan Amendment proposes that a portion of one property be included in Stage I only if assembled with the whole block. The property is bounded by Wisconsin Avenue, Willow Lane, 47th Street, and Elm Street (Block 47 on Figure C-2). Use of the rear portion (along 47th Street) is limited by the site design considerations in Appendix C. This Amendment requires that the property may be approved for optional method, only if assembled with the front (CBD-2) portion.

EFFECT OF AMENDMENT

This Amendment changes the Staging Element of the Sector Plan (pp. 139 and 141), the Staging Plan map (p. 141), the Development Policies (p. 15) and any other sections which are in conflict with this Amendment. The major effect of this Plan Amendment is to change the basis for approving optional method applications and zoning changes. The Staging Element of the 1976 Sector Plan established guidelines in terms of allowable floor space with an ultimate ceiling of three million square feet, but without reference to land use categories and without control over the number of trips that could be generated. This Amendment sets "trips" as the overall limiting factor in granting development approvals. This Amendment will remain in force until the 1976 Sector Plan is amended in the future, after a new traffic analysis. A new traffic analysis will be completed approximately two years after Metro opens. Metro is currently scheduled to open in July 1984.

OPTIONAL METHOD ADMINISTRATION PROCEDURES

This section applies to the administration of the optional method for projects seeking to use the 1,675 trips[5] allocated to build office/retail projects. The Plan Amendment recognizes that the number of such optional method applications may be greater than normal due to the backlog built up during the period of development and review of this Amendment. Thus, the Plan Amendment establishes revised administrative procedures to meet two general needs: (1) provide for concurrent review of applications to coordinate the evaluations of amenity "packages" and traffic impact of the various projects, and (2) permit comparison of individual projects if more trips are applied for than are available. The Plan Amendment also requires the extension of time for the required public hearing under specified circumstances.

Optional method applications will be received for 90 days after the adoption of this Amendment--beginning November 10, 1982 and ending February 8, 1983--during which time an application may not have a public hearing or be approved by the Planning Board. The order of receipt of applications during this 90 day period does not imply priority for staff review, public hearing, or Planning Board action or approval. Public hearings on these applications will be held no earlier than 91 days and no later than 210 days (ending June 8, 1983) after the adoption of this Amendment. The Planning Board shall extend the time for the required public hearings as necessary to carry out the requirements of this paragraph; however, all of these hearings shall be held within 210 days of the adoption of this Amendment.

Each of these applications will be first reviewed by the staff and then be the subject of a Planning Board public hearing. Subsequently, the Planning Board will determine whether each application meets the requirements of the zoning ordinance. In the event the applications taken together do not exceed the available trips, then those applications meeting the zoning ordinance requirements will be approved and those that do not shall be denied. In the event that the remaining applications involve uses and densities that, in total, would generate more trips than available, all these remaining applications will be compared and numerically ranked by the Planning Board (after a staff recommendation), based upon the degree to which each application meets the following STANDARDS FOR COMPARISON.

A. Provision of Residential Uses

The Planning Board shall consider the degree to which the project provides a residential use component in support of the goals of the 1976 Sector Plan that "some residential development should occur as one of the use mixes at the core," and that "significant amounts of new multi-family, residential growth should be located within easy walking distance of the transit portal" (p. 77, 1976 Sector Plan).

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5 *Only 1,175 of the 1,675 trips will be authorized absent a personalized ridesharing program.*

B. Enhancement of Pedestrian Environment

The Planning Board shall consider the degree to which each project:

(1) links and extend pedestrian pathways outward from Metro;
(2) contains sidewalks and pathways in both the public right-of-way and privately owned areas;
(3) contains attractive and accessible places and spaces that accommodate and encourage a wide variety of public activities;
(4) enhances the sidewalk environment by means of appropriate materials, landscaping, lighting, graphics, street furniture, and design;
(5) encourages pedestrian activity by providing shopping or entertainment opportunities along pedestrian ways, including the retention or relocation of existing retail uses;
(6) provides pedestrian systems and street crossings that encourage more trips on foot; and
(7) contains other attributes which improve the pedestrian environment and pedestrian access to Metro.

C. Achievement of Functional/Visual Effectiveness

The Planning Board shall consider the degree to which the project, within itself and in relation to other existing or proposed development, produces a functionally efficient and visually coherent grouping of buildings and spaces. The aim is to enhance the ability of the general public to locate, use, and enjoy the facilities of the site. This includes the degree to which the design:

(1) produces buildings which are well related visually in terms of light, air, height, shadow, spacing, bulk and scale;
(2) locates portals, service loading areas, automobile access points, street furniture, interior building floor layouts, exterior public activity locations, and similar features in a manner that maximizes the efficient use of these facilities by the general public and the occupants of the private space;
(3) locates building masses and related architectural features in such a manner as to enhance the ability of the general public to find their way into and around the buildings and open spaces;
(4) integrates the architectural forms and the open spaces around them so as to enhance the quality of the pedestrian environment, including such factors as sunlight, weather protection, noise and air quality, seating arrangements, landscaping, street furniture, and artistic embellishments; and
(5) contains other attributes which improve the functional and visual enjoyment of the project.

D. Provision of Management Organization

The Planning Board shall consider the extent to which the project provides or participates in a management organization which will efficiently and effectively provide maintenance, repairs, activity programming, sponsorship, special events, security and promotion of public activity within the CBD.

* * * * *

Following the expiration of 210 days after the adoption of this Plan Amendment, the Planning Board shall resume its regular practice of: (1) accepting optional method applications in chronological sequence as they are filed, and (2) scheduling them for hearing within the statutory provisions governing the optional method process in the zoning ordinance and other relevant administrative procedures.

Applications for optional method development for projects in the Stage II area that contain 25 percent or more of total project floor area in residential use (a minimum of 30 percent is required in the Stage III area) will be given priority and will be exempt from the review period requirements. Such projects will be accepted at any time after Commission adoption of this Plan Amendment, and may be approved by the Board at any time. Furthermore, it is the intent of this Plan Amendment that projects in the TSR area shall be eligible for zoning amendment and site plan approval in the Stage II time period.

Projects which fail to begin construction within the time limit prescribed by the zoning ordinance will lose their optional method and site plan approvals and trip allocations. Trip allocations which are withdrawn will become available for reallocation to other applicants located in the Stage II area, or in either Stages II and III areas after Metro opens.

LAND USE AND URBAN DESIGN

Land Use Trends

Since the 1976 adoption of the Sector Plan, the proportion of floor area in office development has increased while the residential proportion has decreased. The proportion of other development has remained relatively constant. The Sector Plan assumed that new development would occur in approximately the same ratio as then existing development. Figure 6 shows the shift in development which has occurred. The solid bar tone shows the total square footage existing in 1974. The vertical open bar shows the "capacity" of square footage for each use, assuming that development proportions would remain the same as in 1974. The verticly lined bar shows newly approved development on top of existing development, with both compared to planned development. Office uses are shown to exceed assumed capacity by 1.1 million square feet. Residential uses are about 1.4 million square feet less than planned development (which translates to 1,132 dwelling units fewer than anticipated in the 1976 Sector Plan).

Land Uses Supported by Trip Capacity

The traffic reanalysis resulted in 2,100 P.M. outbound trips being recommended for allocation to new development. A number of possible land use combinations within the assumed trip capacity are possible.

Trip generation rates vary widely for the different land uses. For example, 100 trips will support 714 dwelling units or 286 hotel rooms. One hundred trips would also support 52,000 square feet of retail space, 87,000 square feet of office space, or 111,000 square feet of industrial/auto oriented uses. Conversely, 100 dwelling units would generate 14 trips and 100 hotel rooms would generate 35 trips. One hundred thousand square feet of floor space would generate 194 retail trips, 115 office trips, or 90 industrial/auto trips. These values were used to calculate new trips from the land use alternatives shown in this report.

Land Use Alternatives

A comparison of hypothetical alternative land use mixes was prepared for those parcels which could qualify for optional method development. The purpose of this comparison is to illustrate the ability of three land use alternatives to be built given the trip capacity available. (See Table 2.) The analysis assumed availability of 1,500 trips, which was the original staff calculation of trip capacity. No new analysis was done for the 2,100 trips which were approved by the Planning Board. However, an estimate of the impact of 2,100 trips is stated for each hypothetical alternative analyzed.[6] Trip generation rates assume a 25 percent mode split. For each alternative, trips were first assigned for use in standard method zone development, as well as to the TS-R and Battery Lane residential areas. Remaining trips were then allocated to the available CBD parcels, assuming three different land use alternatives.

The "80 percent Residential" alternative was shown to illustrate the maximum potential use of floor area, based on a 1,500 trip capacity. All available parcels in the CBD were assumed to provide 80 percent of the floor area devoted to residential use and thereby qualify for an extra 1 FAR bonus. In the CBD-2 area, there would be 4 FAR in residential uses and 1 FAR divided between retail and office uses. The result was that about 4,000 dwelling units would be allowed. Less than 0.5 million square feet of office and a lesser amount of retail could be built. Twenty-one hundred trips would permit residential construction on more sites than are available for development.

The "Primarily Office" alternative most nearly reflects current market conditions. In the CBD-2 area, 4 FAR was assumed, using a ground floor retail of .5 FAR and an office component of 3.5 FAR. Using 1,500 trips resulted in just under 1 million square feet of office and about 100,000 square feet of retail. Because of the limited number trips, development could be allowed on only half the available sites. A minimum allocation of trips to support 1,168 dwelling units in the TS-R and Battery Lane areas was assumed. Assuming a 2,100 trip capacity, most sites can be approved.

The "Mixed Use" alternative was shown to illustrate a more balanced mix of uses. Office use (810,000 square feet) was somewhat less than the "Primarily Office" alternative. About 1,481 dwelling units would be produced. Development could

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6 *The Planning Board determined, during the Planning Board's public hearing process, that a capacity of 2,100 trips should be used.*

occur on slightly over half of the available sites with 1,500 trips and almost all sites with 2,100 trips.

Assuming availability of only 1,500 trips, several observations are possible: (1) there are not enough trips to meet fully the likely demand for development approvals in the next few years, and (2) it is possible to allocate enough trips to support residential projects and still approve a substantial office component. Assuming a 1,500 trip capacity, some method of trip allocation is needed to insure that optional method applications be approved only for projects which fit within the trip capacity determined by this reanalysis. With the availability of 2,100 trips, use of a less restrictive allocation method is possible.

Character of the Bethesda CBD

The Bethesda Central Business District has developed a strongly "urban" character, owing to a long-term healthy commercial market, a traditional crossroads location in an affluent section of Montgomery County, and planning and zoning policies which have allowed it to grow in an orderly fashion. Approved development for the Bethesda CBD will have the effect of bringing it into the first rank of urban places near the City of Washington, both in terms of atmosphere and business prominence. All indications are that Bethesda enjoys a unique potential for achieving the best of urban design in the near future.

The 1976 Bethesda Central Business District Sector Plan (p. 88) notes that "the (sidewalk) environment is devoid of most amenities such as benches, fountains, and trees." Since the adoption of the 1976 Sector Plan, several projects have been built under the optional method of development which have made significant improvements in sidewalk areas adjacent to the projects. Approved projects in the core area, notably the Clark Enterprises Building, Bethesda Metro Center, and the Lorenz Building will continue this improvement. They will, in addition, provide Bethesda with a major public space, a "town square" in its heart.

While these projects will combine to enhance the public way, there remain many blocks which will not feel their effect and which need remedial attention. It is particularly important to complete the pedestrian "linkages" that have been initiated by these projects so that major pedestrian pathways are cohesively enhanced. It is expected that future optional method projects can effectively perform this consolidation function.

TABLE 2

BETHESDA AREA CBD FLOOR AREA
WHICH COULD BE BUILT FOR THREE LAND USE ALTERNATIVES*

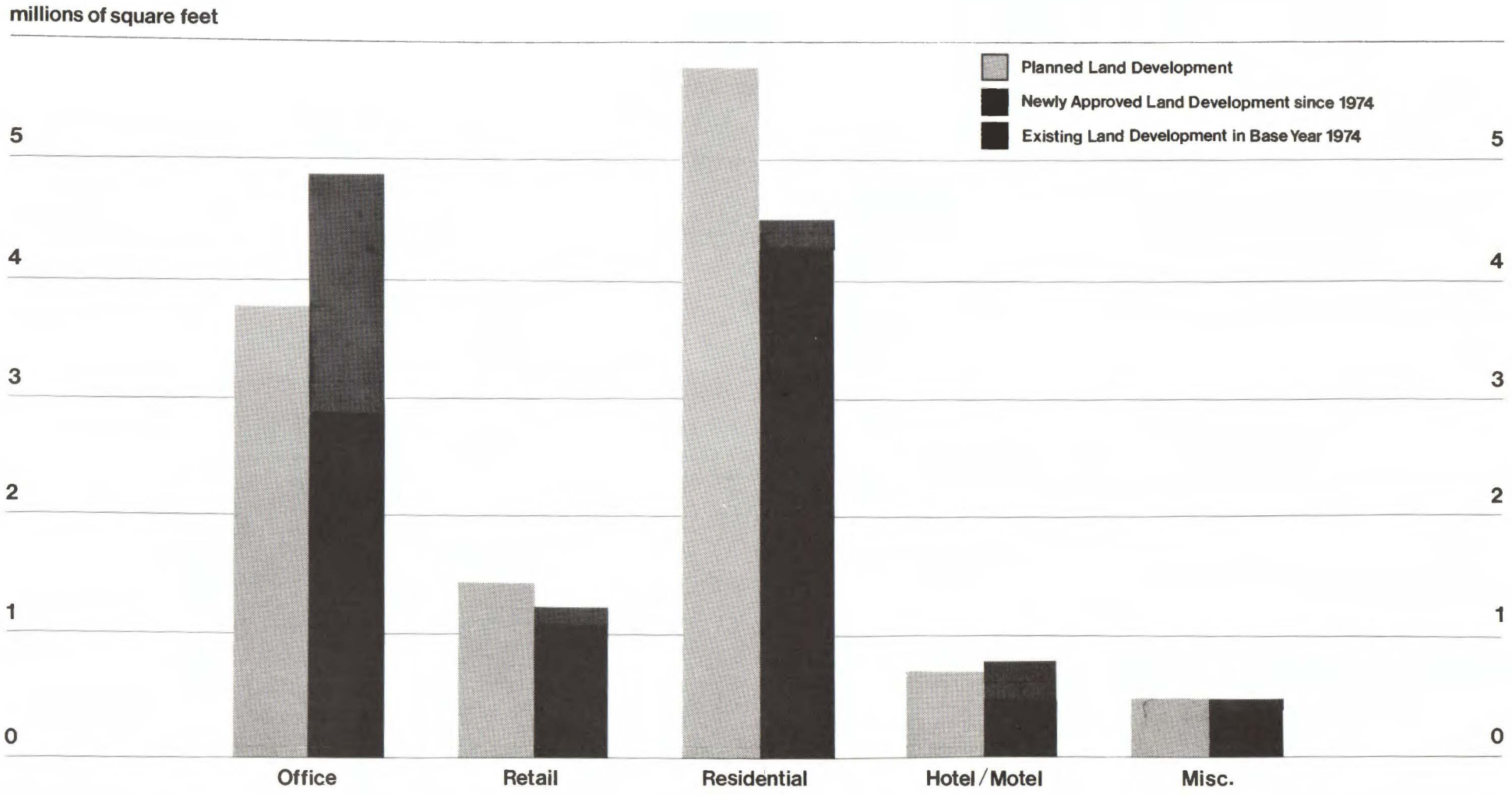
Assumed Land Use Alternative	(1,000 Square Feet) Residential	Office	Retail
80% Residential (FAR-4) plus FAR-0.5 each for office and retail	4,825 (4,021 du's)	489	357
Primarily Office (FAR-3.5 plus ground floor retail (FAR-0.5)	1,402 (1,168 du's)	964	110
Mixed Use (half residential, plus office & ground level retail)	1,777 (1,481 du's)	810	129

* *Assumes the original staff calculation of 1,500 trips.*

Source: MCPB staff analysis.

Comparison of Planned Land Development to Existing and Approved Land Development

Figure 6



Conclusion: Existing and Approved Retail and Residential Land Development is less than Planned Land Development, as envisioned in the 1976 Sector Plan.

In addition to physical improvement of the sidewalk areas, it is important to locate stimulating land uses along the major pathways: pedestrian-oriented retail uses or food service are preferred. This Amendment sees streets as being rivers of life for the business district. The sidewalks are the banks of the "river" and can be kept healthy by being made active and full of people both day and night. This activity is crucial to a sense of well being, security, and economic vitality. Bethesda has outstanding opportunities for developing perhaps the most supportive street scene of any of the Washington suburban centers, resulting in an urban resource of great importance to the business community, the residents, and the general metropolitan population. In effect, we can create the character of a town to replace the image of a suburban strip along a major street.

The existing urban form of Bethesda generally consists of low buildings with a scattering of high ones "popping up" here and there. As approved projects are built and as new ones are approved, a concentration of high buildings will develop near the core and along Wisconsin Avenue. The density allowances on most parcels will allow for some building placement manipulation. Adjustments can be made to allow new buildings to relate well to existing ones, especially in terms of scale, setback from the street, and in the assurance of adequate light and air. It is desirable to create a "family" of buildings that can exist in harmony in the urban setting without making all buildings too similar in terms of design or articulation.

Maintenance of any urban area is of great importance to its character. As Bethesda attracts more workers, transit riders, and residents the need for maintenance of public spaces will increase. Trash must be regularly removed, landscaping maintained, and repairs made to sidewalks and street furniture. Public spaces must be managed to provide different activities suitable to the seasons, programming of main events, and security. A public/private entity that performs all aspects of maintenance, management, and promotion should be created in order to provide these services efficiently and effectively. The management of regional shopping centers in which individual businesses contribute to the costs of operating the shopping centers, may be a good model for such an organization. A similar approach is being implemented in the Metro Center (CBD-3 area) and should be extended to other areas of the CBD.

Purpose Clauses

Certain purpose clauses of the Zoning Ordinance (Section 59-C-6.212) are central to these urban design considerations:

> "To encourage designs which produce a desirable relationship between the individual buildings in the central business district, between the buildings and the circulation systems, and between the central business district and adjacent areas."
>
> Design criteria for developing sites can help meet this purpose by identifying linkages that need to be completed, scale changes that need to be recognized, and unique site specific design opportunities.
>
> "To promote the effective use of transit facilities in the central business district and pedestrian access thereto."
>
> With the transit station at the "heart" of Bethesda, the major pathways to it will be enhanced by the proposed development.
>
> "To promote improved pedestrian and vehicular circulation."
>
> Scheduled improvements to the Bethesda Street system, notably Woodmont Avenue extended and the rebuilding of Montgomery Lane, will aid vehicular circulation. Pedestrian circulation will be improved as individual parcels are developed and by improvements to crosswalk design and function. The installation of a pedestrian passage below Wisconsin Avenue and extending eastward from the transit station is an extremely important element of this circulation. A feasibility study for this project is included in the FY '83 Capital Improvements Program. This Amendment

strongly supports such a project if it is found to be feasible.

"To assist in the development of adequate residential areas for people with a range of different incomes."

"In the CBD-2 zone it is further the purpose to provide an incentive for the development of residential uses to meet the needs of those employed within the central business districts and those who will be able to use the district transit facilities to travel to and from places of employment."

The vitality of the urban area is greatly aided by nearby residential land uses, such as the Arlington Road TS-R area. Recommendations for mixed-use projects and for housing on the Garage #49 site will help meet these purposes.

Design Objectives

The foregoing urban design considerations are embodied in the following urban design guidelines:

(1) Encourage development of properties which can best enhance the pedestrian pathway system and transit usage by linking and extending outward from the Metro station. Such an integrated pedestrian circulation system should consist of sidewalks in public rights-of-way (including privately developed public pathways and public places) and other pedestrian places in public ownership such as parks and transit facilities.

(2) Provide an improved and enhanced sidewalk environment by means of appropriate materials, landscaping, lighting, graphics, street furniture, and design.

(3) Encourage developments that produce a coherent and visually meaningful grouping of buildings which are well related in terms of spacing, bulk, and scale; include buildings which will be designed as outstanding landmarks.

(4) Encourage pedestrian activities through designs which reinforce the street edge with appropriate pedestrian shopping opportunities and create "people places" that generate pedestrian activity.

(5) Conserve the existing positive attributes of the Bethesda CBD by preserving admirable existing building uses, existing landscaping, and design features. These attributes will contribute to a distinct "sense of place" that commands the attention of visitors and is easily remembered. These positive characteristics should be taken into account in the design of nearby parcels.

(6) Provide a management organization which can efficiently and effectively provide maintenance and repairs, program activities and sponsor events. Security and management of the public areas (sidewalks, public places, and streets) are other responsibilities for such an organization. The organization could be patterned after the maintenance corporation planned for the Metro Center.

Optional Method of Development

The primary tool for achieving the Urban Design Objectives is use of the zoning tool, Optional Method of Development, which allows for increased density in exchange for public amenities. As many as eight sites are expected to apply for development approval in the next several years, in addition to those already approved but not yet built. The amenity contributions from these sites can be most effective if development is approved on those sites which link existing pedestrian pathways and contribute to the atmosphere of the core area and if the developing sites respond to the Land Use and Site Design Considerations in Appendix C.

The quality of the public amenities and facilities to be provided by the optional method projects is critical to the overall success of the future Bethesda CBD. The developers will be required to justify the grant of additional density by providing suitable amenities and facilities. Approval of the maximum density allowed under the zone will require developers to provide a

maximum of public facilities and amenities for the benefit of the public. It is important that each site develop an amenity area appropriate to its location in the CBD. The addition of amenity areas must be coordinated and related to the types of building and land uses in the immediate area to provide variety and activity to the CBD as a whole. It is most important that the amenity contributions extend and link each to the other as positively as possible. In part, these may consist of streetscape improvements in the public right-of-way, including appropriate premium pavement material, large street trees to achieve an initial effect and appropriate street furniture.

The provision of sidewalk improvements may be complicated by the numerous landowners and businesses which may be affected. Close coordination between private sector interests and public sector agencies, together with involvement from the surrounding community, will be a necessary part of these optional method projects. There is a unique opportunity for Bethesda to develop a unified and enhanced built environment through these amenity provisions, providing a better CBD design in a way which is in harmony with both the surrounding external community and the internal improved paths and places in the CBD.

APPENDIX A

TRANSPORTATION REANALYSIS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

APPENDIX A
TRANSPORTATION REANALYSIS

SUMMARY

The Bethesda Traffic Reanalysis shows that the transportation system of the Bethesda CBD Sector Plan study area can accommodate development over that now committed within the CBD study area. An additional 1,052 vehicular trips outbound during the PM peak hour are available assuming a 20 percent mode split for office and residential use. With a 25 percent mode split for those uses, the number of available trips increases to 1,566 The Reanalysis Study also found that the establishment of a personalized ridesharing program in Bethesda during 1982 could be expected to remove 500 vehicles from the PM peak hour outbound traffic thus creating capacity for an additional 500 vehicular trips. These 2,066 trips are available for development beyond that currently committed. Parcel 13A in the Metro Core has been included in the committed development because it is the only parcel able to proceed as an optional method at this time.

Purpose and Procedure

The purpose of this Reanalysis Study was to reevaluate the amount of development that can be accommodated within the Bethesda CBD Sector Plan study area. The development level, which is tied to the capacity of the transportation system to carry the trips generated by new development, was initially studied in 1974. At that time, capacity was available for 2,466 PM outbound vehicular trips from new local development. This was a 34 percent increase over the 1974 local traffic. The ability to support a 34 percent increase in local traffic was translated into a 34 percent increase in development square footage.

The decision to perform this Reanalysis was made at the time the Sector Plan was amended in 1980. The traffic information in the annual Monitoring Reports seemed to indicate that new development was not producing quite as much traffic as projected by the Sector Plan. These figures plus the rapid development increase and the delay of the Metrorail opening (then scheduled for late 1983, now scheduled for mid 1984) indicated that a reassessment of traffic was needed. Consequently new field data was collected during 1980 and then tabulated and analysed.

The traffic Reanalysis Study uses essentially the same methodology as the traffic analysis that was performed in 1974. That analysis was based upon 1974 conditions and assumptions, primarily the trip generation rates for various land uses, developed as part of the Sector Plan. This Reanalysis benefits from the availability of data from two points in time - 1974 and 1980 - and thus makes it possible to test the original Sector Plan assumptions. To be valid, those assumptions must reconcile both 1974 and 1980 data. A major portion of the Reanalysis work has been the reexamination of the trip generation rates and other assumptions of the original Sector Plan based upon the more detailed and updated 1980 data.

New trip generation rates have been developed; these provide a good match with the data from both 1974 and 1980. The recommended changes in Sector Plan traffic assumptions are shown in Table A-1. (See page .)

The method for determining the number of trips available for new local development is a simple calculation. It is shown on page 156 of the Bethesda Central Business District Sector Plan for the traffic analysis performed in 1974. Those numbers are for the PM peak hour outbound trips because they were found to be the critical ones. The Reanalysis

examined data for both AM and PM peak hours and both inbound and outbound traffic. The Reanalysis confirmed the 1974 finding that the PM peak hour outbound trips are the critical ones.

The development scale analysis determined the vehicle trip capacity of the street system. The calculations discounted for (1) projected through and Metro-related traffic and (2) traffic to be generated by existing plus committed development. The remaining uncommitted capacity is available for new local development.

The Reanalysis produced the following results for the PM outbound traffic:

Capacity at Level of Service D/E	15,408
Projected through plus Metro-related traffic	-4,387
Capacity available for local development	11,021
Traffic generated by existing plus committed development, post-Metro (20% mode split)	-9,969
Capacity available for new development	1,052

Changed Conditions

The vacancy rate for office space in Bethesda during 1974 was 20 percent - 1974 was a recession year. The Sector Plan assumed a 10 percent vacancy rate during the post-Metro period. The vacancy rate in 1980 for office space in Bethesda was 5 percent and the Reanalysis assumes 5 percent during the post-Metro period. This reduced vacancy rate results in more office trips than anticipated in the Sector Plan.

The land use mix has not remained constant. The conclusion that traffic from a 34 percent increase in square footage could be accommodated by the street system was based upon the assumption that the land use mix would be approximately the same throughout the lifetime of the Sector Plan. In 1974, 31 percent of the total square footage was office space. When the committed development is complete, 41 percent of the total square footage will be office space. This change in the land use mix results in a greater increase in PM outbound trips than anticipated by the Sector Plan. Office produces primarily PM outbound trips; residential produces primarily PM inbound trips and few PM outbound trips.

The original cordon line excluded the Montgomery Triangle area. A new Key Station (13B) replaced the original Key Station 13 and a new minor station (14A) replaced Station 14 so that this part of the study area is now included within the traffic cordon. (See Figure A-1 in section on Sector Plan Traffic Analysis.)

New Considerations

The conclusions of this Reanalysis Study incorporate two new factors. One is the change in expectations regarding the post-Metro mode split, the other is a new personalized ridesharing program. The Transportation Planning Staff have concluded that (1) a 25 percent mode split is a reasonable expectation (based upon certain conditions which are discussed briefly below) and (2) beginning a personalized ridesharing program in Bethesda in 1982 would remove vehicles from the peak hour traffic flow, freeing capacity for use by vehicles from new development sites.

Mode Split

Planning staff is recommending that the assumption and policy for the mode split for office uses be changed from twenty percent to twenty five percent. The net effect of this

proposed policy change would be to increase the PM peak hour outbound trips available for new development by somewhat more than 500 trips. This recommendation is based on several factors. The first is a better understanding of what transit use can be expected based upon actual operating experiences with the opening of Metro elsewhere in the Washington region and more up to date transportation forecasts. The second basis would be increased transit use which would result from the early initiation of Ride-On community transit service prior to Metro opening. In addition, the existence of a continuing ridesharing program in Bethesda would also result, to a small degree, in a higher mode split since it also provides transit information.

Ridesharing

A prototype program to help people form carpools and vanpools and also use transit was initiated in Silver Spring in September of 1979 by the Planning Board. This demonstration program, called Share-A-Ride, evaluated the effectiveness of such a program for a small-to-medium size market area. The program currently serves people who work in Silver Spring. Persons who are looking for a carpool, vanpool, or transit service apply to the program and are helped by field representatives. Staff match up riders with drivers; they maintain records that allow for continual updates, addition and evaluation.

This program has proven to be remarkably effective in helping people find new ways to get to work. The benefit to the public from this program is a reduced parking demand and fewer cars on the steets. M-NCPPC's evaluation of the Silver Spring program after two years of operation indicates that approximately 10 percent of the Silver Spring employment force has applied to the program and that approximately 50 percent of the applicants have entered new ridesharing arrangements.

When the experience in Silver Spring is translated to Bethesda and the results evaluated in terms of PM peak hour outbound trips, the expectation is that a similar program, if begun in Bethesda in 1982, has the potential to remove 500 vehicles from the critical time and direction of travel. In addition, because the distribution of transit information is part of the services offered, the program also helps increase the modal split for work trips. The projected reductions are based on a personalized, continuous program on the scale of the existing Share-A-Ride program in Silver Spring.

Conclusions

The Reanalysis shows that the Transportation system of the Bethesda CBD Sector Plan area can accommodate 1,052 outbound PM peak hour trips in addition to the traffic expected to be generated by existing and committed development. This number is based upon a 20 percent mode split for office and residential uses. If a 25 percent mode split is achieved, this number will be 1,566 rather than 1,052. The Transportation Planning staff supports the use of the 25 percent mode split.

In addition, establishment of a personalized ridesharing office in Bethesda in 1982 has the potential, through the creation of carpools, to reduce the PM peak hour outbound traffic by 500 vehicles. This provides capacity for an additional 500 trips from new development. Therefore, the transportation system for the Bethesda CBD can accommodate 2,066 PM outbound trips from new development. This number can be rounded to 2,100.

The Reanalysis changed some of the trip generation rates assumed in 1974. These changes have been reductions and therefore the expected number of trips from existing and committed development and the traffic impact of future development is somewhat less than projected in 1974.

The amount of development that can be accommodated by the transportation system should be determined by the number of trips to be generated by the land use. Land use mix ratio cannot be assumed to remain constant over time.

Through traffic has declined since 1974. The Reanalysis is based upon through traffic remaining at the 1980 level rather than upon a projected increase as was done in 1974.

Recommendations

The Transportation Planning staff makes the following recommendations:

1) Limit new development commitments to specific land uses to the expected PM peak hour outbound trips are no more than 2,100;

2) Begin Ride-On bus service in the Bethesda area as early as possible prior to the opening of Metrorail service.

3) Establish a personalized ridesharing office during 1982 (similar to the Silver Spring Share-A-Ride program) to serve Bethesda; and

4) Schedule a second reanalysis to be performed in conjunction with the Metro Station before and after study. Such a reanalysis would include the measurement of through traffic.

TABLE A-1

1980 BETHESDA REANALYSIS
CHANGES IN SECTOR PLAN ASSUMPTIONS

ORIGINAL	REANALYSIS
Through Traffic	
Through traffic will increase in the cross-county direction at a rate of 3% per year and will remain constant in the corridor direction.	Through traffic has decreased between 1974 and 1980. The Reanalysis assumes through traffic constant at 1980 volumes.
Development Limits	
Capacity of the street system will accommodate a 34% increase in local traffic; therefore the development square footage can also increase 34%.	Capacity of street system in trips translates into development square footage by land use. Land use mix cannot be assumed constant.
Trip Generation Rates	
Office	
Peak hour trips are divided 70% in the major direction, 30% in the minor direction.	AM peak hour trips are 85% in, 15% out; PM peak hour trips are 80% out, 20% in.
60% of employees arrive or depart during the peak hour.	45% of employees arrive or depart during the peak hour.
Office occupancy rate in 1974 was 80%; post-Metro rate assumed to be 90%.	Office occupancy rate in 1980 was 95%; post-Metro rate assumed to be 95%.
66% of the employees are auto drivers in 1974; 55% will be auto drivers post-Metro.	79% of the employees are auto drivers in 1980; 81% were auto drivers in 1974; 66% will be auto drivers post-Metro with a 20% mode split, 61% with a 25% mode split.
Mode split in 1974 was 9%; post-Metro mode split will be 20%.	Mode split in 1974 was 5%; mode split in 1980 is 7%; post-Metro mode split is expected to be 25%.
PM Trip Generation Rate (vehicle trips per 1000 square feet)	PM Trip Generation Rate (vehicle trips per 1000 square feet)
1974 1.99 1980 2.37 post-Metro 1.87	1974 1.60 1980 1.86 post-Metro with 20% mode split 1.55 post-Metro with 25% mode split 1.44

TABLE A-1 (Cont'd.)

1980 BETHESDA REANALYSIS
CHANGES IN SECTOR PLAN ASSUMPTIONS

ORIGINAL	REANALYSIS
Retail	
Retail rates were established for the PM peak hour only.	Use AM peak hour trip generations rate equal to 25% of the PM rate.
Residential	
66% of all peak hour trips are auto driver in 1974, 55% post-Metro	66% of all peak hour trips were auto driver in 1974, 64% in 1980 and 55% post-Metro.
Mode split was 9% in 1974, will be 20% in post-Metro.	Mode split was 9% in 1974, 11% in 1980, and will be 25% post-Metro.
Peak hour Trip Generation Rate (vehicle trips per dwelling unit)	Peak Trip Generation Rate (vehicle trips per dwelling unit)
1974 0.79 post-Metro 0.66	1974 0.62 1980 0.60 post-Metro with 20% mode split 0.52 post-Metro with 25% mode split 0.47
Hotel	
PM peak hour trip generation rate was 0.8 vehicle trips per room, 55% outbound, 45% inbound.	PM peak hour trip generation rate is 0.7 vehicle trips per room, 50% in each direction.

Prepared by M-NCPPC, Transportation Planning Division, February, 1982.

SECTOR PLAN TRAFFIC ANALYSIS

The Sector Plan traffic analysis is a technical assessment of the capacity of the street system serving the study area and the ability of that system to accommodate additional traffic without experiencing unacceptable traffic conditions. The end product of the traffic analysis is the number of trips, in addition to those already accounted for by existing and committed development and expected through traffic, available for new development.

The underlying data base for the traffic analysis is (1) traffic counts taken along a cordon line surrounding the Bethesda Sector Plan area, (2) the development in Bethesda at the time the counts were taken, and (3) the street and traffic signal systems.

Cordon Line

The Bethesda CBD Sector Plan is based upon a cordon line analysis. A line is drawn around the study area and the traffic capacity of the study area is defined as the number of vehicles that can reasonably be expected to move across the cordon line, either inbound or outbound, within a given period at an established Level of Service.

The cordon line for the Bethesda Sector Plan study area crossed 35 streets (see Figure A-1). Ten of those streets were designated as feeder streets and their count stations as Key Stations. These ten streets carried 85 percent of the traffic entering and leaving the study area. The other 25 streets are local residential streets and were classified as minor streets. The minor streets were judged inappropriate to carry additional traffic. Therefore, as a policy decision, capacity for those minor streets was established as 1,500.

The cordon line which was used in 1974 crossed East-West Highway east of Pearl Street, placing the Montgomery Triangle area outside the traffic cordon. Montgomery Triangle is within the study area, though not within the CBD, and major development has occurred within this area since 1974. Therefore, as part of the Reanalysis, the cordon line was moved east along East-West Highway to the railroad bridge. A new Key Station, 13B, at this location and a new minor station, 14a, on Chelton Road north of East-West Highway replaced Key Station 13 and minor station 14.

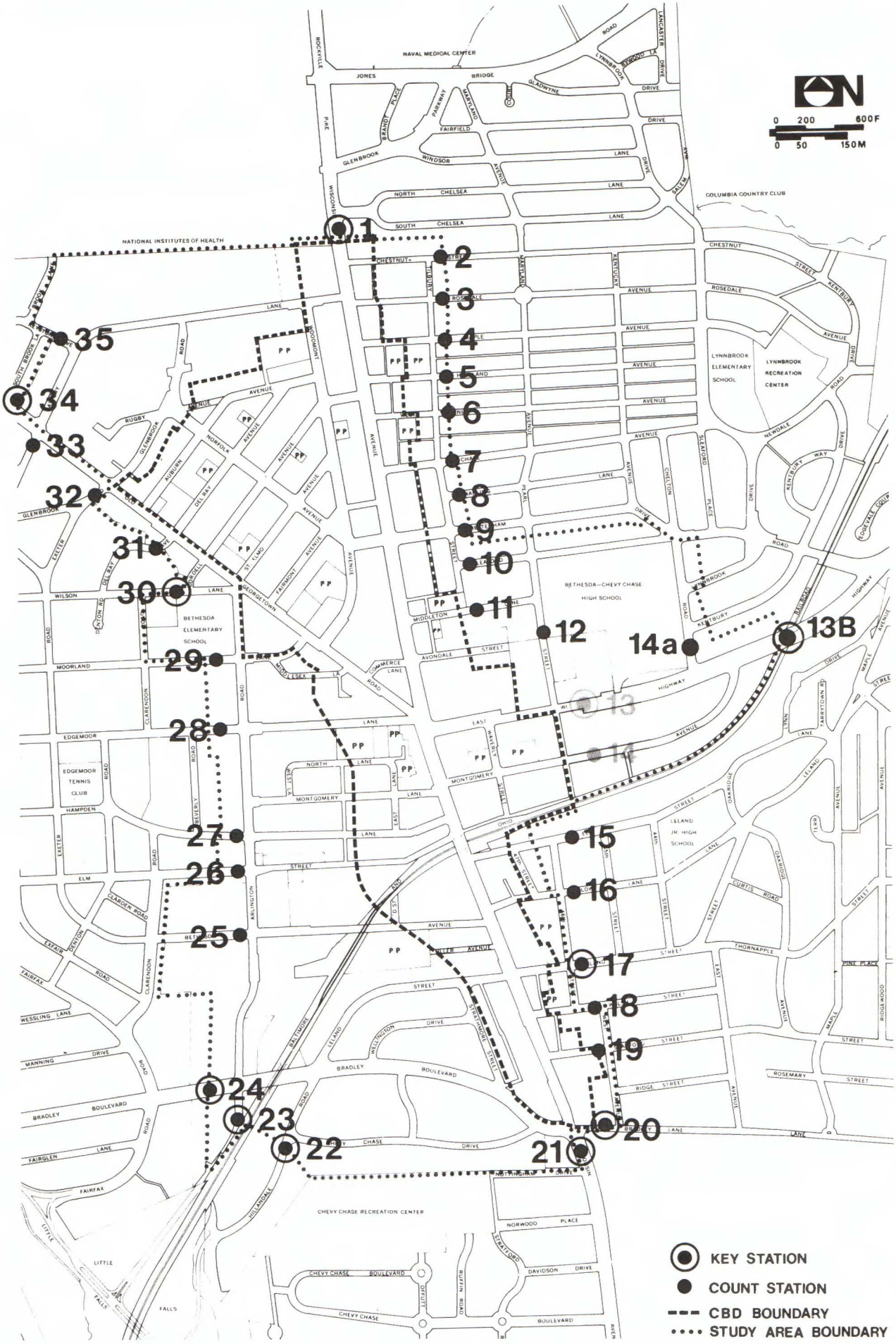
Level of Service and Service Volume (Capacity)

As discussed on page 44 of the Sector Plan, an average not to exceed Level of Service D for the 10 feeder streets at the cordon line was established as acceptable traffic conditions. Establishment of a Level of Service is necessary in order to calculate the service volume of the street system. Service volume varies with Level of Service and with many other conditions. It is a dynamic factor, not a constant. The service volume of the feeder streets in Bethesda was calculated at the D/E breakpoint. The use of an average Level of Service around the cordon line implies that some locations will operate at a lower Level of Service and some at a higher, and in fact this already happens in Bethesda.

Capacity refers to a maximum number of vehicles that can pass a point under prevailing roadway and traffic conditions. The term service volume is used when conditions are pre-established. In this sector Plan, Level of Service D/E has been used as the standard; therefore, the technically correct term is service volume rather than capacity. However, sometimes in this amendment, the two terms may be considered interchangable.

Bethesda Central Business District

Figure A-1
TRAFFIC COUNT STATIONS



Note : The cordon line was moved in 1980 to include the Montgomery Triangle. Stations 13 & 14 were removed; 14a & 13B were added.

Internal Intersections

The use of a cordon analysis may result in internal intersections operating at a lower Level of Service than the average LOS D/E. The Sector Plan traffic analysis does not address the Level of Service at the internal intersections such as East-West Highway/Old Georgetown Road/Wisconsin Avenue or Montgomery Avenue/Montgomery Lane/Wisconsin Avenue.

Travel Pattern Shifts

The use of an average Level of Service across the cordon line also implies that severe congestion on one feeder street will cause drivers to shift routes in order to use a less congested street. The 1980 traffic data shows no indication that this shift is now occurring in Bethesda. However, traffic volumes northbound on Wisconsin Avenue approaching Jones Bridge Road (one of the most congested areas) are lower than in 1973; therefore, it may be that the level of congestion is not yet sufficient to cause shifts in traffic patterns.

Service Volume (Capacity)

The service volume was calculated using the Highway Capacity Manual technique. This technique measures approach volume and is based upon roadway geometrics, traffic characteristics, and signal operation.

The service volume was recalculated as part of the Reanalysis using 1980 signal phasing and timing. The locations used for the service volume calculations were moved nearer the traffic cordon line for some of the calculations. The outbound PM service volumes calculated in 1980 is approximately 300 greater than that calculated in 1974. In 1974, capacity was 13,619; in 1980, 13,908. See Tables A-2 and A-3 for capacity information by feeder street.

The calculations shown in the Preliminary Draft Amendment totaled 13,620 which is virtually the same as the 1974 calculations. During the public hearing process, the calculated service volumes at two locations (Stations 20 and 30) were questioned because the traffic counts showed volumes much greater than the calculated service volumes. Staff re-examined the capacity calculations at these two locations and adjusted both service volumes.

The adjustment for Bradley Lane was based upon field observation and the staff's experience with intersection traffic analysis, particularly the relationship between Critical Lane Volume at D/E and at lower Levels of Service.

The adjustment at Wilson Lane was made in order to include possible right turns from Cordell Avenue onto outbound Wilson Lane. These vehicles were not included in the original 1980 traffic analysis. Service volume for Wilson Lane was calculated at Bradley Boulevard in 1974. Staff chose to calculate this service volume nearer to the cordon line and the best location was between Arlington Road and Cordell Avenue.

TABLE A-2

CORDON LINE SERVICE VOLUME (CAPACITY) AT KEY STATIONS
BETHESDA CBD STUDY AREA
LOS D/E - PEAK HOURS

Station No. Location	1974 PM In	1974 PM Out[a]	1980 AM In	1980 AM Out	1980 PM In	1980 PM Out
1 Wisconsin Avenue south of Jones Bridge Road	2,885	2,890	2,366	2,039	2,368	2,540
13 East-West Highway east of Pearl Street	1,738	1,659	1,712[b]	1,800[b]	1,712[b]	1,800[b]
17[c] Leland Street west of 46th Street	590	590	734	367	367	734
20 Bradley Lane west of West Street	485	485	218	191	255	403
21 Wisconsin Avenue south of Bradley Boulevard	2,008	1,400	1,871	1,888	2,047	1,886
22 Hillandale Road south of Chevy Chase Drive	545	545	702	667	730	572
23 Arlington Road south of Bradley Boulevard	660	1,000	708	758	581	734
24 Bradley Boulevard west of Arlington Road	2,105	2,650	1,574	2,411	1,611	2,411
30 Wilson Lane west of DelRay Avenue	400	400	411	418	321	576
34 Old Georgetown Road north of Battery Lane	2,000	2,000	2,207	2,388	2,279	2,252
TOTAL	13,416	13,619	12,133	12,927	12,271	13,908

[a] *From Sector Plan, page 152*

[b] *Station 13B.*

[c] *Unsignalized intersection.*

TABLE A-3

SERVICE VOLUME (CAPACITY) AND TRAFFIC VOLUMES
BETHESDA CBD STUDY AREA

Station No. Location	1974 PM In	1974 PM Out[a]	1980 AM In	1980 AM Out	1980 PM In	1980 PM Out
1 Wisconsin Avenue south of Jones Bridge Road	2,885 (1,565)	2,890 (2,617)	2,366 (2,369)	2,039 (1,110)	2,368 (1,515)	2,540 (2,430)
13 East-West Highway east of Pearl Street	1,738 (824)	1,659 (932)	1,712[b] (1,445)	1,800[b] (704)	1,712[b] (818)	1,800[b] (1,649)
17[c] Leland Street west of 46th Street	590 (140)	590 (219)	734 (270)	367 (187)	367 (223)	734 (299)
20 Bradley Lane west of West Street	485 (319)	485 (337)	218 (303)	191 (377)	255 (374)	403 (577)
21 Wisconsin Avenue south of Bradley Boulevard	2,008 (2,106)	1,400 (1,635)	1,871 (1,067)	1,888 (1,791)	2,047 (1,926)	1,886 (1,425)
22 Hillandale Road south of Chevy Chase Drive	545 (119)	545 (125)	702 (140)	667 (167)	730 (164)	572 (152)
23 Arlington Road south of Bradley Boulevard	660 (602)	1,000 (434)	708 (496)	758 (422)	581 (580)	734 (556)
24 Bradley Boulevard west of Arlington Road	2,105 (641)	2,650 (854)	1,574 (1,072)	2,411 (368)	1,611 (602)	2,411 (1,032)
30 Wilson Lane west of DelRay Avenue	400 (300)	400 (498)	411 (554)	418 (131)	321 (252)	576 (644)
34 Old Georgetown Road north of Battery Lane	2,000 (1,097)	2,000 (1,673)	2,207 (1,841)	2,388 (750)	2,279 (890)	2,252 (1,814)
TOTAL	13,416 (7,713)	13,619 (9,324)	12,133 (9,557)	12,927 (6,007)	12,271 (7,344)	13,908 (10,578)

a *From Sector Plan, page 152*
b *Station 13B.*
c *Unsignalized intersection.*

NOTE: Number in parenthesis are volumes; other numbers are calculated service volume at Level of Service D/E.

DEVELOPMENT AND TRAFFIC CHARACTERISTICS - 1974 VERSUS 1980

The Bethesda CBD Sector Plan concluded that 3,141,626 square feet of new development over the 1974 level would be acceptable (p. 156 of the Sector Plan). This was a 34 percent increase over the 9,240,079 square feet of development within the Sector Plan area in 1974. The assumption was that new development would occur in the same land use mix ratio as the existing development, thereby producing a 34 percent increase in local traffic.

Development Characteristics and Changes

The changes in land use have been monitored by M-NCPPC Community Planning West Division and reported in the annual Bethesda CBD Monitoring Reports. The reported changes include demolitions and new development.

Figure A-2 shows the total development within the study area at different times during the lifetime of the Sector Plan. Development built and occupied by June 1980 was a nine percent increase in square feet. Committed development, as of January 1982, including estimated square feet for Parcel 13A in the CBD-3 area, was a 29 percent increase over the 1974 development level. The breakdown of the total square footage, by land use, is shown in Figure A-3.

New development is occurring with a land use mix different from that of 1974. In 1974, 31 percent of the existing development was office and 47 percent was residential. As of June 1980, 36 percent of the development was office and 44 percent was residential. Upon completion of the committed development, 41 percent of the development will be office and 37 percent residential.

TABLE A-4

BETHESDA LAND USE MIX AT DIFFERENT TIMES

	As of 1974	As of 1980	Future 1980 plus Committed
Office	31%	36%	41%
Retail	12%	11%	10%
Residential	47%	44%	37%
Hotel/Motel	6%	5%	7%
Miscellaneous	4%	5%	4%

Note: Columns may not add to 100% becuase the numbers have been rounded to the nearest percent.

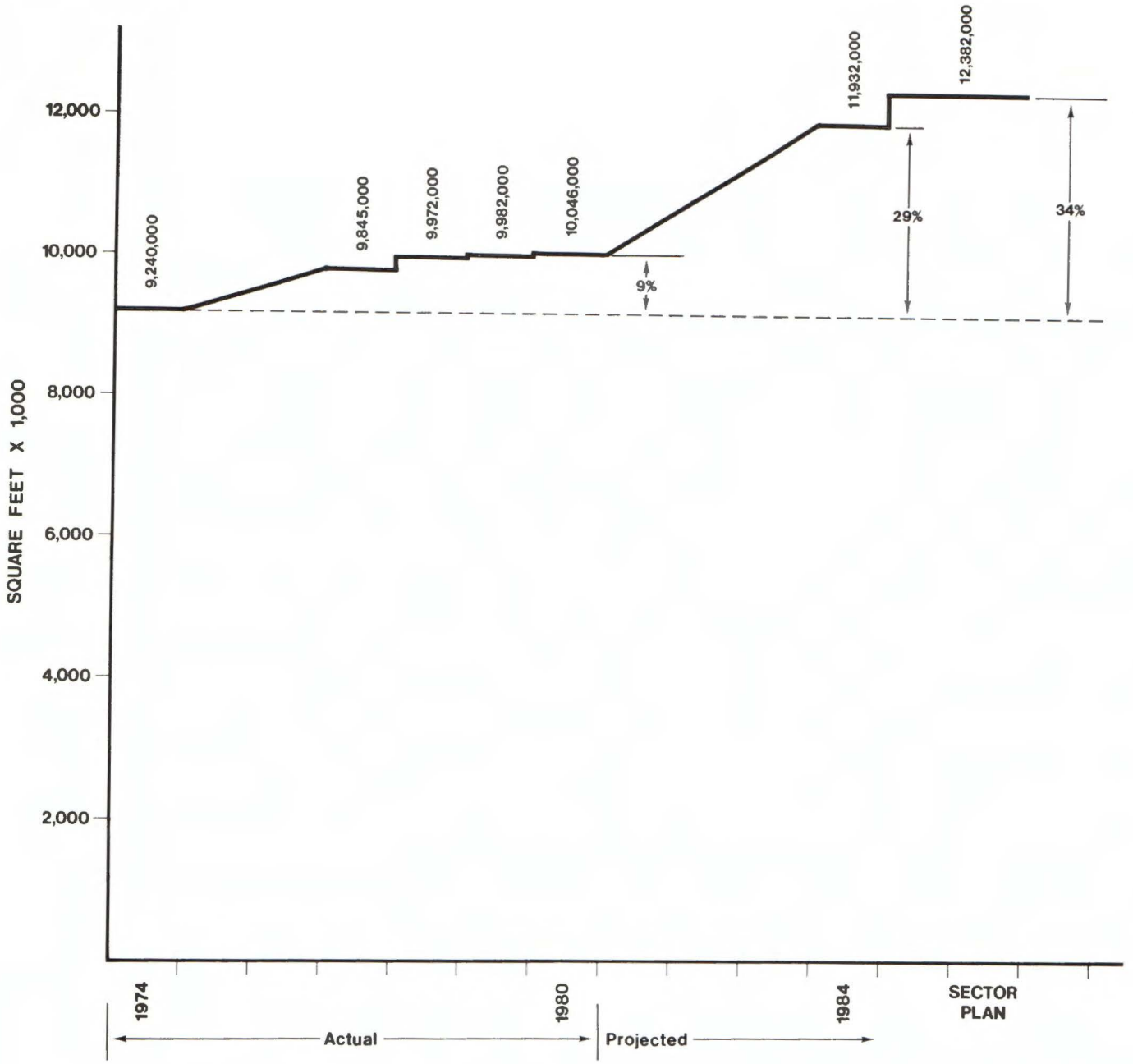


Fig. A-2. Total development, in square feet, within the Bethesda CBD Sector Plan area at different times during the life of the Sector Plan. This graph also shows the percent increase built and occupied as of June, 1980, the percent increase committed as of January, 1982 (including Parcel 13A and the 34% increase established by the Sector Plan.

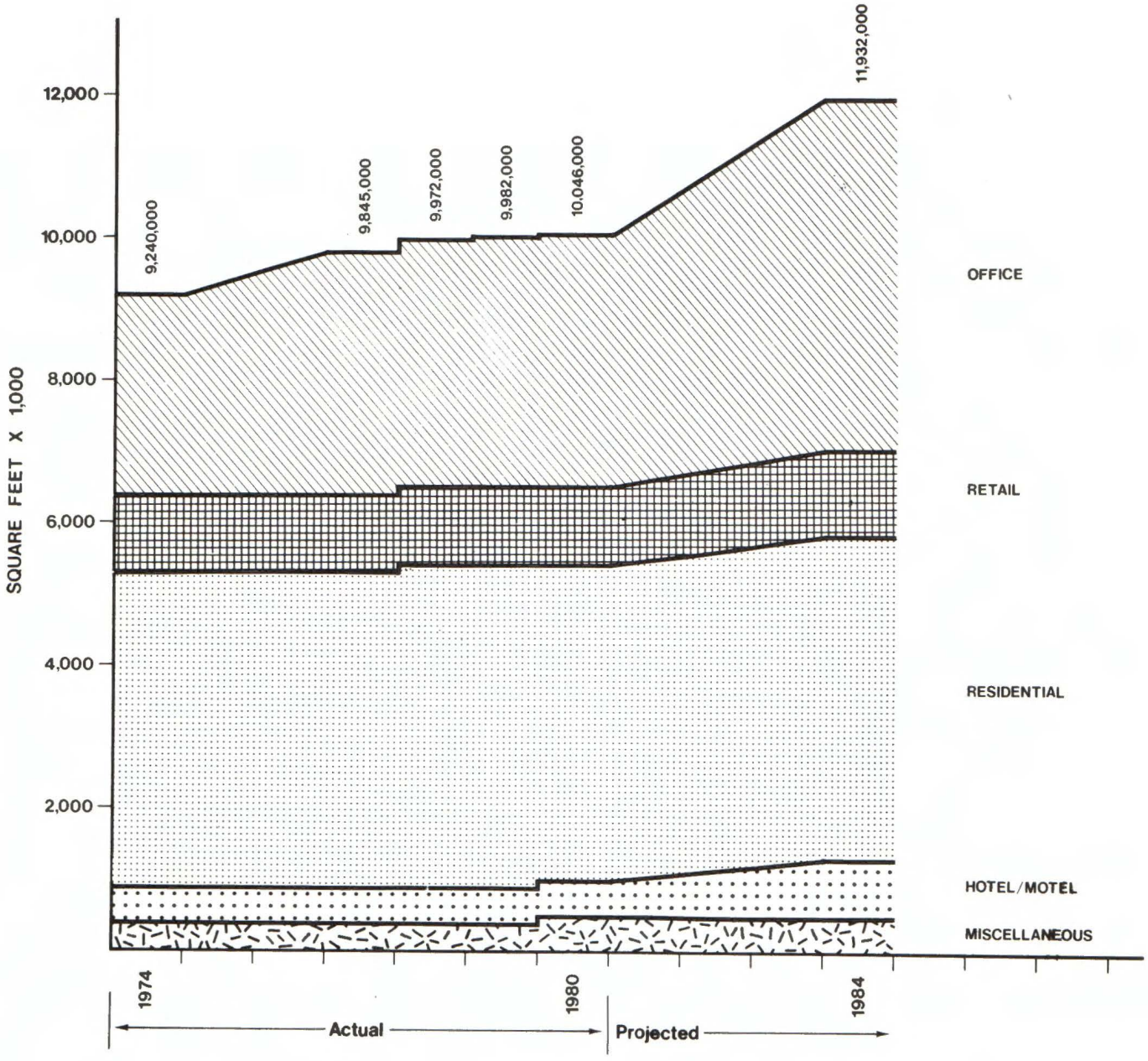


Fig. A-3. Development, by land use and square feet, within the Bethesda Sector Plan area at different times during the life of the Sector Plan.

Based upon the 1974 land use mix pattern, a 29 percent increase in total square footage (development since 1974 plus committed) would have produced 830,428 square feet of office development rather than the 1,302,299 square feet now scheduled.

The land use mix now occurring will generate more traffic than would have been generated had the mix remained constant. As shown in Figure A-4, existing plus committed development is a 29 percent increase in square footage. Using the implied assumption of the Sector Plan that traffic would increase at the same rate as development (in square feet) a 29 percent increase in traffic would be expected. Instead, based upon the Sector Plan trip generation rates, the 29 percent increase in square footage would produce a 44 percent increase in PM outbound trips. (See Figure A-4.)

Traffic Characteristics and Changes

The traffic counts used for the traffic analyses in 1974 and in 1980 are 24-hour machine counts taken by direction of travel. The 1974 counts were recorded by hourly intervals; those taken in 1980 were recorded by 15 minute intervals. In 1974, counts were taken at the cordon line on all 35 streets. P.M. outbound traffic on the minor streets was 1,785. In 1980, counts were taken at the 10 key stations only; traffic on the minor streets was assumed to total 1,500 in accordance with the policy decision to protect total residential neighborhoods from increased traffic. Traffic operational changes to limit access to these residential areas have been implemented since the 1974 counts were taken, therefore, the reanalysis uses the established capacity of 1,500 as the volume for these streets during the PM peak hour.

The total daily traffic crossing the cordon line at the key stations increased 7 percent between 1973 and 1980. However, traffic during the critical 5-6 PM hour and in the critical outbound direction increased 13 percent.

Table A-5 compares the 1974 and 1980 traffic at the cordon line key stations for various times of day. Inbound traffic during the morning peak period increased 19 percent; outbound traffic during the afternoon peak period increased 16 percent. This traffic represents the locally destined trips. The increases reflect the increase in office occupancy and the higher percentage of development that is office space. The Sector Plan assumed that a nine percent increase in development would produce a nine percent increase in traffic. Instead, the actual traffic increase is almost twice that amount.

In contrast, outbound traffic during the morning peak and inbound traffic during the afternoon peak hour each decreased since 1974. These decreases are explained by a reduced number of through trips — a finding confirmed by the traffic analysis.

Another way to visualize these changes is shown graphically in Figure A-5. The baseline figure is the 9 percent increase in development square footage. The changes that match the development increase most closely are the 7 percent increase in the total 24-hour traffic and the 10 percent increase in inbound traffic during the AM peak hour. Also increasing, but at a greater rate, is the outbound traffic during the PM peak hour. Inbound AM traffic and outbound PM traffic are representative of locally generated traffic. Outbound AM and inbound PM traffic decreased. This illustrates the decrease in through traffic as discussed elsewhere.

Traffic data has a number of different components: inbound traffic, outbound traffic, through traffic, local traffic, traffic at the key stations, traffic on the minor streets and total traffic. Total traffic, as used in this chapter, refers to inbound plus outbound; as used in the chapter on Traffic Capacity, total traffic refers to through plus local traffic. Figures A-6, A-7 and A-8 show the summations of traffic crossing the cordon line at the key stations.

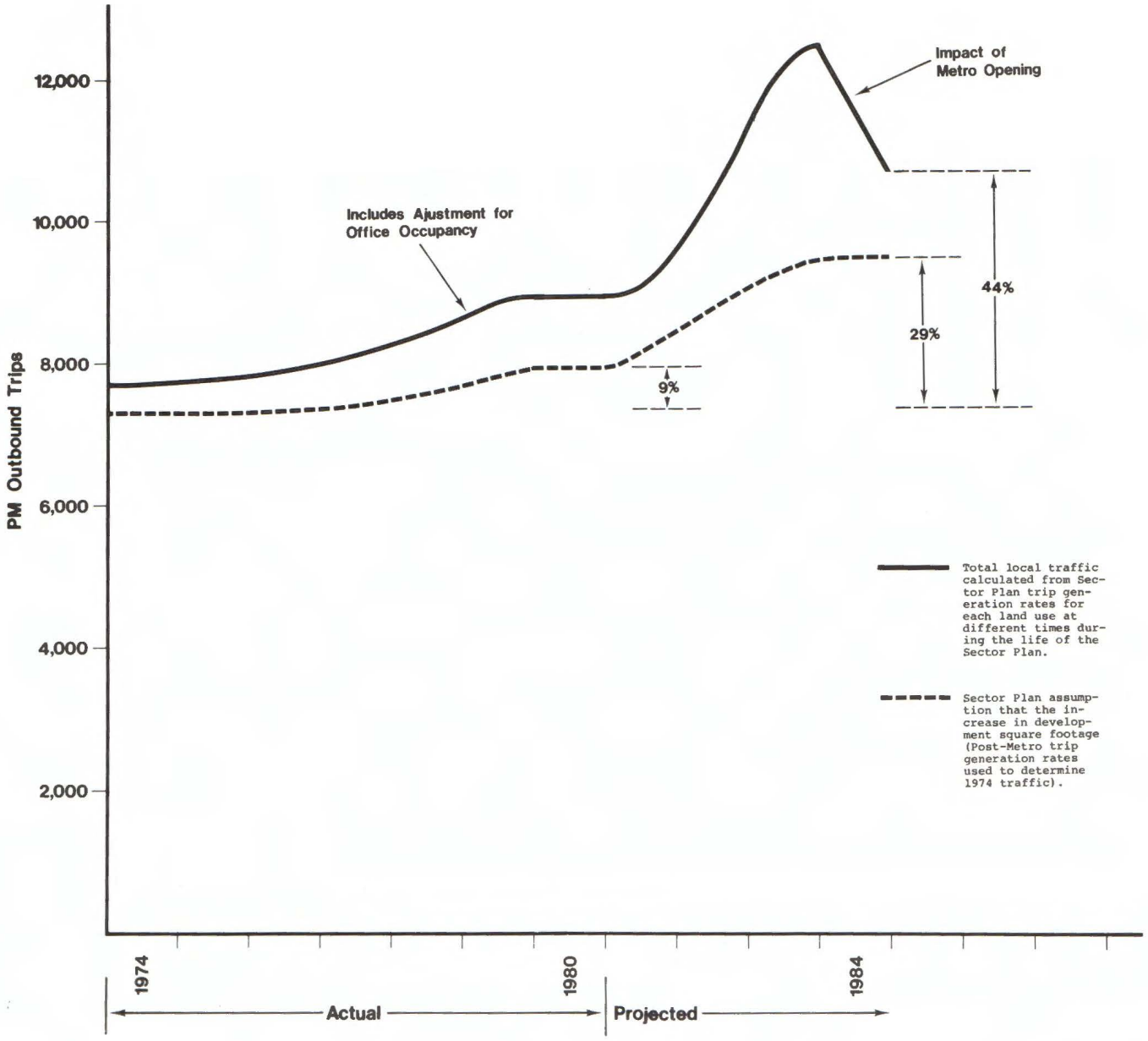


Fig. A-4. Comparison of the increase in locally generated trips for existing plus committed development (1) as assumed by the Sector Plan, and (2) as calculated based upon trip generation rates and development by land use. The difference is caused by the change in the land use mix ratio and the increase in office occupancy rates.

TABLE A-5

COMPARISON OF 1974 AND 1980 TRAFFIC
AT
BETHESDA SECTOR PLAN CORDON LINE KEY STATIONS

	24 Hour Total	12 Hour Total 7 AM-7 PM	Morning Peak Period 7-9	AM Peak Hour 8-9	PM peak Hour 5-6	Afternoon Peak Period 4-6
Outbound						
1973	93,249	73,769	11,120	6,937	9,324	16,817
1980	100,548	79,099	10,297	6,007	10,578	19,468
Change	7,299	5,330	-823	-930	1,254	2,651
% Change	+8%	+7%	-7%	-13%	+13%	+16%
Inbound						
1973	94,391	75,830	13,210	8,660	7,713	14,878
1980	100,167	80,320	15,683	9,557	7,344	14,485
Change	5,776	4,490	2,473	897	-369	-393
% Change	+6%	+6%	+19%	+10%	-5%	-3%
Total						
1973	187,640	149,599	24,330	15,597	17,037	31,695
1980	200,715	159,419	25,980	15,564	17,922	33,953
Change	13,075	9,820	1,650	-33	885	2,258
% Change	+7%	+7%	+7%	0	+6%	+7%

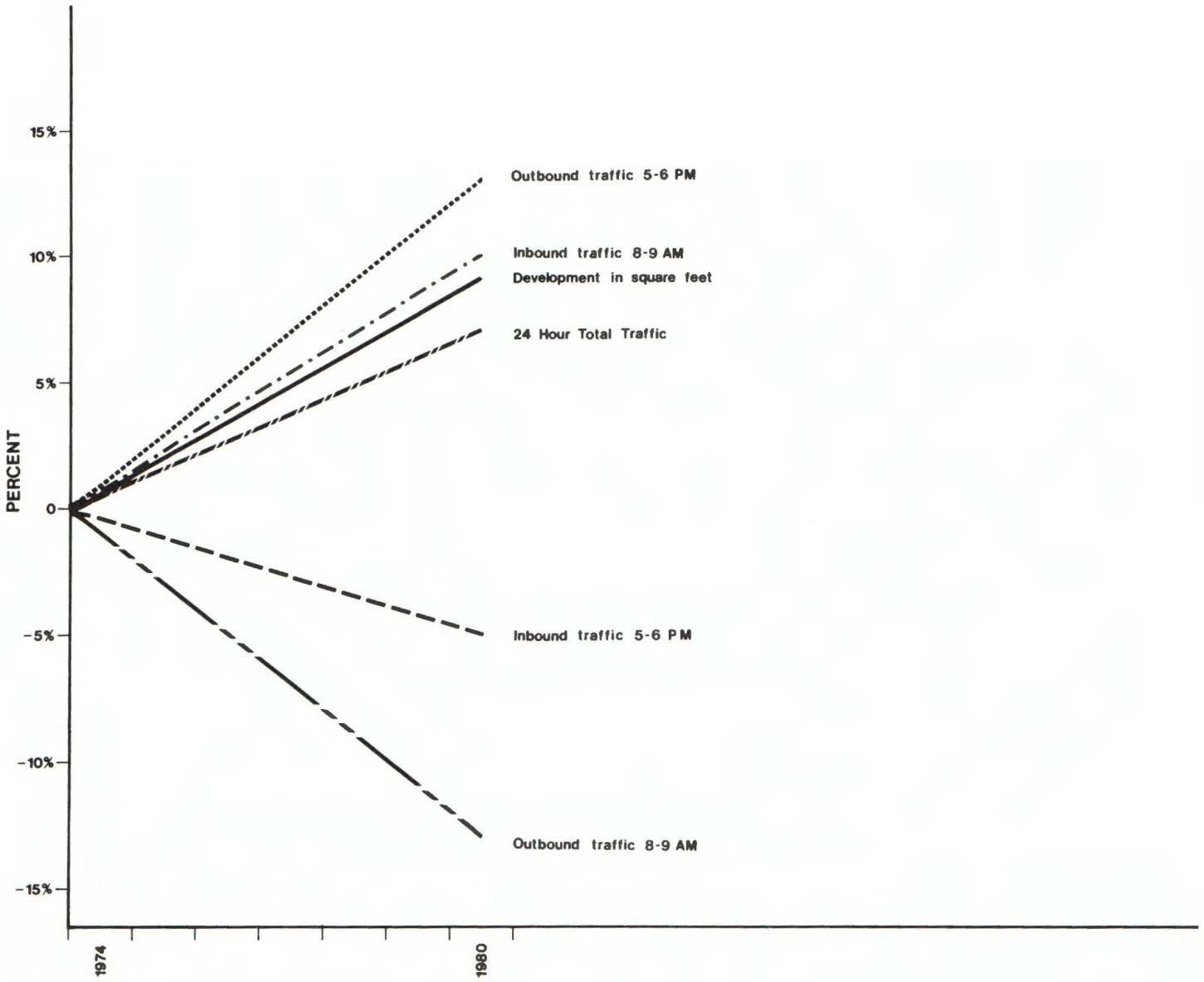


Fig. A-5. Percent chance between 1974 and 1980 of development, 24 hour total traffic, and peak hour traffic by direction. Note that AM inbound and PM outbound traffic (local) increased more than development and that AM outbound and PM inbound traffic (through) decreased.

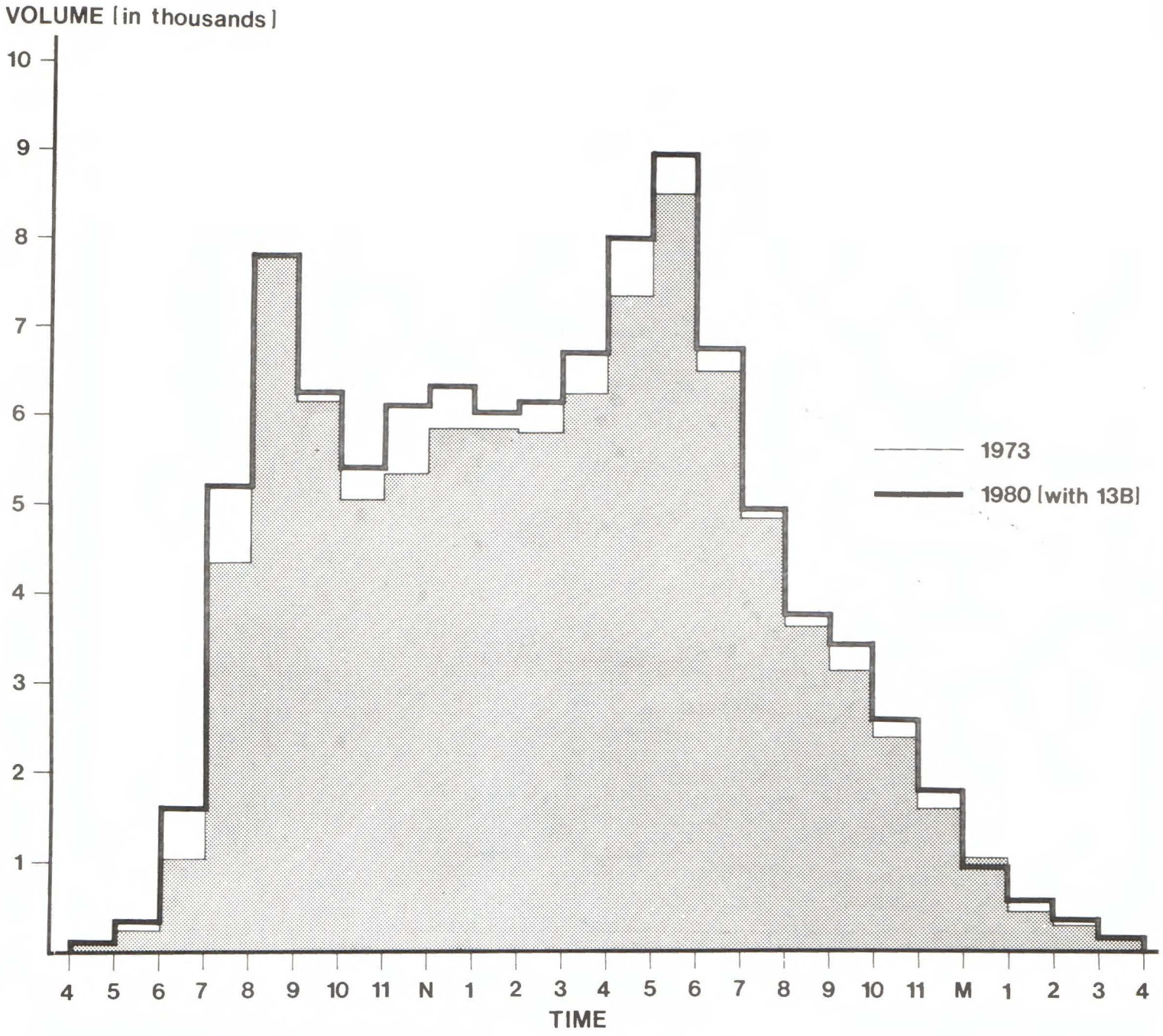


Fig. A-6. Total traffic at key stations - Bethesda Sector Plan cordon line, 1973 versus 1980 for a 24 hour period.

Total traffic has increased during most periods of the day. Figure A-6 shows the total traffic, by hour, during a 24 hour period. Inbound traffic increased during the morning and early afternoon with the greatest increase occurring between 7 and 8 AM. The inbound peak hour is 8-9 AM; the two hour morning peak is 8-10 AM; the three hour morning peak is 7-10 AM. The afternoon peak hour is 5-6 PM; the peak period is 4-6 PM. Outbound traffic increased all hours except during the 8-10 AM period with the greatest increase occurring between 4-6 PM. Thirty-six percent of the total outbound increase occurred during these two hours. Figure A-7 shows inbound and outbound traffic summations at the cordon line for key stations by hour between 7 AM to 7 PM.

The 15 minute volumes show the traffic patterns in finer detail than can be done with hourly volumes. (See Figure A-8.) The AM peak inbound period is between 7:30 and 9:45 AM with the highest peak occurring between 8:30 and 9:00 AM. The afternoon peak hour is between 5 and 6 PM, but between 5:15 and 5:30 PM traffic reaches a volume (2,926) equivalent to an hourly volume of 11,704, which is 11 percent more than the actual peak hour. This illustrates the fact that Bethesda experiences momentary traffic surges and levels of congestion worse than the peak hour conditions. Compensating for this is the fact that traffic conditions are better than the average hourly conditions for approximately half of that period.

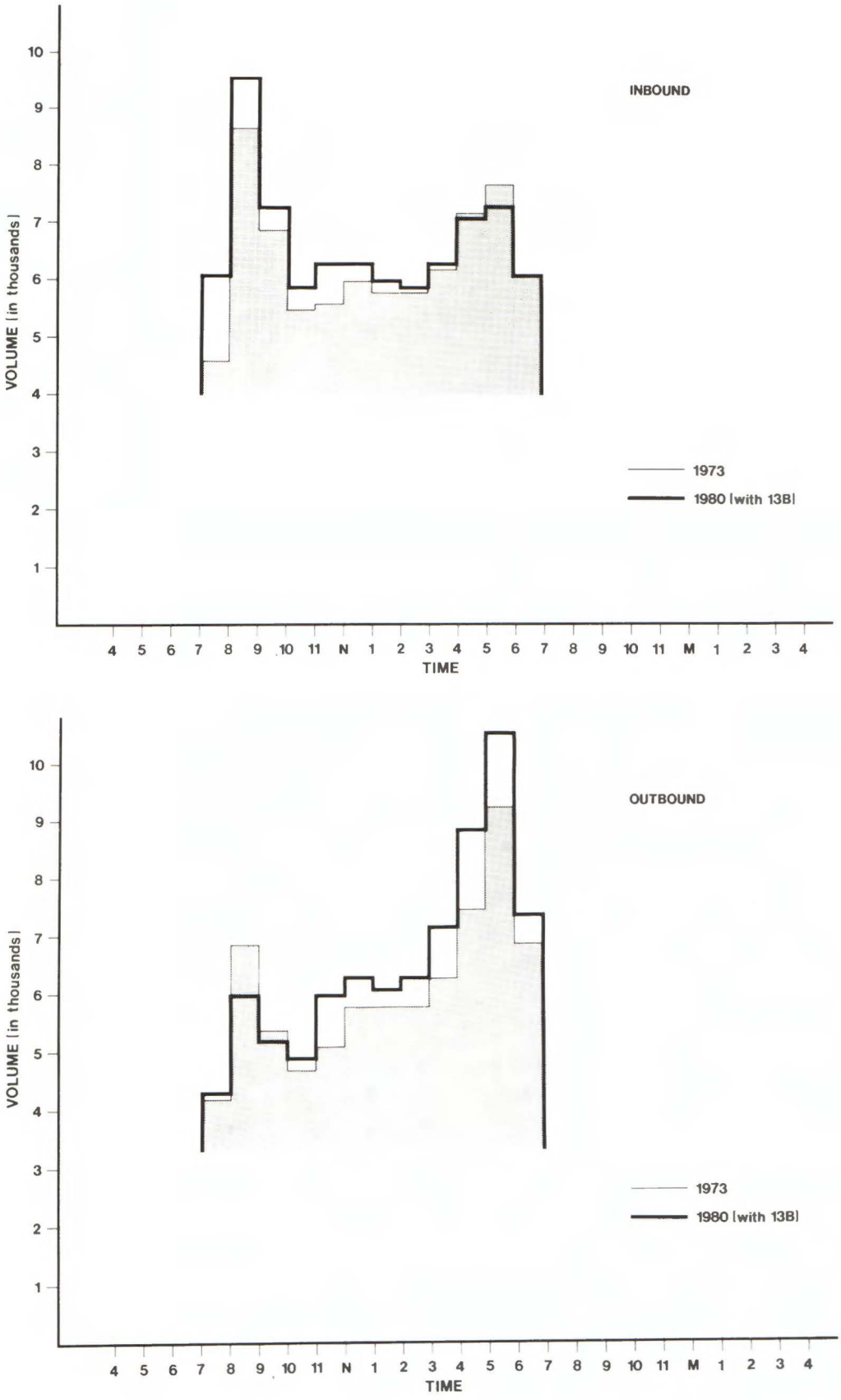
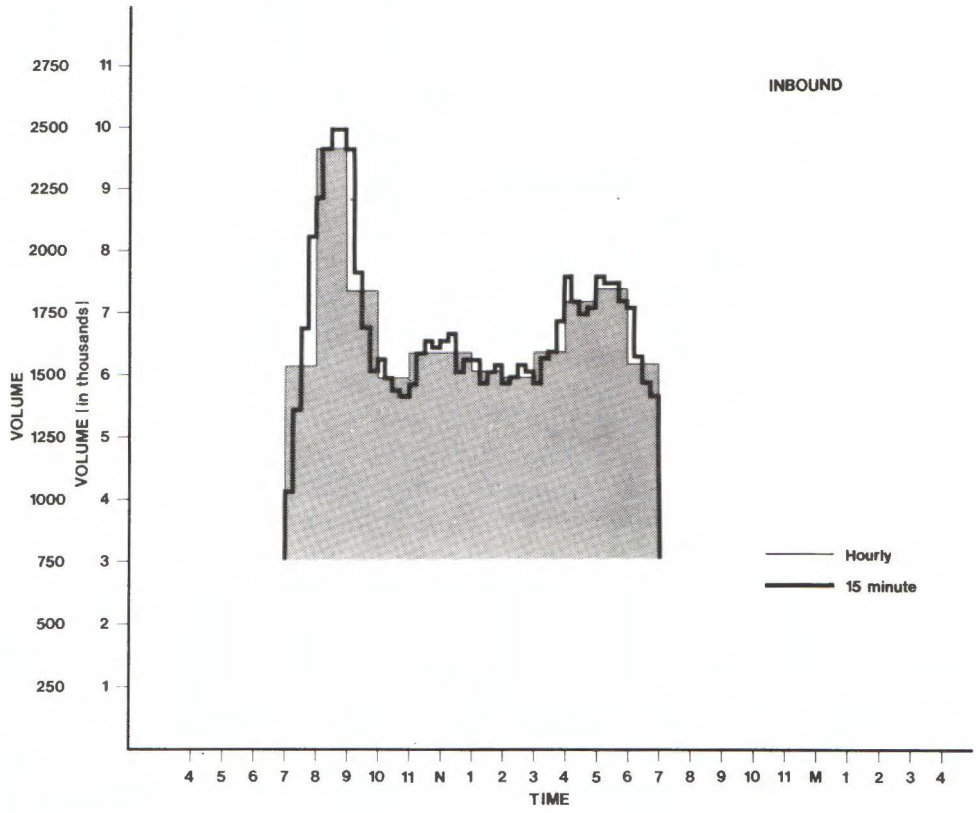


Fig. A-7. Traffic at key stations shown by direction for the Bethesda CBD Sector Plan cordon line, 1973 versus 1980 for 12 hour period.



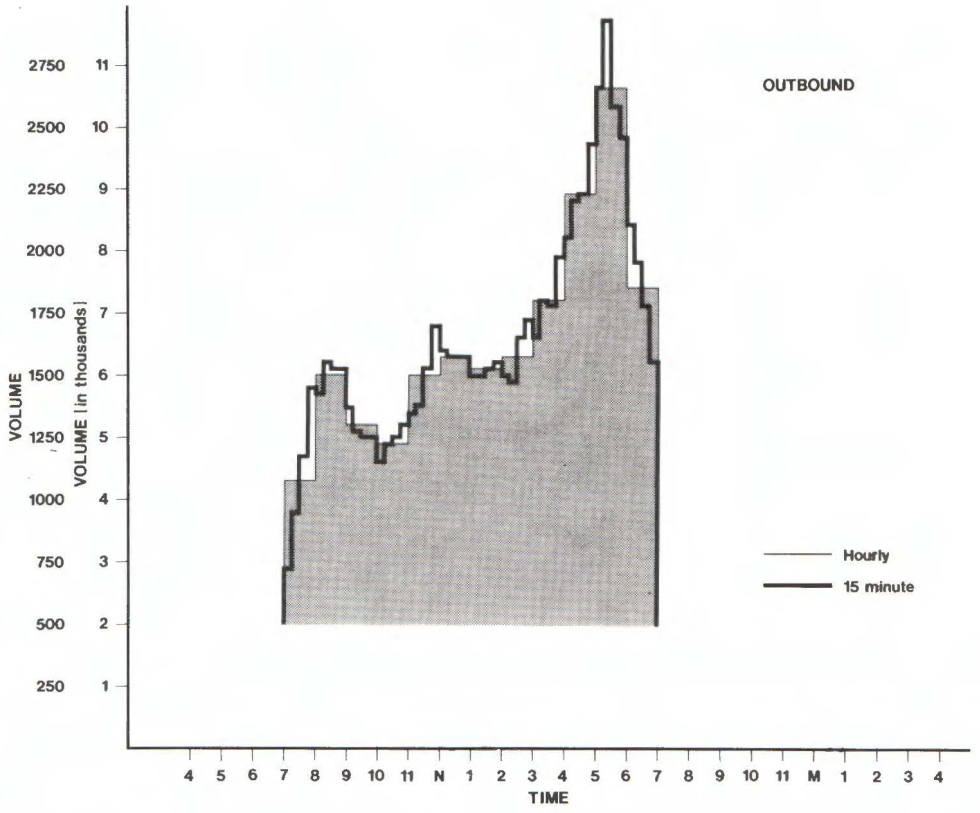


Fig. A-8. 1980 traffic at key stations, shown by direction, Bethesda CBD Sector Plan cordon line, hourly volumes versus 15 minute volumes.

TESTING THE SECTOR PLAN ASSUMPTIONS

The 1974 Sector Plan traffic analysis assumptions were tested by applying them to 1980 development conditions and comparing the result with the measured 1980 traffic conditions. To be valid, the assumptions must satisfy both the 1974 and the 1980 conditions. If the assumptions fail to satisfy either set of conditions (and they did not match the 1980 data), then adjustments to the assumptions must be made. The adjustments are based upon information acquired after the original traffic analysis and are tested against the 1974 and the 1980 traffic data.

Through Traffic

The traffic that is measured at the cordon line is total traffic. Total traffic is the sum of locally generated traffic and through traffic--neither of which is a measured number. Standard traffic engineering procedure when preparing a cordon line traffic analysis is to calculate the local traffic (using the trip generation rates multiplied by the development square feet). The calculated local traffic is then subtracted from the measured total traffic to give a calculated through traffic.

Local traffic is directional--it either enters or leaves the study area at the cordon line. Through traffic enters the study area at one point on the cordon line and leaves at another point. Because a trip through the Bethesda study area, even during the peak period, requires only a few minutes, the calculated inbound through traffic should be approximately equal to the calculated outbound through traffic during a one-hour period.

The 1974 PM peak hour calculated through traffic was well balanced--inbound was 3,067; outbound was 3,364. (See Figure A-9). This balance was viewed as confirmation that the trip generation rates were the correct rates. However, when these rates are applied to the 1980 data, the calculated inbound through traffic is only 1,777 and the calculated outbound is 3,167/figures that are very much out of balance.

This imbalance indicates that, although the trip generation rates seemed reasonable and correct in 1974, the rates do not match the data collected in 1980. Therefore, rates need to be adjusted so they will match both the 1974 and 1980 conditions.

Trip Generation Rates - Background

The reanalysis study examined the trip generation rates in light of information obtained since 1974 and checked new assumptions against the measured traffic volumes. The results are listed in Table A-I, which appears with the Summary, and in Tables A-6 and A-7. The base for the reanalysis trip generation rates for each land use category are discussed below.

Residential

The Bethesda CBD residential trip generation rate was developed in 1974 using a complicated mathematical formula that contained several factors. Each factor had to be either measured or assumed. The rate was 0.79 vehicle trips per dwelling unit. This rate is on the high side of the rate for townhouses and garden apartments and higher than the rate for high-rise apartments subsequently developed as part of M-NCPPC guidelines for Adequate Public Facilities review.

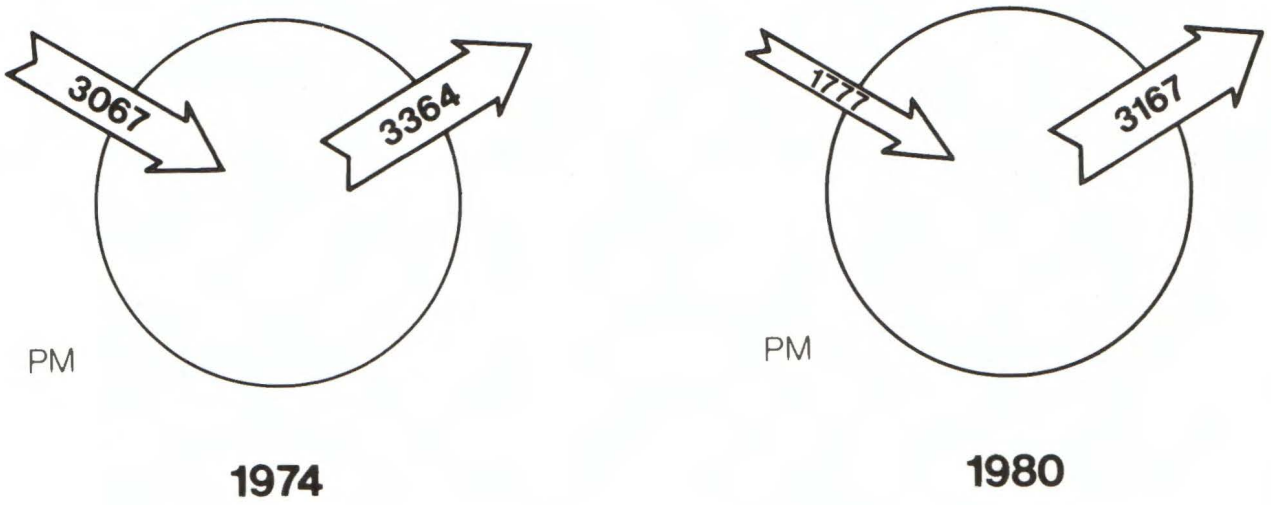


Fig. A-9. Original Sector Plan Assumptions. Calculated PM peak hour through traffic, by direction, for 1974 and for 1980 using the Sector Plan trip generation rates. The circle represents the cordon line.

Therefore, this Reanalysis concludes that the residential trip generation rate for Bethesda should be changed. Instead of using a complicated formula that requires a number of assumptions, the Reanalysis uses 0.60 vehicle trips/dwelling units as the peak hour trip generation rate. This corresponds with the lowest rate for garden apartments and townhouses, is the mid-point of the high-rise rate and is lower than the single-family detached rate. An adjustment backwards to 1974 was made based upon the mode split assumptions.

A directional split of 30 percent outbound and 70 percent inbound during the PM peak hour (and the reverse in the mornings) is assumed. This is the same directional split used in 1974 and is consistent with the M-NCPPC guidelines for Adequate Public Facilities review.

Office

Assumptions used in 1974 to develop the office trip generation rate:

- 5 employees per 1,000 square feet of floor area
- 60% of the employees arrive during the AM peak hour and leave during the PM peak hour
- 66% of all employees drive autos prior to Metro
- 55% of all employees will drive autos after Metro becomes operational
- 70% of all traffic generated by office uses will be in the "major direction;" i.e., inbound in the AM peak hour and outbound in the PM peak hour
- 12% of the total employment for any facility will be absent due to sickness, vacation, etc., on any particular day
- 20% vacancy rate for office space in Bethesda at the time the traffic counts were taken
- 10% vacancy rate for office space when Metro becomes operational

Better data is now available for some of these factors. The Sector Plan relied upon 1970 Census information. Census data is classified by home address and, therefore, is representative of residential trip origin patterns but not necessarily of office trip destinations. A better source of office trip characteristics is the 1980 Bethesda Travel-to-Work Survey conducted by M-NCPPC and the Washington Metropolitan Council of Governments as part of the Parking Policies Study now in progress.

That survey indicates that 79 percent of all employees drive autos rather than the 66 percent assumed in 1974. The 66 percent estimate came from the 1970 Census. It stands to reason that people who live in Bethesda, where Metrobus service is available, have a lower auto driver rate than people who work in Bethesda and come from many different areas, some of which have no transit service.

The projected post-Metro auto driver rate is determined by converting an auto driver to a transit passenger. The Sector Plan analysis used a 1974 nine percent mode split for the 1974 conditions (based upon Census data) and used a projected post-Metro 20 percent mode split. This resulted in a Post-Metro auto driver rate of 55 percent. The Travel-to-Work Survey shows a seven percent mode split in 1980 and the Reanalysis uses a projected post-Metro 25 percent mode split. This results in the reanalysis post-Metro auto dirver rate being 61 percent.

Since the 1980 mode split was seven percent and since transit use is known to have increased since 1974, a 1974 mode split of five percent was assumed. This translates into an 81 percent auto driver rate for 1974.

The office vacancy rate for the Bethesda CBD in 1974 was 20 percent--1974 was a recession year. The preliminary Sector Plan work assumed full occupancy of office by the time Metro opened but the final plan assumed 10 percent. The vacancy rate in mid-1980 was approximately five percent and this Reanalysis assumes that it will be five percent post-Metro.

When the office trip generation rate is recalculated using the five percent vacancy rate, the 1980 trip generation rate becomes 2.37 vehicle trips per 1,000 square feet. This is a very high office trip generation rate--higher than we would normally use anywhere in Montgomery County.

The final Sector Plan used a 70/30 directional split for office trips. That is, 70 percent of the trips are assumed outbound during the PM peak hour and 30 percent are assumed inbound. This is an unusual split for office trips. We would normally use 85/15 or 80/20. The studies from the Silver Spring Before and After Study indicate that 85/15 during the PM and 90/10 during the AM can be considered typical.

Data from the Institute of Transportation Engineers Trip Generation Handbook indicates a 85/15 split. The reanalysis uses an 80/20 PM split and an 85/15 AM split because these splits best match the count data.

The Sector Plan assumed that 60 percent of the employees arrive during the AM peak hour and depart during the PM peak hour. The Travel-to-Work Survey indicates that this rate should be 45 percent.

The combined effect of these changes is to modify the office trip generation rate. The recalculated PM rates in vehicle trips per 1,000 square feet are:

Sector Plan			Reanalysis			
	Total	Outbound			Total	Outbound
1974	1.99	1.39	1974		1.60	1.28
1980	2.37	1.66	1980		1.86	1.49
Post-Metro	1.87	1.31	Post-Metro	(25% mode split)	1.44	1.15
				(20% mode split)	1.55	1.24

Retail

The retail trip generation rate for 1974 was assumed to equal a community shopping center rate. The community shopping rate was judged to be similar to the type of retail activity within the study area, and this is still considered to be true. The only adjustment to this rate made by the Reanalysis is the introduction of a AM rate. Only a PM rate was used in 1974.

It seems reasonable that an area with grocery stores, drug stores, a donut shop, restaurants that serve breakfast and stores that open early in the morning will generate some trips between 8 and 9 AM. The Reanalysis uses an AM retail trip generation rate that is 25 percent of the PM rate.

Hotel-Motel

The hotel rate was changed from 0.8 vehicle trips per room to 0.7 vehicle trips per room based upon information presented in a recent optional method application for a project located in Friendship Heights. The hotel/motel rate for Friendship Heights and for Bethesda had the same base, therefore, when the Friendship Heights rate changed, the rate for Bethesda also needed to be changed. In the absence of any consistent information concerning directional split, a 50 percent inbound/50 percent outbound directional split has been used.

Miscellaneous

No adjustments have been made to the 1974 trip generation rates for miscellaneous uses.

New Trip Generation Rates

As illustrated in Figure A-10, the Reanalysis trip generation rates produce balanced inbound and outbound through traffic for both 1974 and 1980. Because the data now demonstrates a good mathematical fit, the trip generation rates are judged to be appropriate. Compare the through trips shown in Figure A-10 (based upon the new trip generation rates) with those shown in Figure A-9 (based upon the original trip generation rates). The original trip generation rates match the 1974 measured traffic volumes but not that of 1980. The new trip generation rates (the Reanalysis rates) match both the 1974 and 1980 measured traffic. The Reanalysis trip generation rates are listed in Tables A-6 and A-7. The Reanalysis post-Metro PM outbound rates, assuming a 25% mode split, were used for all trip calculations in this amendment.

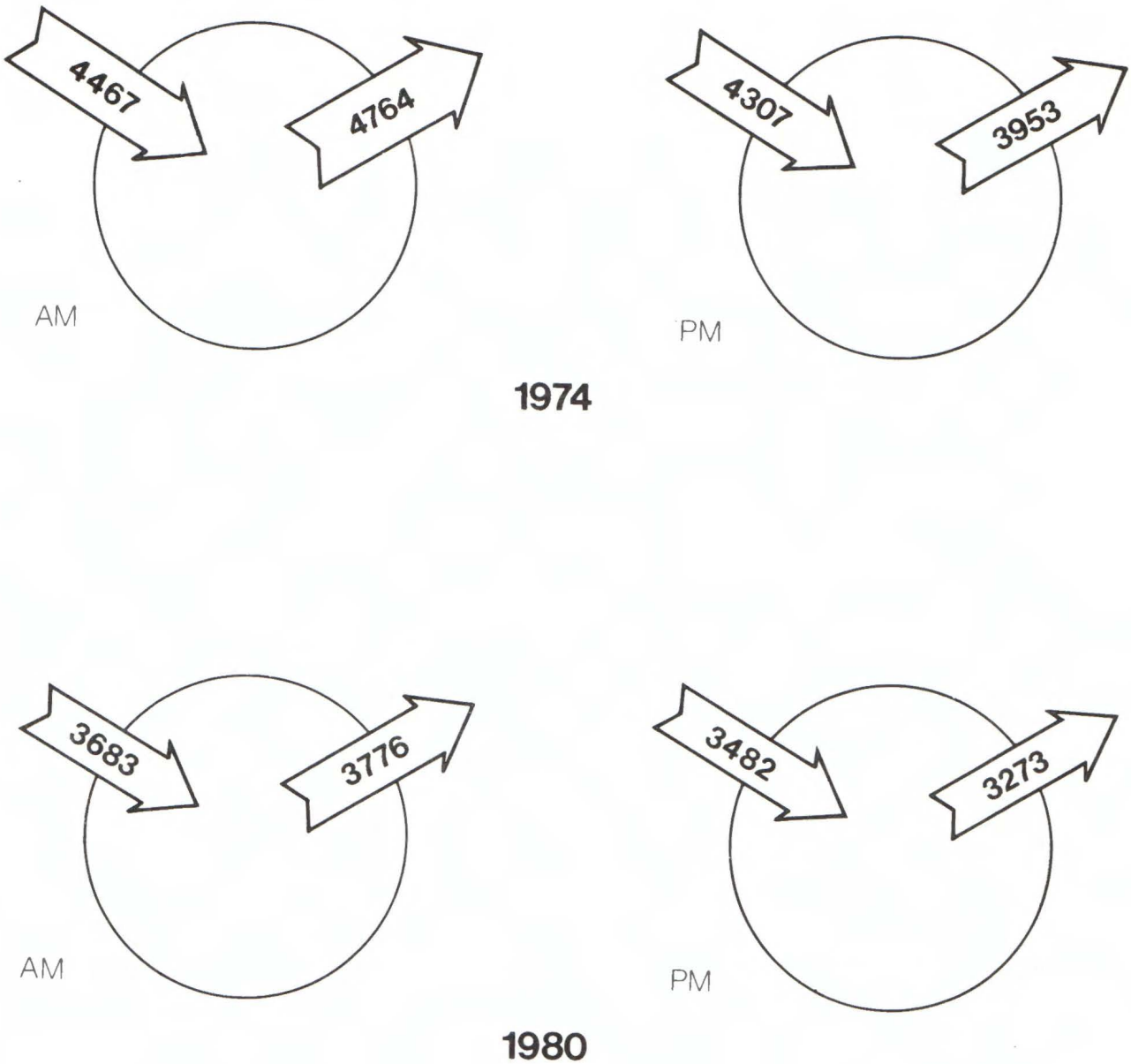


Fig. A-10. Reanalysis Assumptions. Calculated PM peak hour through traffic, by direction, for 1974 and for 1980 using the Reanalysis trip generation rates. The circle represents the cordon line.

TABLE A-6

BETHESDA TRIP GENERATION RATES

	1974 Conditions				1980 Conditions				Post-Metro Conditions			
	AM		PM		AM		PM		AM		PM	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Reanalysis+												
Office	1.28	.23	.32	1.28	1.49	.26	.37	1.49	1.15	.20	.29	1.15
Retail	.49	.49	1.94	1.94	.49	.49	1.94	1.94	.49	.49	1.94	1.94
Residential	.19	.43	.43	.19	.18	.42	.42	.18	.14	.33	.33	.14
Hotel/Motel	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
Miscellaneous	.90	.24	.29	.90	.90	.24	.24	.90	.90	.24	.24	.90
Final Sector Plan												
Office			.60	1.39			.71	1.66			.56	1.31
Retail			1.94	1.94			1.94	1.94			1.94	1.94
Residential			.55	.24			.55	.24			.46	.20
Hotel/Motel			.36	.44			.36	.44			.36	.44
Miscellaneous			.24	.90			.24	.90			.24	.90
Preliminary Sector Plan												
Office			.35	1.39							.36*	1.45*
Retail			1.94	1.94							1.94	1.94
Residential			.63	.16							.53*	.13*
Hotel/Motel			.36	.44							.36	.44
Miscellaneous			.24	.90							.24	.90

+ *Post-Metro office and residential rates based upon a 25% mode-split.*

* *Within CBD, outside - in .44; out 1.74 for office; in .63; out .16 for residential.*

NOTE: Office, retail, and miscellaneous rates are vehicle trips per 1,000 square feet of gross area. Residential rates are vehicle trips per dwelling unit. Hotel/Motel rates are vehicle trips per room.

TABLE A-7

BETHESDA POST-METRO TRIP GENERATION RATES
FOR VARIOUS MODE-SPLIT ASSUMPTIONS

	AM		PM	
	In	Out	In	Out
20% Mode Split				
Office	1.24	.22	.31	1.24
Retail	.49	.49	1.94	1.94
Residential	.16	.36	.36	.16
Hotel/Motel	.35	.35	.35	.35
Miscellaneous	.90	.24	.24	.90
25% Mode Split*				
Office	1.15	.20	.29	1.15
Retail	.49	.49	1.94	1.94
Residential	.14	.33	.33	.14
Hotel/Motel	.35	.35	.35	.35
Miscellaneous	.90	.24	.24	.90
30% Mode Split				
Office	1.05	.18	.26	1.05
Retail	.49	.49	1.94	1.94
Residential	.13	.29	.29	.13
Hotel/Motel	.35	.35	.35	.35
Miscellaneous	.90	.24	.24	.90

* *Same as Reanalysis, Post-Metro Conditions shown in Table A-6.*

NOTE: Office, retail, and miscellaneous rates are vehicle trips per 1,000 square feet of gross area. Residential rates are vehicle trips per dwelling unit. Hotel/Motel rates are vehicle trips per room.

REANALYSIS OF SUPPORTABLE DEVELOPMENT

The technique used to determine traffic capacity available for traffic from new local development is to (1) calculate the capacity of the street system, (2) reserve capacity on the street system for expected through traffic and Metro-related traffic, and (3) reserve capacity for the amount of traffic to be generated by the existing development plus committed development in the post-Metro time period. The remaining capacity not reserved by these commitments is available for traffic from new development.

The capacity for trips from new development can then be translated into development capacity, using the Reanalysis trip generation rates and using varying assumptions about the land use. Because the traffic capacity is a limited commodity, the land use proposals should be tailored to fit within the available trip capacity.

Capacity

The capacity of the street system is discussed in the section "Sector Plan Traffic Analysis." The critical capacity is that available for outbound traffic during the PM peak hour. Capacity is calculated at the cordon line for the 10 feeder streets. Increased traffic on the remaining streets is undesirable, therefore, their capacity is assumed to be 1,500. Outbound PM peak hour capacity is 15,408.

Through Plus Metro-Related Traffic

Calculated Through Traffic

The 1974 analysis calculated the PM peak hour through traffic to be 3,067 inbound, 3,364 outbound for an average of 3,216. The Sector Plan assumed that cross-county through traffic would increase by 350 vehicles by 1985 (3 percent per year at station 13, 17, 20, 24, and 30) and that corridor direction traffic increases would be balanced by diversions to Metrorail over the lifetime of the Sector Plan. Space reserved on the street for through traffic in the 1974 analysis was 3,566.

The Reanalysis has found that through traffic between 1974 and 1980 declined. Based upon this decline, the Reanalysis projects no growth in through traffic. The calculated 1974 through traffic is 3,668; that for 1980 is 3,273. Space reserved for through traffic is 3,273. The traffic analysis does not contain any rounded numbers because the technical staff decided against rounding numbers during the calculations. The fact that numbers are shown to the units column is not intented to imply that this analysis is accurate to that degree.

Friendship Heights Through Traffic

In addition to the calculated through traffic in 1974 plus its projected growth, capacity was reserved for future through traffic to be generated by new development in Friendship Heights. In 1974, space for 1,000 such through trips was reserved. In 1980, development already completed and occupied in the Friendship Heights area was calculated to generate 326 through trips; these were measured as part of the total traffic by our traffic counts. Therefore, the Reanalysis reserves only 674 spaces for new through traffic from future Friendship Heights development.

Metro-Related Traffic

Metro-related traffic in the 1974 study included 260 PM peak hour bus and kiss-n-ride trips. This number has not changed. At that time, no parking for Metro riders was planned for Bethesda. Since 1974, the decision was made to provide 600 park-n-ride spaces near the Bethesda Metro station. These 600 spaces are expected to produce 180 outbound trips during the PM peak hour that are new Bethesda trips. Therefore, capacity is reserved in the calculations for a total of 440 PM peak hour outbound Metro-related trips.

Traffic Generated by Local Development

The traffic expected to be generated by local development (existing and committed) is calculated from the square footage, according to land use and the Reanalysis post-Metro trip generation rates. Committed development includes all projects scheduled as of January 1, 1982 and an estimated square footage reserved for the Lorenz site. Locally generated traffic from existing plus committed development is calculated to be 9,969 PM outbound trips with 20 percent mode split and 9,455 with a 25 percent mode split.

Capacity for New Development

The capacity available for new development is calculated as follows:

	20% Mode Split	25% Mode Split
Capacity at Level of Service D/E	15,408	15,408
Projected Through plus Metro-related Traffic	-4,387	-4,387
Capacity Available for Local Development	11,021	11,021
Traffic Generated by Existing plus Committed Development, Post-Metro	-9,969	-9,455
Capacity Available for New Development	1,052	1,566

Mode Split

Planning staff is recommending that the assumption and policy for the post-Metro mode split for office and residential uses be changed from 20 percent to 25 percent. The net effect of this proposed policy change would be to increase the PM peak hour outbound trips available for new development by approximately 500 trips. This recommendation for changing the mode split percentage is based upon several factors which are discussed below.

There is a better understanding now of what transit use can be expected when the Bethesda Metro station opens. When the Bethesda Sector Plan analysis was carried out in the 1974-1976 period, the Metro system had not yet opened. Since that time, 40 miles of track and nearly the same number of stations are in operation. Several studies were made to determine the effect of Metro on various items including that of the mode split in the

vicinity of the Metro stations. As given in a recent report by the Council of Governments,[1] the percent using transit to commute to work in the central area went from just under 38 percent to 43 percent between the spring of 1977 and the fall of 1978. The section on the Silver Spring case study indicated that the work trips to Silver Spring using transit went from 10 percent to 13 percent within a few months after the station opening. Subsequent surveys conducted by our staff have indicated that the percentage of workers in Silver Spring using transit is now closer to 20 percent.

The regional transportation analyses which formed the major basis for the selection of 20 percent mode split in the Bethesda Sector Plan have also been updated in the subsequent time period. These regional forecasts have been carried out by COG (the Washington Metropolitan Council of Governments) in cooperation with WMATA (Washington Metropolitan Area Transit Authority). These more recent analyses have used some methodical changes in the analysis which were designed to better simulate the changes in behavior which would be associated with the introduction of major changes in the transit system. The previous regional forecast showed an expected mode split for work trips using transit to Bethesda in 1990 to be approximately 22 percent. The more recent analyses show that the percentage of work trips using transit to get to Bethesda in the 1990 time period would be approximately 32 percent. The recent travel to work surveys in the Bethesda area, conducted by our staff with the cooperation of COG and the County's Parking Division staffs, have indicated that the current mode split in Bethesda is approximately seven percent. The simulation model of current conditions indicates a mode split of approximately 11 percent. Therefore, it can be expected that the most recent estimate for the 1990 time period using COG's simulation model may be somewhat higher than what will actually occur.

The Bethesda Sector Plan and the Reanalysis estimates the mode split at the point of time shortly after the opening of the Bethesda Metro station. When the Sector Plan was being prepared, the following pattern of changes in mode split over time were expected: (a) an initial sharp jump in the transit use percentage, (b) a gradual increase for a short period of time, and then (c) continuing increase, with a decreasing rate of increase, for a long period of time. Observations of actual experience have tended to confirm this pattern. Due to the expected pattern, the Sector Plan selected a mode split percentage, less than the 1990 simulation which was available at that time, to represent the expected conditions shortly after the opening of the station. In a similar fashion, the staff is recommending that a lower percentage than the more recent 1990 forecast be used. Given the experiences described above, it is recommended that acceptance of a 25 percent mode split would be an appropriate policy assumption to be used in the Bethesda Sector Plan Reanalysis.

One other factor which contributes to the higher projections of transit use in the more recent regional forecast is the programmed availability of County operated Ride-On community transit service in the Bethesda-Chevy Chase area. The previous analyses envisioned feeder bus service being provided only by Metrobus operation. Those services were expected to be generally uniform throughout the entire Metrorail system depending upon the relative location of each station in the system. The more recent analyses have incorporated higher projected levels of transit service in Montgomery County which is reflective of the additional transit service being provided by the County's existing and

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1 *Table 5.4, page 89, The First Four Years of Metrorail: Travel Changes, Dunphy, Robert T. and Robert E. Griffiths, Metropolitan Washington Council of Governments, 1981*

proposed Ride-On systems. While no analyses have been carried out to determine the component of increased mode split attributable to Ride-On service, it is nevertheless felt that its assumed availability in the recent regional analyses has been an important factor resulting in the higher forecasted mode split. The degree to which the County operated Ride-On service is initiated in the Bethesda area significantly before the opening of the Metrorail service we would more likely expect the achievement of a higher initial shift in transit mode split within the time period shortly after the station opening.

There are other transportation programs and policy features which can contribute and make more certain the higher mode split being recommended in the Reanalysis. One such feature would be the existence of an on-going ridesharing program in Bethesda which, based upon experiences in the Silver Spring program, would provide some reinforcement of transit use. Similarly, the policies for setting parking fees within the Parking Lot Districts could also reinforce a higher level of transit use than coud otherwise be achieve.

Ridesharing

A new ridesharing program in Silver Spring has been highly successful in informing people about their transportation options and helping them form carpools and vanpools and use public transit. The Planning Board initiated the program, called Share-A-Ride, in September 1979 as a demonstration project serving employees of the Silver Spring business district.

The program applies a new approach that is very effective in suburban employment centers--areas of the County that have the worst traffic problems, yet where other ride-sharing programs have had the least success. The program uses a personalized, manual process as opposed to the impersonal, computerized process typically used by other programs. The program has demonstrated that the use of field representatives in combination with new marketing, matching, and follow-up techniques can make the difference in influencing major changes in travel behavior in such areas.

During the past two years, the personalized approach used by Share-A-Ride has achieved outstanding results. Approximately 10 percent of the Silver Spring employment force has applied to the program, and 50 percent of the participants have entered new ridesharing arrangements. The net effect is reduced parking demand, fewer cars on the streets, and large savings for the people now sharing rides.

The results of the program in Silver Spring help predict the impact such a program would have in Bethesda. Both areas are down-County business districts containing a broad mix of land uses and a high proportion of small businesses. As successful as a personalized program has been in Silver Spring, it would be even more successful in Bethesda. The Bethesda business district has a larger employment force, proportionally more office workers, and a more severe parking situation--factors that can improve program results.

Having a personalized ridesharing program in place as new development enters Bethesda also assures higher levels of participation. New businesses and their employees are typically very interested in finding and trying out more efficient ways to get to and from work.

Assuming such a program starts in Bethesda in 1982 and offers continuous service to the employees there, it would remove approximately 500 vehicles from the critical time, critical direction of travel in Bethesda by the end of the second year of operation. This figure does not include persons influenced to use public transit. New transit riders due to the program would contribute 1/2 percent to the overall 5 percent increase in mode split we assumed earlier. Based on the positive experience in Silver Spring, and the high potential in Bethesda, we consider 500 vehicles to be a conservative figure.

We caution the reader that the projected reductions are based on a personalized, continuous program on the scale of the existing Share-A-Ride program in Siver Spring, Past experience has shown that other ridesharing programs which use short-term, "blitz" marketing campaigns, send out "one-shot" computerized match lists, and lack regular follow-ups with their applicants are ineffective in suburban business districts. The Share-A-Ride approach, however, succeeds because it maintains a close and continuous partnership with businesses who actively assist in promoting the program and employs field representatives who personally contact employers, match applicants, and follow-up with participants. Also essential to the success of the program has been a local office which is within easy access of the market area. This office primarily facilitates the frequent direct personal contacts with the employers and businesses that display the program's promotional materials.

Available Trips

The analysis of supportable development is illustrated in Figure A-11. This graph shows the traffic capacity, the space reserved for Friendship Heights and Metro-related traffic (note the decrease in space reserved for new Friendship Heights traffic), through traffic, and traffic generated by local development. The graph is drawn as if all committed development will be constructed and occupied by December 1983 when Metrorail was scheduled to open. Actually, full build-out of the committed development is not likely to happen before 1985 and may not occur before 1986. Metrorail is now scheduled to open mid-1984.

The white band on the graph represents capacity available at different times during the life of the Sector Plan. This graph shows conditions with a 20 percent mode split for office and residential uses. With a 25 percent mode split, capacity is available for 1,566 trips. With a ridesharing program, either Share-A-Ride expanded to Bethesda or a similar program, an additional 500 trips are available for a total of 2,066. For convenience, this 2,066 trip capacity can be rounded to 2,100.

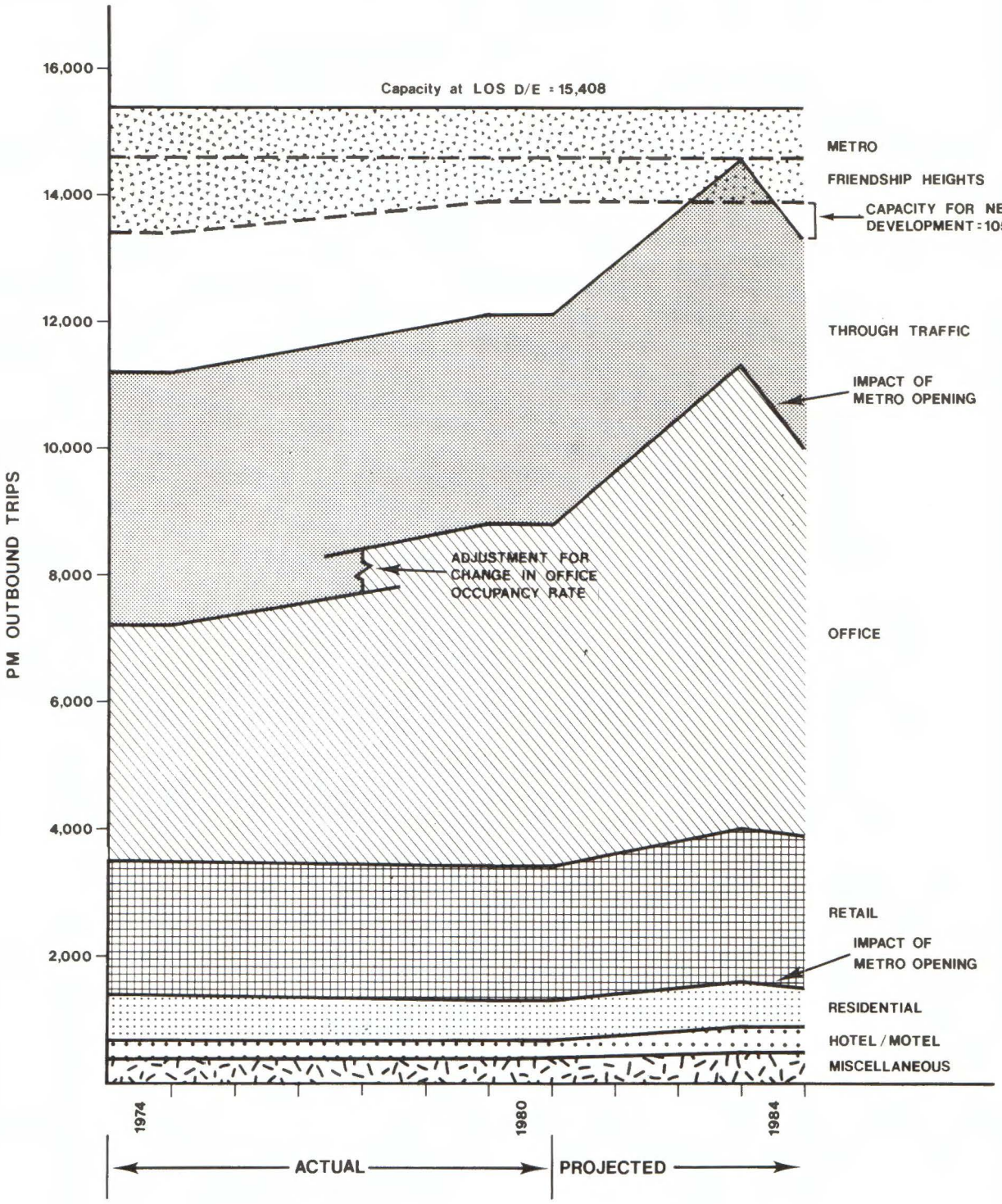


Fig. A-11. PM peak hour outbound trips, Bethesda CBD Sector Plan study area, by type of trip, during life of the Sector Plan. Local traffic is calculated using the Reanalysis trip generation rates with a 20% mode split. Capacity is reserved for Metro-related trips and for through trips to be generated by future development in Friendship Heights.

FINDINGS AND RECOMMENDATIONS

The Reanalysis has adjusted the Bethesda Sector Plan trip generation rates to those shown in Table A-6 based upon (1) recent travel-to-work information for Bethesda employees, and (2) traffic data at two points in time - 1974 and 1980.

The Sector Plan assumption that the land use mix ratio would remain constant over time did not prove valid. The land use mix has changed greatly. In 1974, 31 percent of the total square footage was office. When the committed development is complete, 41 percent of the total square footage will be office. Therefore, development should now be limited by the number of available trips, translated into specific land use allocations, not by square feet based upon an assumed land use.

The cordon line was moved to include the Montgomery Triangle area. This change locates all of the Bethesda CBD Study Area within the traffic cordon line so that all locally-generated traffic has been captured in the field counts.

Through traffic has decreased between 1974 and 1980. The Reanalysis projects no growth in through traffic. (The Sector Plan projected growth at three percent per year for the cross-County streets.)

The office vacancy rate for Bethesda was approximately five percent. The Reanalysis projects this rate for the post-Metro period. (The Sector Plan projected a 10 percent vacancy rate.)

Current mode-split projection and actual experience with the use of Metrorail indicates that a 25 percent mode-split for work trips to Bethesda is a reasonable expectation. This higher mode-split projection is in part based upon the programmed availability of Ride-On in Bethesda. The degree to which Ride-On is initiated significantly before Metrorail service starting, the more likely we could expect to achieve a higher mode-split when the Metro station opens.

Experience in Silver Spring with a pilot project for a personalized ridesharing program, called Share-A-Ride, indicates that such a program, if begun in 1982 in Bethesda, has the potential to remove 500 peak hour outbound trips from the streets. It also contributes approximately ½ percent to the 25 percent mode-split by helping people find appropriate transit matches.

As a result of this Reanalysis, the plan amendment makes the following recommendations:

(1) Limit new development commitments to specific land uses so the expected PM peak hour outbound trips are no more than 2,100;

(2) Begin Ride-On bus service in the Bethesda area as early as possible prior to the opening of Metrorail service.

(3) Establish a personalized ridesharing office during 1982 (similar to the Silver Spring Share-A-Ride program) to serve Bethesda; and

(4) Schedule a second reanalysis to be performed in conjunction with the Metrorail before and after study. Such a reanalysis would include the measurement of through traffic.

APPENDIX B

MARKET CONSIDERATIONS

APPENDIX B
MARKET CONSIDERATIONS

Recent information and data was reviewed to provide an indication of near-term new development potential in the Bethesda CBD area. Information sources include various consultant and staff studies about the Washington regional area economy and the Montgomery County local subeconomy. Development potentials are discussed for future high-density residential, office and retail, and hotel-motel uses over a period covering the remainder of the 1980's.

RESIDENTIAL MARKETS

Because of prevailing land values and scarcity of vacant sites, residential development in the Bethesda CBD will be constrained to high density apartment units usually in elevator structures. New residential multi-family construction in Montgomery County since 1975 has been limited primarily by available subsidy programs provided through Federal housing programs. The exceptions include a limited number of high-value condominium buildings constructed in extremely high-amenity areas such as Friendship Heights and White Flint. The prevailing condominium market has largely been supplied through the conversion and partial renovation of existing rental buildings.

New multi-family residential construction has averaged 823 units annually since 1975. About 150 units annually were high-value new condominium construction. The staff has had discussions with key developers of high-value condominium projects in the Washington Region. These interviews indicate that there are many economic barriers to development of privately financed residential projects in the Bethesda CBD under the prevailing land values and density constraints.

Montgomery County had a very tight rental vacancy rate of 3.1 percent as of 1980. The demand for additional rental construction is estimated Countywide to be 1,000-2,000 units annually. This demand, due to high construction costs and interest costs, can only be met through subsidized mortage programs, most typically Section 8 Tandem Financing Programs, which are no longer being funded. The only new housing constructed in the Bethesda CBD in recent years was the 158 unit Waverly House for the elderly, which was constructed under a subsidized grant program. These programs, if implemented in the future, will require special land writedowns and incentives as discussed under the Housing Opportunities section.

Recent financial prototypes produced for the Silver Spring Joint Development Study by consultants indicate potential market prices for typical 1,050 square feet condominium units in a 15-story building near the Metro Station. This economic financial analysis is based on land values of $7 per square foot, construction costs of $60 per square foot, and produces a minimum sale price of $125,000 per unit.

At this price level, privately constructed condominiums in the Bethesda Metro area would require an income-to-purchase of almost $61,400 considering a 14 percent mortgage rate and 20 percent down payment requirement. At the same land values, a mid-rise building would have slightly lower costs and townhouse units would have slightly higher costs.

The median Montgomery County household income was estimated at $39,000 in 1980 and this is expected to advance to $46,500 by the year 1990 (in constant 1980 dollars). This indicates that affordability for new residential condominiums will be extremely restricted to only the smaller segment of high income households and households able to afford substantially greater equity investment above the normal 20 percent down payment. It is estimated that less than five percent of total County new housing demand, expected to average 4,000 units annually over the 1980's, will fall into this category. If

the Bethesda CBD were able to capture 50 percent of this computed potential, then 100 units per year could conceivably be marketed, or 600-700 units prior to 1990. Lower interest rates on newly operational Federal mortgage programs could increase this potential somewhat. To realize this potential, appropriate land values must be secured and this may require multi-use development prototypes where high land values can be partially shifted to non-residential office and retail space on the same site.

COUNTY HOUSING POLICY

An imbalance is developing in Montgomery County housing stock as a result of rising costs and demand which far exceeds the supply. To maintain the present quality of life and to provide a range of housing opportunities during the 1980's, housing must be produced within affordable ranges for middle income households.

In response to this problem, Montgomery County has recently adopted a comprehensive housing policy statement and plan of action. The "Housing Policy for Montgomery County in the 1980's" states that:

> "Continuation of the same trends indicate that during the next decade, most multi-family rental housing constructed without governmental assistance will be luxury units with very high rent or sale levels. Some groups are particularly dependent upon rental housing opportunities, for example, starter, elderly and moderate income households."

In response to these problems Montgomery County, through the housing policy statement and otherwise, has pledged to make maximum use of federal and state funds to meet local housing needs. It is also committed to expend local funds to leverage other federal, state and private funding sources to achieve maximum production with emphasis on rental and cooperative units. Among the objectives is to increase the potential for developing housing units within the CBD and transit impact areas with convenient access to public transportation and community facilities.

The Montgomery County Department of Housing and Community Development is charged with establishing a housing finance program in conjunction with the Housing Opportunity Commission and/or Revenue Authority to engage in the following activities:

a) Establish construction and permanent loan assistance programs for rental housing.

b) Enter into joint ventures or contract with the private sector to build, own, and operate multi-family rental buildings.

c) Explore the opportunities to expand the below market financing programs for purchasing moderately priced units.

d) Co-venture development of housing which utilizes innovative designs, technology, and materials and which can be marketed within desired price ranges.

The prevailing market conditions favor financial returns which are greater for non-residential developments such as office buildings and hotels. Little private market activity will be devoted to residential construction in Bethesda, and virtually none in affordable price ranges. Incentives must be provided through the public sector to encourage residential construction within affordable price ranges.

The optional method of CBD development provided in the zoning ordinance does give density bonuses to multi-use projects which provide a certain amount of residential construction. This could produce some housing near the Metro center which otherwise would not be provided.

Opportunities exist to utilize publicly owned land in the Bethesda CBD for multi-use purposes, including affordable housing construction. This opportunity is particularly significant because it would make zero cost land available for new residential construction, thus reducing final unit costs and making these units more affordable to moderate income renters or buyers. This amendment encourages joint use of parking sites and other County-owned sites for housing construction. The most obvious opportunity is Garage 49, north of Metro Center on Old Georgetown Road. Three hundred fifty units of moderate cost housing could be provided if an agreement can be reached between the County and a private developer.

There is a sizeable residential area on the west side of the Bethesda CBD (designated for TS-R area), (Transit Station-Residential) zone which is ideally located for affordable housing. Efforts by private investors to assemble the fragmented land parcels in this area are proceeding. However, high land prices may make lower cost housing construction unlikely. The County could explore co-venture development opportunities in this area with land owners and/or developers to build, own, or operate multi-family rental buildings. The possibility of land writedowns by the County might be explored to allow private non-profit sponsors to qualify for federal financing (the Section 202 Elderly Housing Financing Program) to provide moderate cost multi-family elderly housing. Due to land assembly problems, it is likely that only about 60 percent of the TS-R area will be built to the permitted density (about 600 units).

New housing may also be constructed in the Battery Lane area. A potential of 380 units could be built on three parcels, which are already zoned for residential use. Two sites have been identified as having potential for elderly housing. Another site, north of the Triangle Towers apartment building, has the potential for providing 100 units. These projects could provide for housing needs associated with the National Institutes of Health.

OFFICE AND RETAIL MARKETS

Since 1970, approximately 13.1 million square feet of privately developed new office construction has occurred in Montgomery County. This represents about 19.3 percent of the total private office space development of 68.1 million square feet in the Metro Washington area.

Over the years, Montgomery County's share of total regional office construction has fluctuated greatly, with the County building about 16.0 percent in 1981. The County's construction rate over the 1970-81 period averaged just under 900,000 square feet annually. However, since 1979 the office market, both locally and regionwide, has been booming. New construction in Montgomery County in 1980 and 1981 totalled over 1,200,000 square feet in each year. As of July 1981, there were 2,400,000 additional square feet of office space either under construction or in advanced planning stages in Montgomery County. If realized, this amount of construction would represent a peak in new office development which has not occurred since 1970-71.

In late 1981, there are indications that the office space market, while still quite viable, may be showing signs of developing softness. Vacancy surveys by Montgomery County as of April 1981 show an increase in the vacancy rate from 3.1 percent in 1979 to 3.5 percent in 1981, when 701,500 square feet remained vacant. Of this total, 123,000 square feet was in the Bethesda/Chevy Chase area. Cutbacks in federal spending for consultant services by the federal government will affect the continued expansion of the suburban Montgomery County office market. Stringent requirements by the GSA against leasing in privately-owned space will also mitigate against expansion dependent on federal government occupancy.

Various office developers in Montgomery County have frequently sited the growing gap between highly esculating downtown Washington office rents and those rents in the suburbs. Typically new office space can be built in Montgomery County for $16 per square foot and up. New office space in downtown Washington has been renting for just under $30 per square foot and is expected to increase as new buildings are completed. Land values for downtown sites are approaching figures ten times that prevailing for suburban sites. This wide discrepancy in rents over the long run is expected to encourage additional dispersion of office leasing to suburban locations. Certain areas in Montgomery County, such as Bethesda, seem uniquely poised to capture shares of this shift in the office market fleeing from highly inflated downtown Washington rents.

In the Bethesda CBD, 1,089,200 square feet of new office construction has been completed since 1974. This represents 16.5 percent of the total Countywide construction of 6,590,000 square feet during the same time period, most of which occurred in the Rockville, North Bethesda, and I-270 Corridor areas. As of late 1981, there was 953,560 square feet of office space under construction or in the advance planning stages in the Bethesda CBD. Based on an average annual County construction rate of 900,000-1,000,000 square feet annually over the 1980's and optimistically assuming a 20 percent capture of total County construction for the Bethesda CBD, then the annual office potential in Bethesda would be 180,000-200,000 square feet per year. Through the end of the 1980's, this would indicate a maximum potential of 1,260,000-1,400,000 additional square feet.

Assuming all planned projects go forward to construction prior to 1990, then the remaining unrealized potential is 306,000-446,000 square feet.

Montgomery County is amply serviced by many retail shopping centers for both comparison retail, shoppers goods and convenience commercial uses. The exceptions to this condition occur only in rapidly growing retail service areas on the suburban fringe where great additions of new households support additional convenience commercial space. In the Bethesda area, the household population will not increase enough to justify anything more than a marginal increase in retail space. On the other hand, an increase in the daytime office employment will justify some increase in retail shoppers goods stores such as specialty shops, restaurants and clothing stores. This additional space is likely to be developed only in conjunction with multi-use office buildings or hotels and will probably not constitute more than 5 to 10 percent of the total space provided.

New retail space constructed in the Bethesda CBD since 1974 totals 63,000 square feet. Current planned projects call for an additional 168,740 square feet of retail space. Based on this criterion, a small increase in retail potential is foreseen in the range of 50-125,000 square feet. Some redevelopment of existing retail centers may occur but this will not add substantially to retail space already in place. Conversations with supermarket representatives reveal a continued commitment to keep three stores in the Bethesda CBD area. A combination of renewed leases, remodeling and expansion of facilities is occurring.

HOTEL-MOTEL MARKETS

Montgomery County experienced a significant growth in transient room accommodations during the 1950's and 1960's, however, no motels or hotels were built in the County 1972-78. Since 1978, four major facilities have been opened with one additional facility under construction.

In 1979, the staff completed a detailed analysis of the hotel-motel market in Montgomery County based on updated information from studies done by Economic Research Associates in 1973 for the Bethesda Metro Center, and in 1976 by the same firm for the Rockville Town Center. These studies evaluated trends in the various sources of hotel room demand. These included business oriented transient room demand, demand

associated with meetings and conventions, and demand from increases in tourism. In general, demand was projected from these studies based on a 60 percent annual occupancy rate as a minimum (a break even rate) and a 70 percent occupancy rate (an optimum occupancy rate) as a maximum. The staff study estimated total room demands for three subareas of Montgomery County; Silver Spring, Rockville-Gaithersburg and Bethesda.

The Bethesda area serves the Connecticut and Wisconsin Avenue markets and accommodates visitors from the National Medical Centers, as well as businesses along Rockville Pike. This area had a total hotel-motel room inventory of 1,235 rooms as of 1979. This was increased by the addition of the 354 rooms in the Bethesda (Pooks Hill) Mariott and 140 rooms converted in the Linden Hill Hotel so that the total inventory by 1981 was 1,729 rooms. This is 43 percent of the hotel-motel inventory of the County.

The current room demand is estimated to be 2,000-2,100 rooms for this area of the County. The addition of a 350-room Holiday Inn on Rockville Pike above Twinbrook Parkway, scheduled for completion in 1983, will bring the existing hotel-motel inventory into equalibrium with computed demand in 1983. It is estimated that an additional potential of 400-500 rooms will develop by the end of the 1980's in the Bethesda area based on prevailing growth rates in employment, convention trade and tourism.

It is expected that this potential will be entirely utilized by the planned hotels at the Bethesda Metro site (402 rooms) and Woodward and Lothrop site in Friendship Heights (300 rooms). Beyond these major additions to the available inventory, there is no potential seen prior to 1990. It should be noted that other hotels are planned in or adjacent to the Bethesda hotel market area, namely in the Town Center of Rockville (250 rooms) and at the White Flint Metro Center (600-700 rooms). A residential-type hotel is being considered in Bethesda (150 rooms). Plans for this extensive increase to the available room inventory cannot proceed simultaneously prior to 1990, and many probably will be delayed long afterward.

SUMMARY

Total potential demand in the Bethesda CBD is summarized in the following table by various use types.

TABLE B-1

BETHESDA CBD

SUMMARY OF POTENTIAL DEMAND

	Demand Potential 1980-90 (In SF of space)	Amount of Space in Planned Developments	Remaining Unrealized Potential	% Remaining Potential to Total
Residential	600,000-700,000 (600-700 rooms)	-0-	600,000-700,000	66%
Office	1,260,000-1,400,000	953,560	306,000-446,000	34%
Retail	50,000-125,000	168,740	-0-	-0-
Hotel-Motel	312,000-390,000 (400-500 rooms)	548,000 (702 rooms)	-0-	-0-
TOTAL	2,222,000-2,615,000	1,670,300	906,000-1,146,000	100%

APPENDIX C

LAND USE AND SITE DESIGN CONSIDERATIONS

APPENDIX C

LAND USE AND SITE DESIGN CONSIDERATIONS

The following information is a summary of the assumptions, development quantities, and design considerations for the various areas and sites in the Bethesda CBD. Assumptions include the mix of uses on each site. Development quantities list the estimated square feet, dwelling units, and trips generated for each parcel. Design considerations describe some desirable features and amenities for each parcel. The considerations may be used by applicants as a guide in preparing project designs. They will also be used as a basis for dialogue with staff during pre-application conferences. These considerations do not preclude other proposals which will be reviewed on a case-by-case basis.

Trip calculations are based on the PM peak outbound trip generation rates, assuming a 25 percent modal split. They are:

Residential	0.14 trips per dwelling unit
Office	1.15 trips per 1,000 square feet
Retail	1.94 trips per 1,000 square feet
Hotel	0.35 trips per room
Miscellaneous/Auto	0.90 trips per 1,000 square feet

The following Table C-1 summarizes the uses and trips which could occur on various sites in the CBD. Potential sites are shown in Figure C-1.

Standard Method

No specific parcels have been identified for construction under standard method requirements since any property may redevelop by right. The limitation on approval of optional method projects may cause some property owners to build under standard method zoning provisions rather than face the uncertainty of when and whether optional method approvals will become possible in the rest of the CBD areas. Thus, this allocation assumes that 200 trips is reasonable based upon recent experience.

Uses (assumed for purposes of calculation)

Residential	(Assume use of residential allocation)
Office (75%)	111,276 square feet 128 trips
Retail (25%)	37,092 square feet 72 trips
Trips: Total Additional (Existing unknown)	200 trips

TABLE C-1

SUMMARY
SUGGESTED USE MIX BY SITE

Area and Site	Uses: Residential (Dwelling Units-DU's)	Uses: Office (1,000 Sq.Ft.)	Uses: Retail (1,000 Sq.Ft.)	Net Trips Added[1]: Potential Trips	Net Trips Added[1]: Recom. Allocation
1. STANDARD METHOD	-	111	37	200	200
2. RESIDENTIAL[2]					
Area D (TS-R)	608	15	5	92	
Battery Lane					
X	155	-	-	14	
Y	100	-	-	13	
Z	125	-	-	14	
32 (Garage 49)	350	-	15	28	
Other Sites	106	16	16	64	
Subtotal	1,444	31	36	225	225
3. CENTRAL AREA					
Stage II					
24	-	175	25	225	
34	-	527	275	697	
37	-	133	19	159	
39	-	192	27	273	
40	-	78	11	110	
41	-	140	21	173	
44	-	206	30	284	
46	-	346	49	334	
47	-	164	23	133	
B&O	-	167	24	238	
Stage III[3]					
26 (Lots 3 & 8)	55	127	28	172	
26 (Lots 5 & 13)	93	247	90	278	
26 (Lots 523-531)	24	55	12	75	
Central Area Subtotal	172	2,557	434	3,151	1,675[4]
PROJECT TOTAL	1,616	2,699	507	3,576	2,100
Less Demolitions	-62	-16	-200		
NET ADDITIONS[5]	1,554[6]	2,683	307	3,576	2,100

1 *Building demolitions on listed sites are estimated to recover 423 trips, which are accounted for in the "net trips added."*

2 *Optional method may be approved at any time for any assembled CBD-1 or CBD-2 site, having at least 80 percent residential.*

3 *Projects with approximately 30 percent or more residential are permitted in the Stage II time period.*

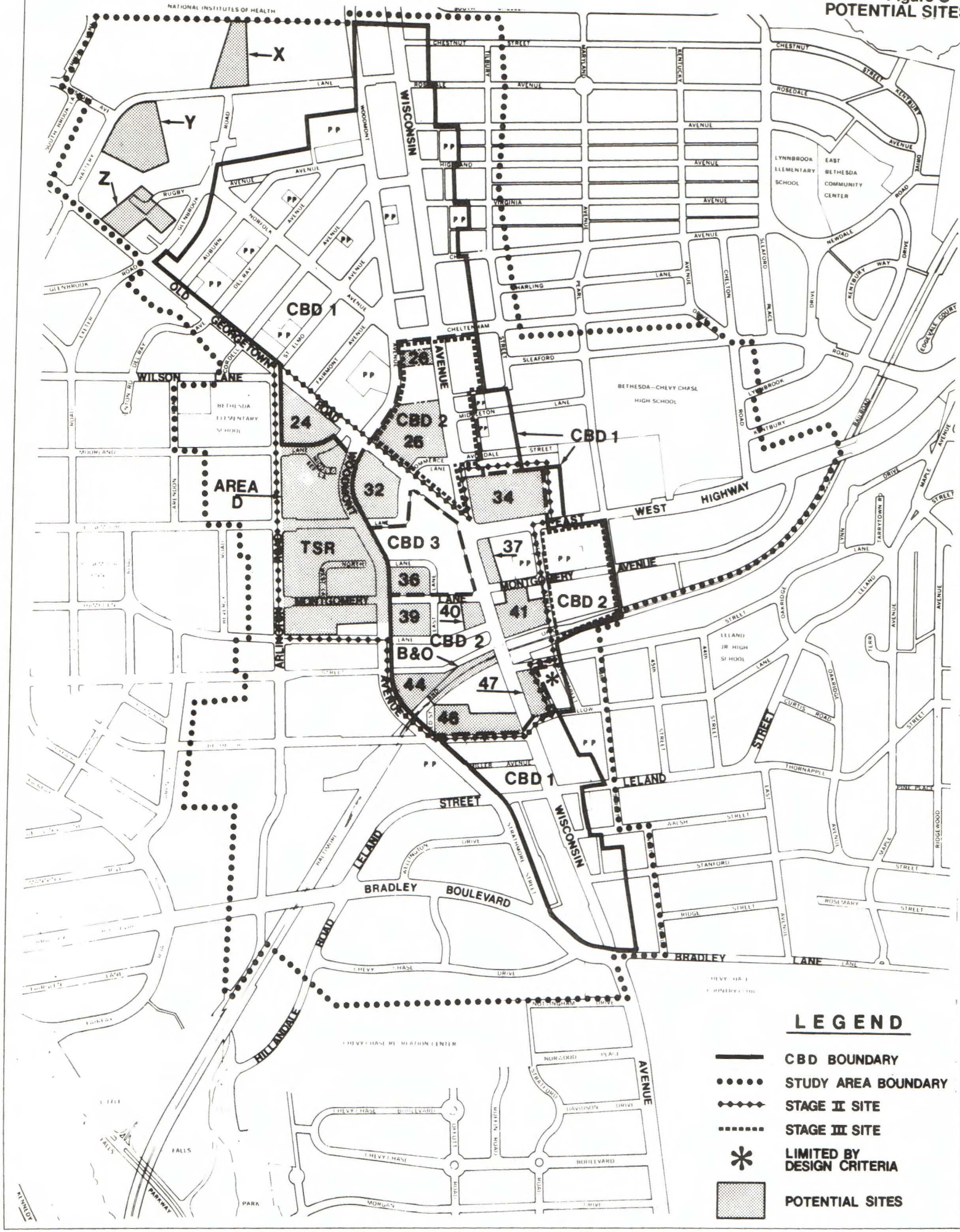
4 *Only 1,175 of the 1,675 trips will be authorized absent a personalized ridesharing program.*

5 *Potential total is 4.8 million square feet.*

6 *Potential residential is 1.8 million square feet.*

Bethesda Central Business District

Figure C-1
POTENTIAL SITES



RESIDENTIAL

Area D - Arlington Road Residential	
Parcel Size:	299,800 square feet (Assume 60% of area is assembled.)
Zoning:	R-60, but suitable for TS-R
Total Floor Area:	749,500 square feet (Assume TS-R Zone and 2.5 FAR.)
Proposed Use Mix:	(Assume amendment of TS-R Zone requirements to permit retention of office uses on Arlington Road.)
Residential:	729,005 square feet 608 dwelling units (DU's)[1] 85 new trips
Office:	15,495 square feet (existing along Arlington Road.)
Retail:	5,000 square feet (assumed internal to project) 10 new trips
Trips: New	95 trips
Less Existing	-3 trips
Net Additional	92 trips

1 Unless otherwise noted, all dwelling unit calculations assume an average DU size of 1,200 square feet. This permits use of a PM peak hour outbound trip generation rate of 0.14 trips per DU. When applicants propose DU's of a different size, an equivalent number of 1,200 square foot DU's will be calculated for trip generation purposes. The trip methodology for projects with DU's under 1,200 square feet is:

Square feet ÷ 1,200 = Calculated DU's.
Calculated DU's x .14 = Calculated Trips.

Battery Lane - Site X

Parcel Size:		51,836 square feet
Zoning:		R-10
Total Floor Area:		155,000 square feet (Assume 3 FAR.)
Residential Uses:		155,000 square feet 155 DU's
Trips:		18 new trips (Assume potential elderly housing, 1,000 square feet per DU.)
Trips:	New	18 trips
	Less Existing	-4 trips
	Net Additional	14 trips

Battery Lane - Site Y

Parcel Size:		119,964 square feet
Zoning:		R-10
Total Floor Area:		120,000 square feet (Assume 1 FAR, which is less than full 52 DU/acre, per prior analysis.)
Residential Use:		120,000 square feet 100 DU's 14 new trips
Trips:	New	14 trips
	Less Existing	-1 trips
	Net Additional	13 trips

Battery Lane - Site Z	
Parcel Size:	46,173 square feet
Zoning:	R-H
Total Floor Area:	125,000 square feet (Elderly housing permits 3 FAR. Assume only 2.2 FAR, per prior analysis.)
Residential Use:	125,000 square feet 125 DU's 15 new trips (Assume 1,000 square feet per DU.)
Trips: New	15 trips
Less Existing	-1 trips
Net Additional	14 trips

Summary of Battery Lane Data for Sites X, Y and Z:

Residential	380 DU's
Net Additional Trips	41 trips

Block 32 - Garage 49 Joint Development	
Parcel Size:	116,000 square feet
Zoning:	CBD-2
Optional Method Floor Area	580,000 square feet (5 FAR assume at least 80% residential floor area)
Proposed Use Mix:	(Plan supports the early construction of Garge 49 to meet Metro and CBD parking requirements, as well as the joint use of the public parking facility, to include public supported residential units and some retail space.)
Public Parking:	4 levels 1,600 spaces (approximate) 560,000 square feet (350 square feet/ space)

Block 32 - Garage 49 Joint Development (Cont'd.)

Residential:	350,000 square feet 350 DU's 41 new trips (Assume Waverly trip method.) (Assume 1,000 square feet/DU. Yield 3.1 FAR for project.)
Retail:	15,000 square feet assumed (at the Metro Plaza level) 29 new trips

Trips:	New	70 trips
	Less Existing	-42 trips
	Net Additional	28 trips

Site Design Considerations

a) Mixed Use: county parking garage, retail along street, residential above.
b) Streetscape improvements on all street frontage.
c) "People Place" developed on top of parking in conjunction with residential; pedestrian bridge to Metro Center.
d) Buildings step down toward TSR zone.

Other Sites

Optional method may be approved for any assembled CBD-1 or CBD-2 site, provided it includes at least 80 percent residential.

Uses (assumed for purposes of calculation):

Residential (80%)	127,364 square feet 106 DU's 15 trips
Office (10%)	15,920 square feet 18 trips
Retail (10%)	15,920 square feet 31 trips

Trips:	Total Additional	64 trips (64 trips are a residual amount not assumed for use on any particular site.)

STAGE II AND III AREA

Sites described in the Central Area and shown in Figure C-1 are for illustrative purposes only. They are not meant to imply a preference for any specific site within the Stage II or III area.

Block 24 (Chevy Chase Savings and Loan)

Parcel Size:	100,188 square feet
Zoning:	CBD-1
Optional Method Floor Area:	200,376 square feet (2 FAR, mixed use.)
Proposed Use Mix:	
Office (1.75 FAR)	175,329 square feet 202 new trips
Retail (.25 FAR)	25,047 square feet 49 new trips
Trips: New	251 trips
Less Existing	-26 trips
Net Additional	225 trips

Site Design Considerations:

a) Mixed Use: office and retail.
b) Streetscape improvements on all street frontage.
c) Design which emphasizes the "gateway" character in the amenity area and building design.
d) Provide an urban park to relate to nearby residential uses and to preserve existing specimen trees.

Block 26, Lots 3 and 8 (People's/Gino's)

Parcel Size:

People's	32,200 square feet
Gino's	21,800 square feet
Total	55,000 square feet

Zoning: CBD-2

Optional Method Floor Area (4 FAR): 220,000 square feet

Proposed Use Mix:

Residential (1.2 FAR)	66,000 square feet
(Minimum 30% of floor area)	55 DU's
	8 trips
Office (2.3 FAR)	126,500 square feet
	145 trips
Retail (.5 FAR)	27,500 square feet
	53 trips

		Office/Retail	Total
Trips:	New	198	206 trips
	Less Existing	-26	-26 trips
	Net Additional	172	180 trips

Site Design Considerations:

a) Mixed Use: office, retail, residential.
b) Streetscape Improvements: Wisconsin Avenue, Old Georgetown Road, Commerce Lane.
c) Amenity Areas: Enhanced linear public walk along Wisconsin Avenue and Old Georgetown Road; major portion of amenity area may be interior to site (courtyard concept) and semi-private to reinforce residential component.
d) Building Configuration: Maximum three-story facade along Wisconsin, rest of building set back from Wisconsin Avenue. Retail along Wisconsin Avenue and Old Georgetown Road opening to street; service, residential entry from Commerce Lane.

Block 26, Lots 5 and 13 (Brown/Safeway)

Parcel Size:	
Safeway	60,000 square feet
Brown	32,300 square feet
Total	93,200 square feet
Zoning:	CBD-2
Optional Method Floor Area (FAR 4):	372,800 square feet
Proposed Use Mix:	
Residential (1.2 FAR) (Min. 30% of floor area)	111,840 square feet 93 DU's 13 trips
Office (2.3 FAR)	214,360 square feet 247 trips
Retail (.5 FAR)	46,600 square feet 90 trips

		Office/Retail	Total
Trips:	New	337	350 trips
	Less Existing	-59	-59 trips
	Net Additional	278	291 trips

Site Design Considerations:

a) Mixed Use: Office, retail, residential.

b) Streetscape Improvements: Wisconsin Avenue, Old Georgetown Road, Woodmont Avenue.

c) Amenity Areas: Linear public area along Wisconsin Avenue; through block landscaped pedestrian link with retail alongside, connecting Safeway with Wisconsin Avenue; semi-private landscaped area for residential units.

d) Building Configuration: Maximum three-story facade along Wisconsin Avenue, rest of building set back from street. Minimum parking for grocery along Old Georgetown Road and Woodmont Avenue. Avoid split-level retail scheme at Wisconsin Avenue.

Block 26, Lots 531 - 523 (Used Cars/Shops)

Parcel Size:	24,000 square feet
Zoning:	CBD-2
Optional Method Floor Area (4 FAR):	96,000 square feet
Proposed Use Mix:	
Residential (1.2 FAR) (Min. 30% of floor area)	28,800 square feet 24 DU's 3 trips
Office (2.3 FAR)	55,200 square feet 63 trips
Retail (.5 FAR)	12,000 square feet 23 trips

		Office/Retail	Total
Trips:	New	86	89 trips
	Less Existing	-11	11
	Net Additional	75	78 trips

Site Design Considerations:

a) Mixed Use: Office, retail, residential.
b) Streetscape Improvements: Wisconsin Avenue and Woodmont Avenue.
c) Amenity Area: Enhanced linear public walks along Wisconsin Avenue and Woodmont Avenue.
d) Building Configuration: Maximum three-story facade on Wisconsin Avenue, rest of building set back from Wisconsin Avenue. Retail facing Wisconsin Avenue with access from street.

Block 34 (Mariott)

Parcel Size:	150,500 square feet
Zoning:	CBD-2
Optional Method Floor Area:	602,000 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	526,750 square feet 606 new trips
Retail (.5 FAR)	75,250 square feet 146 trips
Trips: New	752 trips
Less Existing	-55 trips
Net Additional	697 trips

Site Design Considerations:

a) Retail and office use; hotel optional.
b) Retail continuity along East-West Highway and Wisconsin Avenue frontage.
c) Streetscape improvements - all street frontage. Design emphasis on corner of East-West Highway at Wisconsin Avenue.
d) Amenity space - major amenity space may be internal to project, as in a courtyard. Minor amenity space to be integrated with Wisconsin Avenue streetscape and corner design.
e) Buildings should have "street-wall" character and present a solidly defined corner to contrast with "void" across Wisconsin Avenue at Metro Center.

Block 34 (Mariott - Alternative Use Mix)

Parcel Size:	150,500 square feet
Zoning:	CBD-2
Optional Method Floor Area:	602,000 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Hotel (1 FAR)	150,000 square feet (Assumed minimum size - 500 square feet/room) 300 rooms 105 new trips
Office (2.5 FAR)	379,750 square feet 437 new trips
Retail (.5 FAR)	72,250 square feet 146 trips
Trips: New	687 trips
Less Existing	-55 trips
Net Additional	633 trips

Site Design Considerations:

a) Retail and office use; hotel use.
b) Retail continuity along East-West Highway and Wisconsin Avenue frontage.
c) Streetscape improvements - all street frontage. Design emphasis on corner of East-West Highway at Wisconsin Avenue.
d) Amenity space - major amenity space may be internal to project, as in a courtyard. Minor amenity space to be integrated with Wisconsin Avenue streetscape and corner design.
e) Buildings should have "street-wall" character and present a solidly defined corner to contrast with "void" across Wisconsin Avenue at Metro Center.

Block 37 (Sunoco Station/Perpetual Federal)

Parcel Size:	38,010 square feet
Zoning:	CBD-2
Optional Method Floor Area:	152,040 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	
Existing Office	24,000 square feet
New Office:	109,035 square feet
Total Office	133,035 square feet
	125 new trips
	(Assume retain existing 4 floor Perpetual Building.)
Retail (.5 FAR)	19,005 square feet
	37 new trips
	(Assume provides first floor retail on site).
Trips: New	162 trips
Less Existing	- 3 trips
Net Additional	159 trips

Site Design Considerations:

a) Retail/office use.
b) Streetscape Improvements:
   - East-West Highway from Wisconsin Avenue to Waverly Street.
   - Wisconsin Avenue, complete frontage.
   - Montgomery Lane from Wisconsin Avenue to Waverly Street.
c) Metro "Portal" for East entry to proposed pedestrian underpass, designed as a vertical "people place" with retail shops and/or food service. Such a place provides multi-level pedestrian oriented amenities and retail space to connect with a Metro pedestrian underpass.
d) Strong vertical emphasis for building at corner of Wisconsin Avenue and Old Georgetown Road to form visual terminus to Old Georgetown Road.
e) Maintain Perpetual Federal Building if practical.
f) Support use of larger assembly, if a better use mix results.

Block 39 (Cancer Research)

Parcel Size:		54,885 square feet
Zoning:		CBD-2
Optional Method Floor Area:		219,590 square feet (Assume 4 FAR in mixed use.)
Proposed Use Mix:		
Office (3.5 FAR)		192,098 square feet 221 trips
Retail (.5 FAR)		27,443 square feet 53 trips
Trips:	New	274 trips
	Less Existing	- 1 trips
	Net Additional	273 trips

Site Design Considerations:

a) Mixed Use: retail and office. Retain residential buildings on Hampden Lane, if feasible.
b) Streetscape improvements on all street frontage.
c) Provide a unifying park-like setting for new office building and residential uses to remain.
d) A building which provides a continuous physical edge along Woodmont Avenue and Montgomery Lane; building setback from south property line.
e) Provide a pedestrian bridge and escalator connecting to Block 36 in the Metro core, if appropriate.

Block 40 (Gulf Station)

Parcel Size:	22,300 square feet
Zoning:	CBD-2
Optional Method Floor Area:	89,200 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	78,050 square feet 90 new trips
Retail (.5 FAR)	11,150 square feet 22 new trips (Assume provides first floor retail on site.)
Trips: New	112 trips
Less Existing	-2 trips
Net Additional	110 trips

Site Design Considerations:

a) Retail/office use.
b) Streetscape Improvements:
   - Montgomery Lane between East Lane and Wisconsin Avenue.
   - Hampden Lane between East Lane and Wisconsin Avenue.
c) Amenity area - linear public space along Wisconsin Avenue with double row of trees and street furniture; provide a visual (experiential) feature as a focus to the space.
d) Building setback from Wisconsin Avenue to align with hotel at the Metro Center.

Block 40 (Gulf Station)

Parcel Size:	22,300 square feet
Zoning:	CBD-2
Optional Method Floor Area:	89,200 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	78,050 square feet 90 new trips
Retail (.5 FAR)	11,150 square feet 22 new trips (Assume provides first floor retail on site.)
Trips: New	112 trips
Less Existing	-2 trips
Net Additional	110 trips

Site Design Considerations:

a) Retail/office use.
b) Streetscape Improvements:
   - Montgomery Lane between East Lane and Wisconsin Avenue.
   - Hampden Lane between East Lane and Wisconsin Avenue.
c) Amenity area - linear public space along Wisconsin Avenue with double row of trees and street furniture; provide a visual (experiential) feature as a focus to the space.
d) Building setback from Wisconsin Avenue to align with hotel at the Metro Center.

Block 41 (Eisinger)

Parcel Size:	41,200 square feet
Zoning:	CBD-2
Optional Method Floor Area:	164,800 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	
Retain Existing	3,750 square feet
New	140,450 square feet
Total	144,200 square feet
	162 new trips
Retail (.5 FAR)	
Retain Existing	9,115 square feet
New	11,485 square feet
Total	20,600 square feet
	22 new trips
	(Assume first floor retail, including preservation of existing retail on Wisconsin Avenue.)
Trips: New	184 trips
Less Existing	-11 trips
Net Additional	173 trips

Site Design Considerations:

a) Mixed use: office, retail.
b) Streetscape improvements - entire block and all street faces.
c) Major amenity space along Wisconsin Avenue; minor amenity space may be internal to project.
d) Setback new high construction from Wisconsin; retain existing retail buildings if practical.

Block 41 (Alternative Use Mix)

Hotel (3.5 FAR) (residential type)	144,200 square feet 120 rooms (1,200 square feet/room) 17 trips (assume residential generation rate)
Retail (.5 FAR)	
Retain Existing	9,115 square feet
New	11,485 square feet
Total	20,600 square feet

Block 41 (Alternative Use Mix) (Cont'd.)

Trips:	New	39 trips
	Less Existing	-11 trips
	Net Additional	28 trips

Site Design Considerations:

a) Hotel, public uses and the entry should relate to Wisconsin Avenue.
b) Streetscape improvements - entire block and all street faces.
c) Major amenity space along Wisconsin Avenue; minor amenity space may be internal to project.
d) Setback new high construction from Wisconsin; retain existing retail buildings if practical.

Block 44 (Miller)

Parcel Size:	58,800 square feet
Zoning:	CBD-2
Optional Method Floor Area:	240,448 square feet (Assume 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	205,800 square feet 237 new trips
Retail (.5 FAR)	30,056 square feet 58 new trips

Trips:	New	295 trips
	Less Existing	-11 trips
	Net Additional	284 trips

Site Design Considerations:

a) Retail on ground floor may not be required.
b) Streetscape Improvements: All street frontage. Emphasis on Woodmont Avenue.
c) Amenity Space: Divided between interior of project and along Woodmont Avenue.
d) Public Facility: Dedication of right-of-way for Woodmont Avenue extended.
e) "Street-wall" character of building along Woodmont Avenue.

Block 46 (Artery)

Parcel Size:	98,800 square feet
Zoning:	CBD-2
Optional Method Floor Area:	395,200 square feet (Assumes 4 FAR in mixed use.)
Proposed Use Mix:	
Office	
Existing	96,400 square feet
New	249,400 square feet
Total (3.5 FAR)	345,800 square feet
	287 new trips
Retail	
Existing	6,000 square feet
New	43,400 square feet
Total (.5 FAR)	49,400 square feet
	84 new trips
Trips: Total New	371 trips
Less Existing	-37 trips
Net Additional	334 trips

Site Design Considerations:

a) Mixed Use: retail and office.
b) Streetscape Improvements:
   - Wisconsin Avenue between Bethesda Avenue and Railroad.
   - Bethesda Avenue between Wisconsin Avenue and Railroad.
c) Amenity: "People Place" along Wisconsin Avenue including outdoor cafe, landscaping, fountain, retail arcade around corner of Wisconsin Avenue and Bethesda Avenue.
d) Three story facade along Wisconsin Avenue; remainder of building to be setback.
e) Residential is desirable on this site. A 4 FAR project containing 1 FAR residential could result in 82 DU's and an overall reduction of 102 trips.

Block 47 (Burka)

Parcel Size:	46,800 square feet
Zoning:	CBD-2
Optional Method Floor Area:	187,200 square feet (Assume 4 FAR is mixed use)
Proposed Use Mix:	
Office (3.5 FAR)	163,800 square feet 188 new trips
Retail (.5 FAR)	23,400 square feet 45 new trips (Assume, replace about one-half the existing 47,563 square feet of retail.)
Trips: New	233 trips
Less Existing (East)	100 trips
Net Additional	133 trips

Site Design Considerations:

a) Mixed Use: retail, office, retail continuity along Wisconsin Avenue.
b) Streetscape Improvements: All street frontage. Premium paving on Willow Street is desirable.
c) Amenity Space: "People place" along Willow Street to complement Farm Women's market, supported by restaurant/bar if feasible, landscaping, fountain and/or sculpture.
d) Three-story facade along Wisconsin Avenue with remaining building setback; entire profile kept as low as possible to reduce impact on Elm Street park.

Block 47 (Whole Block Development)

Parcel Size: CBD-2	46,800 square feet
CBD-1	32,500 square feet
	79,300 square feet
Zoning:	CBD-1 and CBD-2
Optional Method Floor Area:	
CBD-1 (4 FAR)	187,200 square feet
CBD-2 (2 FAR)	65,000 square feet
	252,200 square feet
Proposed Use Mix:	
Office (3.5 FAR)	163,800 square feet
(1.75 FAR)	56,875 square feet
	220,675 square feet
	254 new trips
Retail (.5 FAR)	23,400 square feet
(.25 FAR)	8,125 square feet
	31,525 square feet
	61 new trips
Trips: New	315 trips
Less Existing	-148 trips
Net Additional	167 trips

Site Design Considerations:

All of Block 47 may receive optional method approval only if assembled with CBD-2 land to the east. Development on that portion of property nearest Elm Street Park should meet the following design criteria:

a) Stepped back building design with no more than 2 stories above grade at park edge.
b) Landscaped setback from sidewalk along 47th Street.
c) Expansion of the "people place" along Willow to connect with Elm Street Park.
d) Service access not permitted from Wisconsin Avenue or Willow Lane.
e) Street oriented retail or residential facing on Elm Street Park. Massing and articulation of the building should be designed to maximize the harmonious relationship between the residential community and the building.

B&O Railroad (Air Rights-West)

Parcel Size:	47,700 square feet
Zoning:	C-2 (Assume possible change to CBD-2.)
Optional Method Floor Area:	190,800 square feet (Assume 4 FAR in mixed use.)
Proposed Use Mix:	
Office (3.5 FAR)	166,950 square feet 192 trips
Retail (.5 FAR)	23,850 square feet 46 trips
Trips: Net Additional	238 trips

Site Design Considerations:

a) Retail continuity along Wisconsin Avenue.
b) Streetscape improvements on on all street frontage.
c) Amenity Space: "Winter garden" type lobby for public art display, with planting, seating and possibly a small scale food service.
d) Building front on Wisconsin to align with Suburban Trust Bank building.

APPENDIX D

ZONING ORDINANCE AMENDMENTS

APPENDIX D
ZONING ORDINANCE AMENDMENTS

Alternative Administrative Procedures for Optional Method of Development

This plan amendment recommends a 90-day period, after adoption of the sector plan amendment, during which project plans would be accepted for filing but would not be reviewed. This 90-day period translates into a maximum 180-day period between adoption of the Plan and a Planning Board public hearing on a project plan. This plan amendment proposes that language be added to the zoning ordinance which allows the Planning Board to establish modified timing requirements for filing and the public hearing on a project plan, to permit comparison of applications for purpose of selection and to provide approval priority to certain classes of applications.

Non-Residential Professional Offices in the TS-R Zone

A number of existing single-family houses along Arlington Road have converted to office uses under the special exception provisions of the Zoning Ordinance. The result has been that an attractive residential character has been maintained along Arlington Road. Properties east of Arlington Road are designated in the Sector Plan as suitable for TS-R zoning. Since "non-residential professional offices" are not permitted uses, the existing offices could not remain within a TS-R project.

This Plan proposes to amend the Zoning Ordinance so that non-residential professional offices in TS-R zoned areas may continue. Such uses would provide a buffer between high density residential areas and the single-family community west of Arlington Road. If offices are retained, they would be included in the development standards calculation, for any unified parcel that includes such a use. Thus, some density, within the parcel, would be shifted to other new buildings in the project. The Plan endorses amending the zoning ordinance to make non-residential professional offices a permitted use. The intent of the amendment is to permit existing offices to remain, if approved as part of a development plan.

Another aspect of the problem is that large scale TS-R projects may be constructed on individual lots which are separated by public streets. This amendment endorses the shifting of density between lots within parcels that are under unified control. The amendment also endorses the ability to add small contiguous parcels (below the minimum net lot area required) to an existing TS-R proposals.

Definition of Cellar and Floor Area Ratio

In the CBD zones, the development standards limit the density of development by imposition of a floor area ratio (FAR). The FAR expresses "gross floor area" as a multiple of the lot area. However, the definition of "gross floor area" excluded cellars. Cellars are "that portion of a building below the first floor joist. . .," which "shall not be used for habitation." The implied intent of the CBD zones is to include all occupied and usable space in the FAR calculation, including cellar space. As now written, cellar space can automatically be provided over and above the FAR limit.

In the Bethesda CBD Monitoring Report, 1980-1981, calculations were made for total floor area. For example, the gross floor area of the Metro Center (R&K) project is 913,352 square feet. The addition of occupied/leasable cellar space (117,928 square feet) results in a total floor area of 1,031,280 square feet. The total amount of usable space, both above and below grade, is used to determine the amount of traffic generated by a particular development.

The definition of floor area ratio could be amended to conform to the uses of the FAR, including calculation of traffic generation. Thus, a total floor area would include both the "gross floor area" and the usable cellar area. However, the Planning Board has determined that such an amendment could have impacts which go beyond the immediate concern for calculation of traffic impacts. Further study of impacts on properties which may use standard method zoning is needed.

CBD development under optional method requirements should also be reviewed. The Planning Board may need the flexibility to continue to exclude cellars from the FAR calculation. Such flexibility could assure better site use and provide increased amenity. The criteria for excluding cellars could include an enhancement of required amenities, appropriateness of increased intensity and restrictive topographic conditions.

APPENDIX E

COUNTY COUNCIL RESOLUTION NO. 9-2001

Resolution No. 9-2001

Introduced: October 19, 1982
Adopted: October 19, 1982

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND
SITTING AS A DISTRICT COUNCIL FOR THAT PORTION
OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT
WITHIN MONTGOMERY COUNTY, MARYLAND

By: District Council

SUBJECT: Approval of the Final Draft Amendment to the Bethesda CBD Sector Plan

WHEREAS, in June, 1982, The Maryland-National Capital Park and Planning Commission approved the final draft of the Amendment to the Bethesda CBD Sector Plan and duly transmitted said approved final draft amendment to the Montgomery County Council and the Montgomery County Executive; and

WHEREAS, the Montgomery County Executive, pursuant to Ordinance 7-38, Montgomery County Code, 1972, Section 70A-7, has duly conveyed to the Montgomery County Council his comments and recommendations on said approved final draft Sector Plan Amendment; and

WHEREAS, the Montgomery County Council held a public hearing on August 4, 1982, wherein oral and written testimony was received concerning the Final Draft Sector Plan Amendment; and

WHEREAS, the Montgomery County Council conducted worksessions on the Final Draft Sector Plan Amendment on September 22, 29, and 30, 1982, at which time detailed consideration was given to the evidence of record developed at the public hearing and to the comments and concerns of interested parties attending the worksession discussions.

NOW, THEREFORE, BE IT RESOLVED by the County Council sitting as a District Council for the portion of the Maryland-Washington Regional District within Montgomery County that said Final Draft Amendment to the Bethesda CBD Sector Plan is hereby approved with such revisions, modifications, and amendments as are hreinafter set forth.

Council changes are identified below by section and page number. Deletions to the text of the plan are indicated by ~~dashed-lines~~ and additions by underscoring.

FINAL DRAFT AMENDMENT

Traffic Capacity, Page 3

Insert on Page 3, after paragraph 2:

The anticipated 25 percent mode split is an estimate. Achievement of this mode split should be monitored while recognizing that other

factors may change over time and could provide additional or diminished traffic capacity within the Central Business District. Should future monitoring indicate a traffic situation developing lower levels of service (LOS) than forecast, then efforts should be undertaken to increase utilization of already planned transit service and otherwise improve traffic conditions. These efforts may include the increase of parking charges, enhanced marketing of ride-sharing, adoption of staggered working hours by major employers to stretch out the peak period traffic, enhanced marketing for the use of mass transit, increased parking policy supports for car pooling and other similar approaches to assure that the currently anticipated traffic capacity is realized or bettered. Finally, increases in transit service can be considered in addition to the above listed efforts.

Staging Plan, Figure 5, Page 11

Replace Staging Plan, Figure 5 on Page 11, and edit text to reflect revised stages.

Allocation Plan, Page 12

Revise Page 12, beginning with Paragraph 5

One thousand six hundred and seventy-five trips are allocated to the Office/Retail mix of uses anywhere in Stage 1 of the Central Area. Projects shall generally conform to the desired use mix (in floor area) of 88 to 100 percent office and up to 12 percent retail. A minimum retail floor area will be determined by the Planning Board on a case-by-case basis. Any property in the Stage III area is eligible for Optional Method approval in the Stage II time frame, if approximately 30 percent (1.2 FAR) or more of the project is residential. Such projects should generally provide up to 12 percent (.5 FAR) retail and the balance in office use. A small increase in the office or retail amounts may be approved if residential unit sizes result in more than 45 units to the acre.

The suggested use mixes shown on Tables 1 and in Appendix C are intended to provide general guidance. The Planning Board may approve variations from these amounts when: (1) proposed uses, especially residential, contribute to the general objective of increasing vitality and after-hours activity in the CBD and (2) the use mix would not result in substantially greater trip generation than shown for each block in Table C-1.

Projects shall generally conform with Design and Land Use Criteria provided in Appendix C. These criteria are established so an applicant can provide the necessary pedestrian oriented-shopping and other amenities for a number of sites. The goal is to achieve an environment which encourages pedestrian movement and public activity at all hours.

Allocation by Use Showing Suggested Use Mix, Table I, Page 13

Insert on Page 13, Table I, after Footnote 2:

* * * Only 1,175 of the 1,675 trips will be allocated if a personalized ride-sharing program, using the techniques of the Silver Spring Share-A-Ride Program is not implemented as a permanent, ongoing program.

Optional Method Administration, Page 14 and 15

Replace language on Pages 14 and 15, Paragraphs 1 to 5, with the following language:

Optional Method Administration

This section applies to the administration of the optional method for projects seeking to use the 1,675 trips allocated (see footnote ***, Table I) to build Office/Retail projects. The plan recognizes that the number of such optional method applications may be greater than normal due to the backlog built up during the period of development and review of this amendment. Thus, the plan establishes revised administrative procedures to meet two general needs. One -- provide for concurrent review of applications to coordinate the evaluation of amenity "packages" and traffic impact of the various projects. Two--permit comparison of individual projects if more trips are applied for than are available. The plan also requires the extension of the time for the required public hearing under specified circumstances.

Optional method applications will be received for 90 days after the adoption of this amendment, during which time an application may not have a public hearing or be approved by the Planning Board. The order of receipt of applications during this 90-day period does not imply priority for staff review, public hearing, or Planning Board action or approval. Public hearings on these applications will be held no earlier than 91 days and no later than 210 days after the adoption of this amendment. The Planning Board shall extend the time for the required public hearings as may be necessary to carry out the requirements of this paragraph, however, all of these hearings shall be held within 210 days of the adoption of this amendment. Each of these applications will be reviewed by the staff and the Planning Board will conduct a public hearing, after which the Planning Board will determine whether each application meets the requirements of the Zoning Ordinance. Those applications not meeting the Zoning Ordinance requirements shall be denied. In the event that the remaining applications involve uses and densities that, in total, would generate more trips than available (see footnote ***, Table I), all these remaining applications will be compared and numercially ranked by the Planning Board (after a staff recommendation), based upon the degree to which each application meets the following standards for comparison. In the event the applications, taken together, do not exceed the available trips, then they may be approved by the Planning Board.

A. Provision of Residential Uses

The Planning Board shall consider the degree to which the project provides a residential use component, in support of the goals of the 1976 adopted Sector Plan that "some residential development should occur as one of the use mixes at the core," and that "significant amounts of new multi-family, residential growth should be located within easy walking distance of the transit portal" (Page 77, 1976 Sector Plan).

B. Enhancement of Pedestrian Environment

The Planning Board shall consider the degree to which each project:

(1) links and extends the pedestrian path outward from METRO;
(2) contains sidewalks and pathways in both the public right-of-way and privately owned areas;
(3) contains attractive and accessible places and spaces that accommodate and encourage a wide variety of public activities;
(4) enhances the sidewalk environment by means of appropriate materials, landscaping, lighting, graphics, street furniture, and design;
(5) encourages pedestrian activity by providing shopping or entertainment opportunities along pedestrian ways, including the retention or relocation of existing retail uses;
(6) provides pedestrian systems and street crossings that encourage more trips on foot; and
(7) contains other attributes which improve the pedestrian environment and pedestrian access to METRO.

C. Achievement of Functional/Visual Effectiveness

The Planning Board shall consider the degree to which the project, within itself and in relation to other existing or proposed development, produces a functionally efficient and visually coherent grouping of buildings and spaces, so as to enhance the ability of the general public to locate, use and enjoy the facilities of the site, including the degree to which the design:

(1) produces buildings which are well related visually in terms of light, air, height, shadow, spacing, bulk and scale;
(2) locates portals, service loading areas, automobile access points street furniture, interior building floor layouts, exterior public activity locations, and similar features in a manner that maximizes the efficient use of these facilities by the general public and the occupants of the private space;
(3) locates building masses and related architectural features in such a manner as to enhance the ability of the general public to find their way into and around the buildings and open spaces;

(4) integrates the architectural forms and the open spaces around them so as to enhance the quality of the pedestrian environment, including such factors as sunlight, weather protection, noise and air quality, seating arrangements, landscaping, street furniture, and artistic embellishments; and

(5) contains other attributes which improve the functional and visual enjoyment of the project.

D. Provision of Management Organization

The Planning Board shall consider the extent to which the project provides or participates in a management organization which will efficiently and effectively provide maintenance, repairs, activity programming, sponsorship, special events, security, and promotion of public activity within the CBD.

Following the expiration of 210 days after the adoption of this plan amendment, the Planning Board shall resume its regular practice of accepting optional method applications in chronological sequence as they are filed, and scheduling them for Planning Board hearing within the statutory provisions governing the optional method process in the Zoning Ordinance and other relevant administrative procedures.

New Section "Land Use and Urban Design," Page 15

Starting on Page 15, a new Section titled, "Land Use and Urban Design," will be added by relocating and renaming the Land Use Sections contained on Pages C-1 through C-7, ("Land Use" from Appendix C).

APPENDICES

Development Criteria, Design Objectives, Page C-6

Replace language on Page C-6 under "Design Objectives" with the following language:

Design Guidelines

The foregoing urban design considerations are embodied in the following urban design guidelines:

(1) Encourage development of properties which can best enhance the pedestrian pathway system and transit usage by linking and extending outward from the Metro station. Such an integrated pedestrian circulation system should consist of sidewalks in public rights-of-way, plus privately developed public pathways and public places, and other pedestrian places in public ownership such as parks and transit facilities.

(2) Provide an improved and enhanced sidewalk environment by means of appropriate materials, landscaping, lighting, graphics, street furniture, and design.

(3) Encourage developments that produce a coherent and visually meaningful grouping of buildings which are well related in terms of spacing, bulk, and scale; and should include those which will be designed as an outstanding landmark.

(4) Encourage pedestrian activities through designs which reinforce the street edge with appropriate pedestrian shopping opportunities and which create "people places" which provide activity generation.

(5) Conserve the existing positive attributes of the Bethesda CBD by preserving admirable building uses, preserving existing landscaping, and maintaining design features. These attributes will contribute to a "sense of place" or a place of distinction that is easily remembered. These positive characteristics should be taken into account in the design of nearby parcels.

(6) Provide a management organization which can efficiently and effectively provide maintenance, repairs, activity programming, and events sponsorship, security, and promotion of the public areas including sidewalks, public places, and streets. The organization could be patterned after the maintenance corporation planned for the core.

Land Use and Design Criteria, Page C-7

Appendix C shall begin with the following retitled section from Page C-7:

APPENDIX C
LAND USE AND SITE DESIGN CONSIDERATIONS

Land Use and Site Design Considerations, Page C-7

Amend the first paragraph as follows:

The following information is a summary of the assumptions, development quantities, and design considerations for the various areas and sites in the Bethesda CBD. Assumptions include the mix of uses on each site. Development quantities list the estimated square feet, dwelling units, and trips generated for each parcel. Design considerations describe some desirable features and amenities for each parcel. The considerations may be used by applicants as a guide in preparing project designs. They will also be used as a basis for dialogue with staff during pre-application conferences. These considerations do not preclude other proposals, which will be reviewed on a case-by-case basis.

Summary - Suggested Use Mix by Site, Table C-2, Page C-8

Revise Page C-8, Table C-2, to add Stage III projects and revise all values as follows:

TABLE C-1

SUMMARY
SUGGESTED USE MIX
BY SITE

Area and Site	Uses: Residential (Dwelling Units-DUs)	Uses: Office (1,000 Sq.Ft.)	Uses: Retail (1,000 Sq. Ft.)	Net Trips Added: Potential Trips	Net Trips Added: Recommended Allocation
1. STANDARD METHOD		111	37	200	200
2. RESIDENTIAL[1]					
Area D (TS-R)	608	15	5	92	
Battery Lane					
X	155	-	-	14	
Y	100	-	-	13	
Z	125	-	-	14	
32 (Garage 49)	350	-	15	28	
Other sites	106	16	16	64	
Subtotal	1,444	31	36	225	225
3. CENTRAL AREA[2]					
Stage II					
24	-	175	25	225	
34	-	527	75	697	
37	-	133	19	159	
39	-	192	27	273	
40	-	78	11	110	
41	-	140	21	173	
44	-	206	30	284	
46	-	346	49	334	
47	-	164	23	133	
B&O	-	167	24	238	
STAGE III[3]					
26 (Lots 3 & 8)	55	127	28	172	
26 (Lots 5 & 13)	93	247	90	278	
26 (Lots 523-531)	24	55	12	75	
Central Area Subtotal	172	2,557	434	3,151	1,675[4]
PROJECT TOTAL	1,616	2,699	507	3,576	2,100
Less Demolitions	-62	-16	-200	-	
NET ADDITIONS[6]	1,554[5]	2,683	307	3,576	2,100

1 Optional method may be approved at any time for any assembled CBD-1 or CBD-2 site, having at least 80 percent residential.

2 Building demolitions are estimated to sites recover 423 trips which are accounted for in the "net trips added".

3 Projects with approximately 30 percent or more residential are permitted in Stage II time period.

4 See footnote ***, Table 1.

5 Potential is 1.8 million square feet.

6 Potential total is 4.8 million square feet.

Development Criteria, Page C-24

Following Page C-24, add descriptive values and site design considerations for three properties in the Stage III area as follows:

Block 26, Lots 3 & 8 (People's/Gino's)

Parcel Size:	People's	32,200 sq. ft.	
	Gino's	21,800 sq. ft.	55,000 sq. ft.
Zoning:			CBD-2
Optional Method Floor Area (4 FAR)			220,000 sq. ft.
Proposed Use Mix:	Residential (1.2 FAR)		66,000 sq. ft
	(minimum 30% of Floor Area		55 DU's
			8 trips
	Office (2.3 FAR)		126,500 sq. ft.
			145 trips
	Retail (.5 FAR)		27,500 sq. ft.
			53 trips

		Office/Retail	Total
Trips:	New	198	206 trips
	Less existing	-26	-26 trips
	Net additional	172	180

Site Design Considerations:

a. Mixed use: Office, retail, residential.

b. Street scope Improvements: Wisconsin Ave., Old Georgetown Rd., Commerce Lane.

c. Amenity Areas: Enhanced linear public walk along Wisconsin Ave. and Old Georgetown Road; Major portion of amenity area may be interior to site (courtyard concept) and semi-private to reinforce residential component.

d. Building Configuration: Maximum three-story facade along Wisconsin, rest of building set back from Wisconsin Ave., Retail along Wisconsin Ave. and Old Georgetown Road opening to street; service, residential entry from Commerce Lane.

Block 26, Lots 5 & 13 (Brown/Safeway)

Parcel Size:	Safeway	60,900 sq. ft	
	Brown	32,300 sq. ft	93,200 sq. ft
Zoning:			CBD-2
Optional Method Floor Area (FAR 4)			372,800 sq. ft.
Proposed Use Mix:	Residential (1.2 FAR)		111,840 sq. ft.
	(minimum 30% of Floor Area		93 DU's
			13 trips
	Office (2.3 FAR)		214,360 sq. ft.
			247 trips
	Retail (.5 FAR)		46,600 sq. ft.
			90 trips

		Office/Retail	Total
Trips:	New	337	350 trips
	Less existing	-59	-59 trips
	net additional	278	291 trips

Site Design Considerations:

a. Mixed Use: Office, retail, residential

b. Streetscope Improvements: Wisconsin Ave., Old Georgetown Rd., Woodmont Avenue.

c, Amenity Areas: Linear public area along Wisconsin Ave.; through block landscaped pedestrian link with retail alongside, connecting Safeway with Wisconsin Ave.; semi-private landscaped area for residential units.

d. Building configuration: Maximum three-story facade along Wisconsin Avenue, rest of building set back from street. Minimum parking for grocery along Old Georgetown Road and Woodmont Avenue. Avoid split-level retail scheme at Wisconsin Avenue.

Block 26, Lots 523 - 531 (Used cars/shops)

Parcel Size:		24,000 sq. ft
Zoning:		CBD-2
Optional Method Floor Area (4 FAR)		96.000 sq. ft
Proposed Use Mix:	Residential (1.2 FAR)	28,800 sq. ft
	(minimum 30% of floor area)	
	of floor area	24 DU's
		3 trips
	Office (2.3 FAR)	55,200 sq. ft
		63 trips
	Retail (.5 FAR)	12,000 sq. ft.
		23 trips

Trips:	Office/Retail	Total
New	86	89 trips
Less existing	-11	-11 trips
	75	78 trips

Site Design Considerations:

a. Mixed Use: Office, retail, residential

b. Streetscope Improvements: Wisconsin Avenue and Woodmont Avenue

c. Amenity Area: Enhanced linear public walks along Wisconsin Ave and Woodmont Ave.

d. Building Configuration: Maximum three-story facade on Wisconsin Ave., rest of building set back from Wisconsin Ave. Retail facing Wisconsin Avenue with access from street.

GENERAL

All figures and tables are to be revised where appropriate to reflect the Council changes to the Final Draft Sector Plan and to reflect the 1982-83 Capital Improvements Program. The text is to be edited as necessary to achieve clarity and consistency, to update factual information, and convey the actions of the County Council. All identifying references pertain to the Final Draft Bethesda CBD Amendment, dated June, 1982.

A True Copy.
ATTEST:

Kathleen A. Freedman

Kathleen A. Freedman, Deputy Secretary
of the County Council for
Montgomery County, Maryland

APPENDIX F

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
RESOLUTION NO. 82-32

MCPB NO. 82-18
M-NCPPC NO. 82-32

RESOLUTION

WHEREAS, The Maryland-National Capital Park and Planning Commission, by virtue of Article 66D of the Annotated Code of Maryland, is authorized and empowered, from time to time, to make and adopt, amend, extend, and add to the General Plan for the Physical Development of the Maryland-Washington Regional District; and

WHEREAS, the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission held public hearings on May 6, 1982 on a preliminary draft amendment to the Bethesda Central Business District Sector Plan, being also a proposed amendment to the General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways; and

WHEREAS, the Montgomery County Planning Board, after said public hearings and due deliberation and consideration, at the meeting held on June 3, 1982, approved a final draft amendment and recommended that it be approved by the Montgomery County Council; and

WHEREAS, the Montgomery County Council, sitting as the District Council for that portion of the Maryland-Washington Regional District lying within Montgomery County, on August 4, 1982, held public hearings wherein testimony was received concerning the Final Draft Master Plan Amendment; and

WHEREAS, the Montgomery County Council, sitting as the District Council for that portion of the Maryland-Washington Regional District lying within Montgomery County, on October 19, 1982 approved the final draft amendment of said plan by Resolution 9-2001.

NOW, THEREFORE, BE IT RESOLVED, that the Montgomery County Planning Board and the Maryland-National Capital Park and Planning Commission do hereby adopt said amendment to the Bethesda Central Business District Sector Plan, together with the General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways, as approved by the Montgomery County Council in the attached Resolution 9-2001.

BE IT FURTHER RESOLVED that this amendment be reflected on copies of the aforesaid plan and that copies of such amendment shall be certified by The Maryland-National Capital Park and Planning Commission and filed with the Clerk of the Circuit Court of each of Montgomery and Prince George's Counties, as required by law.

* * * * * * * * * * *

This is to certify that the foregoing is a true and correct copy of a resolution adopted by the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission on motion of Commissioner Granke, seconded by Commissioner Heimann, with Commissioners Brennan, Christeller, Granke, Heimann and Krahnke voting in favor of the motion at its regular meeting held on Thursday, October 21, 1982 in Silver Spring, Maryland.

Thomas H. Countee, Jr.
Executive Director

* * * * * * * * * * *

This is to certify that the foregoing is a true and correct copy of a resolution adopted by The Maryland-National Capital Park and Planning Commission, on motion of Commissioner Granke, seconded by Commissioner Heimann, with Commissioners Brown, Brennon, Christeller, Cumberland, Dukes, Granke, Heimann, Keller, and Krahnke voting in favor of the motion, and with Commissioner Shoch temporarily absent, at its regular meeting held on Wednesday, November 10, 1982.

Thomas H. Countee, Jr.
Executive Director

NOTES

PLANNING STAFF PARTICIPATION

Richard Tustian, Planning Director

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- Donald Downing, Planning Coordinator

Transportation Planning
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- Ronald Russell, Student Intern

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* Resigned