GOVE. .MENT OF THE DISTRICT OF COLU..BIA
OFFICE OF PLANNING

Office of the Director

MEMORANDUM

TO: Zoning Commission

FROM: Andrew Altman, Director
Office of Planning

DATE: June 2, 2004

SUBJECT: Waiver of Rules for the Final Report on Zoning Commission Case Number 00-27, a Proposed Zoning Map Amendment to make lots 810, 811, 831, 836, 837 and 855 on Square 37 consistent with the adopted Comprehensive Plan

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The attached report concerning a petition submitted by James Pedas, requesting a change to the zoning of lots 810, 811, 831, 836, 837 and 855 on Square 37 from R-5-B to a classification more consistent with the Generalized Land Use Map of the District of Columbia Comprehensive Plan, is submitted less than 10 days prior to the Zoning Commission Public Hearing. The Office of Planning respectfully requests that the Board waive its rule and accept the report into the record.

ZONING COMMISSION
District of Columbia
CASE NO. 00-27
EXHIBIT NO. 71

ZONING COMMISSION
District of Columbia
CASE NO.00-27
EXHIBIT NO.71

GOVERNMENT OF THE DISTRICT OF COLUMBIA
OFFICE OF PLANNING

Office of the Director

MEMORANDUM

TO: D. C. Zoning Commission

FROM: Andrew Altman
Director

DATE: June 1, 2004

SUBJECT: Final Report on Zoning Commission Case Number 00-27, a Proposed Zoning Map Amendment to make lots 810, 811, 831, 836, 837 and 855 on Square 37 consistent with the adopted Comprehensive Plan

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PETITION
In October 2000, a petition was submitted to the Office of Zoning on behalf of James Pedas, the Applicant and co-owner of referenced lot 855, requesting that the Zoning Commission initiate steps to change the zoning of lots 810, 811, 831, 836, 837 and 855 on Square 37 from R-5-B zone district to a classification more consistent with the Generalized Land Use Map of the District of Columbia Comprehensive Plan.

RECOMMENDATION
The Office of Planning (OP) recommends rezoning the lots 831, 810, 811, and 836 from R-5-B to R-5-D zone district, and lots 837 and 855 from R-5-B to R-5-E zone district.

HISTORY
During a public meeting on November 25, 2001, the Commission "set down" Office of Planning (OP) proposals to rezone the referenced properties from R-5-B to R-5-D with a new High-Density Residential Retail Overlay (HDRRO) District, and a request to establish said zoning overlay district in a companion report (Zoning Commission Application No. 01-33). HDRRO would have allowed mixed-use development in R-5-D and R-5-E zone districts consisting predominantly of high-density residential uses with a requirement for a minimum amount of neighborhood-serving retail uses on the ground floor. The Commission also eliminated alternative language to consider making office an allowable principal use in the overlay, and directed that the proposed overlay public hearing(s) precede consideration of instant application.

On May 21, 2002, OP submitted a pre-hearing statement with the amendment text modified to reflect comments received. During the public hearing on July 29, 2002, the Zoning Commission heard agency and public testimony on the proposed amendment, and continued the hearing to September 9, 2002. At that time, the Commission determined that text changes made since the pre-hearing statement were sufficient to re-advertise the revised amendment for a second public

hearing. The public hearing on the instant rezoning application scheduled for the same date was first rescheduled for October 3, 2002, and then canceled.

Planning staff subsequently provided the Commission with three (3) supplemental reports addressing various issues raised about the overlay proposal. On January 12, 2004, the Zoning Commission voted to deny the HDRRO proposal, and authorized the Applicant to draft a public hearing notice for this application.

BACKGROUND

Area Description

The subject six parcels make up the southern half of Square 37. South of the existing alley between 23rd Street and 24th Street N.W. is lot 855, developed with a commercial open parking lot, and lots 810, 811 and 831 developed with two-story row houses and The Tiverton, a 46-unit four-story apartment building. These properties are privately owned. Lots 836 and 837 at the southern end of the Square (immediately north of L Street, N.W.) are owned by the District and developed with the West End Public Library and Metropolitan Police Department Special Operations Division buildings. These six properties total 58,628 square feet (1.35 acres) and are all in the R-5-B zone district.

Surrounding development north of the alley consists of three lots in a C-2-C zone district developed with the Westin Grand Hotel (2350 M Street, N.W.), 2300 M Street, N.W. (European Union) office building and a condominium apartment building (1140 23rd Street, N.W.). South of L Street, N.W., are six lots on Square 38 developed with two-story row houses and apartments. To the east is the Millennium (Ritz-Carlton) Planned Unit Development (1100 23rd Street, N.W.) across 23rd Street, N.W., that occupies the entire street frontage. This PUD included a map change to CR zone district for that site. West across 24th Street, N.W., is the former Columbia Hospital for Women (2425 L Street, N.W.) in a R-5-D zone district, and the future site of a mixed-use development consisting of 235 residential units and up to 28,000 square feet of ground floor retail uses. Zoning of the latter property was changed to a C-2-C zone district under an approved PUD to allow the proposed land use mix (refer to Exhibit 1).

Existing Zoning

The current R-5-B zone district only allows development of moderate density housing up to a floor area ratio (FAR) of 1.8 and does not allow commercial as a principal use. Therefore, the existing zoning is inconsistent because it does not allow the variety and intensity of land uses anticipated in the Generalized Land Use Map and the Comprehensive Plan (refer to the Comprehensive Plan section below). The notice for this public hearing included the following zoning options for bringing subject properties into conformance with the Comprehensive Plan.

District	Predominant Use	FAR	Maximum Nonresidential FAR	Height
R-5-D	Medium-High density residential	3.5	0	90 ft.

District	Predominant Use	FAR	Maximum Nonresidential FAR	Height
R-5-E	High-density residential	6.0 for apts 5.0 all other structures	0.0	90 ft.
C-2-B	Medium-High density	3.5	1.5	65 ft
C-2-C	Community business center, high-density	6.0	2.0	90 ft.
CR	Mixed-use, residential, office and light industrial	6.0	3.0	90 ft.

The Applicant's Pre-Hearing Statement dated April 2, 2004 notes that development beyond the southern half of the square has been "... guided by the same Generalized Land Use Map's specification of high-density residential uses along with moderate- or medium-density commercial uses which allow, by right, development to an FAR of 6.0 with heights to a maximum of 90 feet. Within that edge, some areas limit commercial uses to an FAR of 2.0, others to 3.0; but all allow residential development to an FAR of 6.0, or 6.5 in areas zoned C-3-C (which also allows commercial uses up to the same overall FAR limit)." The R-5-E zoning district is identified in this Statement as the only high-density residential zoning district, thus the only zoning district consistent with referenced Comprehensive Plan designation. However, the R-5-D zone district is listed in the Zoning Regulations as a medium-high density zone.

On this basis, the Statement recommends three (3) options for bringing the southern half of the square into conformance:

- Option 1: Rezone all properties south of the east-west alley, including District properties along the L Street frontage, to R-5-E zone district;

- Option 2: Rezone the in the following combination:
  a) Rezone properties abutting the **23rd Street frontage to the R-5-E zone** district which would extend the R-5-E zone district existing from the eastern side of 23rd Street (Square 51) and would relate to the Ritz-Carlton development in Square 51;
  b) Rezone properties along the **24th Street frontage to R-5-D zone** district: This would extend the existing R-5-D zone from the western side of 24th Street (Square 25) and relate to the redevelopment of the Columbia Hospital site in Square 25; and
  c) Rezone property along the **L Street frontage to the R-5-D or R-5-C zone** district which would reduce vertical rights and transition to the row houses on the southern side of L Street; or

- Option 3: Rezone all properties to the R-5-E zone district to a point 60 feet north of the L Street frontage, then rezone the 60 feet (60 ft.) north from the L Street frontage to C-2-B or C-2-C zone district to allow mixed-use development with commercial uses.

Analysis

As stated previous, the Office of Planning supports zoning consistency but continues to be concerned that consistency only with the Generalized Land Use Map, without taking into account other Comprehensive Plan policies, would potentially result in excessive commercial and office development that would be inconsistent with community-expressed planning goals for the area. These goals were expressed at public meetings and ANC meetings over the last two years during consideration of rezoning for the Square and include the following:

- support developments that provide long-term residential opportunities;
- encourage the provision of more small-scale neighborhood-serving commercial establishments;
- limit future office development; and
- encourage future construction that is sensitive to the scale and massing of existing structures in this close urban setting.

The community has also expressed the following interests and concerns about this rezoning proposal, including:

- that any rezoning not increase neighborhood traffic congestion to unacceptable levels;
- that zoning changes not impact the West End Public Library;
- that any changes should increase potential home ownership opportunities for long-term residents;
- the provision (and retention) of affordable housing opportunities;
- the possibility that zoning changes may allow a land use mix that creates opportunities for neighborhood-serving retail and service uses; and
- that development north of L Street be undertaken in a manner that limits the visual impact on the two-story dwellings to the south.

To further both zoning consistency, meet community goals and address neighborhood concerns, OP generally supports rezoning the eastern portion of the subject properties (lots 837 and 855) to an R-5-E zone district and the western portion of the subject properties (lots 831, 810, 811and 836) to an R-5-D zone district for the following reasons:

- No One Zone District Allows the Designated Mix of Land Uses: R-5-D and R-5-E, the high-density residential zone districts, allow 3.5-6.0 FAR of residential uses but no commercial uses as principal uses. C-2-C and CR zone districts allow up to 6.0 FAR of residential uses, but only a moderate amount (2.0 – 3.0 FAR) of commercial uses. As a result, there is no a single zone district that matches the prescribed land use pattern.

  However, looking at Square 37 as a whole reveals that commercial and office uses dominate the land uses on the northern half. The R-5-D and R-5-E zone districts are "not inconsistent" with the Comprehensive Plan when viewed in the context of the immediate neighborhood. The redevelopment of the Columbia Hospital site directly across 24th Street was approved as

a PUD with a maximum of 28,000 square feet of retail space to be provided facing 24th Street. The existing base zone (non-PUD) for the Columbia Hospital site is also R-5-D.

To the west across 23rd Street, the Ritz Carlton project also was approved as a PUD and includes up to 53,400 square feet of retail and a sports and health club of 89,450 square feet. The existing base zone (non-PUD) for the Ritz Carlton site is R-5-E.

Based on these existing conditions and neighboring development, OP feels that extending the R-5-D zone district for medium-high density residential uses eastward across 24th Street, and extending the R-5-E zone district for higher-density residential uses westward across 23rd Street meets the intent of the Plan designation when the Square is considered as a whole.

The mixed-uses designation of the Generalized Land Use Map does not necessarily need to be fully developed on every lot within this Square. Section 112 of the Comprehensive Plan clearly states that there is an intentional overlapping of the Elements that may be weighed and interpreted.

> "112.1 The primary dynamic of the District elements of the Plan is the overlapping of its elements' goals. This overlapping is intentional.
>
> (a) District elements of the Plan should be studied and executed in concert with each other and should be interpreted broadly.
> (b) The interpretation and implementation of any element should necessarily rely upon, and be respectful of, the objectives and policies of other elements.
> (c) An element may be tempered or defined by one (1) or more of the other elements. This may occur both within one (1) element and between elements. Since the Land Use element integrates the policies and objectives of all other District elements, it should be given greater weight than the other elements.
>
> 112.2 The interpretation of the District elements of the Plan should also be guided by the major themes set forth in §101.1, which establish the overall priorities of the District elements of the Plan. ..."

OP believes the recommended combination of R-5-D and R-5-E zone districts is consistent with Section 112 and "not inconsistent" with the overall policies and objectives of the Comprehensive Plan. A detailed discussion of the Comprehensive Plan Elements that affect this site is presented below.

- Recognition of Existing Multifamily Development: The Tiverton Apartments (lot 831) predates the current zoning regulations and has a FAR of 3.15 FAR which in nonconforming because it exceeds the 1.8 FAR currently allowed in R-5-B zone district. Existing rowhouse dwellings on lots 810 and 811 also predate the zoning regulations and have 0.70-0.75 FAR, and the West End Branch Library building has less than a 2.0 FAR. Staff recommends rezoning these properties to R-5-D, medium-high density residential district which allows up

to 3.5 FAR (refer to Exhibit 2). Rezoning the four lots in this manner by extending the underlying R-5-D zone district across 24th Street (the former Columbia Hospital property) is "not inconsistent with the Comprehensive Plan."

- Relative Traffic Impacts: Findings of the Square 37 Rezoning Traffic Impact Study by DMJM+Harris (refer to Exhibit 4 and Agency Comments) indicated that the impact on future congestion in the area during peak travel hours of new mixed residential and office development onsite under a CR zone as a matter-of-right while retaining the existing library district (Option 2) would not differ significantly from a residential planned unit development under the current R-5-B zone district (Option 1). Staff modified this scenario to increase the unit count to 333 (the maximum that would be allowed under an R-5-E zone district as matter-of-right or under a PUD) and eliminate the office component while retaining the library.

  This predominantly residential CR zone option increased the A.M. peak, P.M. peak, and daily two-way vehicular trips overall from the current levels by 119, 111 and 980 trips, respectively. Of this total increase, the option's 185 dwelling units represent 48 trips during the A.M peak hour, 59 trips during the P.M. peak hours, and 620 two-way trips on a daily basis when adjusted for transit use.

  Under this modified scenario, the A.M. peak, P.M. peak and daily two-way trips for the larger residential component increased, however *the total net change in vehicular trips from what exists currently is less* than under Option 2 (refer to Exhibit 5). On this basis, staff concludes that redevelopment of the southern half of the Square under R-5-E or R-5-D zone district while retaining the library would also have negligible negative effect on future area traffic congestion. However, the addition of an office component, which would be permissible as a matter of right under C-2-B or C-2-C zone districts, would be problematic.

- Impact of Future Development South of L Street: No development plans current exist for the District parcels, however staff anticipates that one or more requests for proposal (RFP) may be issued at some point in the future for the disposition and redevelopment of these public lands. Potential developers are expected to strive to take full advantage of the mixed-use potential allowed under the Comprehensive Plan. Submissions that incorporate commercial land uses would require changes in zoning, probably though a planned unit development as was the case with the Columbia Hospital and Ritz-Carlton development proposals. In either case, rezoning and PUD processes will allow the public participation during the review of any project proposal selected.

- Concerns About Other Zone District Impacts: OP rejected more commercially intense zone districts such as C-2-C and CR due to the potential commercial FAR (2.0 and 3.0 respectively). The referenced traffic study indicated significant levels of commercial and office development would negatively impact future traffic congestion in the area. While the C-2-B zone district permits less commercial, it allows for a development split that could result in 2.0 FAR of residential use and 1.5 FAR of commercial or office use which is not consistent with either the residential or commercial land use designations. When reviewed in

the context of the neighboring land uses, the dominant office and commercial use on the northern half of Square 37, and the retail uses approved in the neighboring PUDs, OP feels higher-density residential zone districts provide the most favorable matter-or-right scenario for the subject site and surrounding neighborhood.

Comprehensive Plan

The Generalized Land Use Map designates the subject properties for the following combination of development:

- *High-Density Residential* – Characterized by high-rise apartment buildings as predominant uses (may also include low, moderate and medium density housing).

- *Medium-Density Commercial* – Characterized by shopping and services offering a large concentration and variety of goods and services outside of Central Employment Area as predominant uses (refer to Exhibit 3).

In order to implement land use guidance within the Comprehensive Plan, decisions were made about what zone districts represent the relative development intensities prescribed in the Plan. The two zone districts determined to match the "high-density" residential classification were R-5-D and R-5-E zone districts. Both allow construction up to 90 feet in height with unlimited floors, a percentage of lot occupancy up to 75% and neither requires a side yard setback. Although the difference in the maximum allowable residential FAR is significant, OP thinks the proposed combination of R-5-D and R-5-E zone districts meets the intent of the Plan.

The Comprehensive Plan, which is the legal basis for zoning in the District, states, as its first principle, the importance of stability for residential neighborhoods. Under Section 101, Major Themes, the plan states:

> "The successful and creative functioning of neighborhoods is a fundamental concern. Citizen participation in civic improvement starts from the interest that people have in their neighborhood blocks and the day-to-day relationships therein. District services are primarily directed to homes and their environs. ...
>
> The District elements of the Plan propose that the residential character of neighborhoods be maintained and improved. ...
>
> Ensuring good quality neighborhoods is of utmost importance to the District."

In Title 11, the Land Use Element, the Plan gets quite specific in Section 1102, Objectives for Residential Neighborhoods, which states the residential neighborhood objectives are as follows:

(a) To conserve the essentially satisfactory qualities of the District's many stable residential neighborhoods;
(b) To enhance other neighborhoods to improve and achieve stability;

(c) To redirect public and private initiatives to neighborhoods most in need of improvement and stability;
(d) To encourage development of adequate neighborhood shopping and support services in all sections of the District;
(e) To protect residential neighborhoods from disruptive uses; and
(f) To prevent concentrations of non-residential uses in residential neighborhoods.

Policies in support of these objectives under Section 1104.1 include several that are directly relevant to this case:

(a) Promote the conservation, enhancement and revitalization of the residential neighborhoods of the District for housing and neighborhood-related uses;
(b) Conserve and maintain the District's sound, established neighborhoods through the strict application and enforcement of housing, building, and zoning codes and the maintenance of the general level of existing residential uses, densities, and heights; ...
(c) Encourage the retention and expansion of residential areas in mixed use neighborhoods to help maintain the residential character of these areas, through modification of land use and related regulations when necessary; ...
(i) Protect low and moderate density residential neighborhoods that are also designated for commercial uses from uses that are incompatible with residential neighborhoods, and from activities, particularly those of a commercial nature, that generate excessive traffic, late night activity, noise, litter, and other damaging environment impacts; ...
(l) Upgrade deficient neighborhood and multi-neighborhood shopping and service areas, ... and assist in the establishment of new commercial areas to ensure that all neighborhoods have ready access to a suitable range of retail goods and services in the District. ..."

Ward 2 Objectives for Economic Development in Section 1301.1 include:

(a) Enhance the image of Ward 2 as a place to do business and to reside;
(b) Maintain sound areas of the ward and rebuild and develop other areas of the ward where economic development actions are needed;
(c) Increase total employment in the ward, especially in the Central Employment Area, and at appropriate locations and levels in other areas of the ward; ...
(g) Increase District tax revenues from expanded economic development activity in Ward 2 but not at the expense of residential communities in the Ward that are critical providers of revenues to the District, especially in the form of income and property taxes, and that are a source of employees to the Central Employment Area."

Ward 2 Objectives for Housing under Section 1304.1 include:

(a) Stimulate production of new and rehabilitated housing to meet all levels of need and demand and to provide incentives for the types of housing needed at desired locations;
(b) Provide for the housing needs of low- and moderate-income households;
(c) Encourage home ownership; ..."

Ward 2 Objectives for Transportation under Section 1310.1 include:

(b) Improve mobility within Ward 2 for residents, employees, and visitors, while minimizing the adverse transportation impacts on commercial areas and residential neighborhoods."

When reviewed in combination with the surrounding land uses, land uses within the northern half of Square 37, and the Section 112 of the Comprehensive Plan, OP believes that the recommended combination of R-5-D and R-5-E zone districts is consistent with the overall policies and objectives of the Comprehensive Plan.

AGENCY COMMENTS

The Office of the Deputy Mayor for Planning & Economic Development (DMPED) stated in a letter dated September 26, 2001 that the previous proposal to rezone the District-owned property to R-5-D or R-5-E zoning district (with the HDRRO) was not inconsistent with the Generalized Land Use Map or plans for these parcels. DMPED also did not express any concern when notified about OP's current modified proposal.

The Department of Transportation hired transportation consultants DMJM+Harris to analyze the potential impact of several development scenarios on the southern half of Square 37 on future West End traffic conditions reflecting other developments in the area. The objective was to estimate whether the different zoning and development patterns on the subject properties would make traffic congestion worse or have little impact.

This future calculation took into account projects that either were in the advanced planning stages or that had received zoning approval but had not been constructed at the time the study was conducted. The final report, completed September 2002, generally indicates that:

- vehicle trip generation associated with a residential PUD in the current R-5-B zone district including the existing 19,000-square foot library (Option 1), and a matter-of-right development in a CR zone district with residential, a similar library and limited office uses (Option 2) "would have negligible negative effect on traffic generations in the study area;" and
- trip generation associated with a residential PUD, similar library and 73,000 square feet of "specialty retail" (Option 3), and a matter-of-right development with the library, 88,000 square feet of office and 78,000 square feet of retail (Option 4) would have a "marginal

negative impact" on area congestion principally during the P.M. peak travel hours on the eastbound approach to L Street at the 23rd Street intersection.

COMMUNITY COMMENTS

The Foggy Bottom and West End Advisory Neighborhood Commission (ANC) 2A considered this petition during regular ANC meetings in July and October 2001. A Report to ANC 2A on Square 37 adopted by the ANC on November 13, 2001 concluded by recommending, "the designated zoning for (the southern half of) Square 37 should be retained."

At a meeting on May 20, 2002, the Association unanimously passed an identical resolution.

In a letter dated May 24, 2004, Mr. and Mrs. Charles S. Ahlgren, owners of the one-family row dwelling on referenced lot 810, "agree(d) with the petitioner that the present R-5-B zoning classification seems inconsistent with the Comprehensive Plan, and support(s) the proposed map amendment change of the present classification to R-5-E, C-2-C or CR."

In undated correspondence received by the Office of Zoning on May 21, 2004, a representative of William W. Beckett, owner of the Tiverton Apartments on referenced lot 831 urged on behalf of the owner "that the rezoning be granted in the R-5-E category for the entire south portion of Square 37."

RECOMMENDATION

The Office of Planning (OP) recommends rezoning the lots 831, 810, 811, and 836 from R-5-B to R-5-D zone district, and lots 837 and 855 from R-5-B to R-5-E zone district.

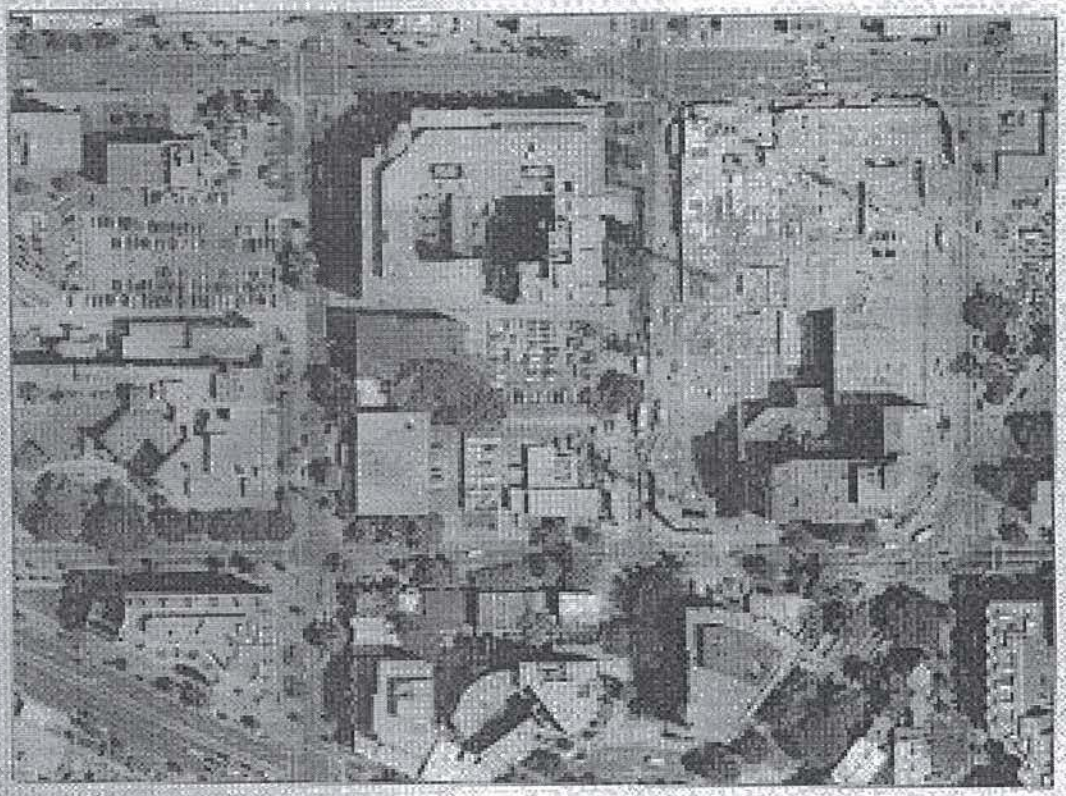
Attachments: Exhibit 1 Aerial Map with Zoning
Exhibit 2 Proposed Rezoning
Exhibit 3 Comprehensive Plan Land Use Designation
Exhibit 4 Square 37 Rezoning Traffic Impact Study Conclusion & Traffic Generations Tables
Exhibit 5 Modified Option 2 Net Traffic Generation

AA/afj

Exhibit 4

SQUARE 37 REZONING

Traffic Impact Study



Published by:
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District Department of Transportation
District of Columbia

with Assistance from:
District of Columbia Office of Planning

September 2002

FUTURE CONDITIONS WITH NEW DEVELOPMENT AT THE SITE

The Study Team evaluated future conditions with the site for three scenarios. The first step in the assessment of future conditions was to calculate the number of trips generated by each of the development options, Options 1, 2 and 3, described in Table 1. The Study Team also calculated trip generation for a fourth site development scenario that included residential, retail and office development. After calculating the number of trips generated by each development scenario (options 1, 2 and 3), the Study Team used existing trip distribution patterns to develop traffic assignments at each of the critical intersections in the study area. The traffic assignment task involves estimating how many of the expected new site trips are added to the traffic at the critical intersections in the study area. For these three scenarios, the site traffic was added to the sum of existing traffic, growth in background traffic and traffic generated by other area development to determine total future traffic volumes.

SITE TRAFFIC TRIP GENERATION

The trip generation for the study scenarios was calculated using trip generation rates from the Institute of Transportation Engineers Trip Generation Manual, 6th Edition. The transit usage percentages were calculated based on information provided in Development Related Ridership Survey, published by the Washington Metropolitan Area Transit Authority. For each of the four options, the additional new trips were estimated by subtracting the trips generated by existing land uses (that are to be eliminated) from the total number of trips generated by the proposed new land uses. Appendix E presents detailed information on the trip generation calculations for the four options.

All of the options include the existing library at the site. Option 1 includes residential development only. Option 2 encompasses a combination of residential and office development. Option 3 includes a mix of residential and retail uses. Option 4 has residential, office and retail land uses.

As Table 6 indicates, the increase in traffic due to the implementation of Option 1 is negligible. In fact, the implementation of Option 1 is not expected to generate an increase in traffic at the site during the AM and PM peak hours and the daily trips are expected to increase by only 130.

The Study Team estimates that the implementation of Option 2 will increase daily traffic by approximately 1,000 trips. Because of the office development component, the AM peak hour trip generation for the site is greater for Option 2 than for the other three options included in the analysis. However, during the PM peak hour, Option 2 is expected to generate one-half of the estimated number of Option 3 or Option 4.

The Study Team estimates that Option 3 will generate twice the number of Option 2 daily trips. Because of the lack of office development, the AM peak hour trips for Option 3 are less than the AM peak hour trips for Option 2.

Table 6
Net Trip Generation for the Different Land Use Scenarios

Option	Proposed Future Site Development	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips (2-Way)
		In	Out	Total	In	Out	Total	
1	Planned Unit Development in Zoning District R-5-B 166 Residential Units 19,060 Sq. Ft. Library	-24	24	0	7	-10	-3	130
2	Matter of Right in Zoning District C-R 185 Residential Units 19,060 Sq. Ft. Library 165,575 Sq. Ft. Office	77	42	119	29	82	111	980
3	Planned Unit Development with Overlay in Zoning District R-5-E 369 Residential Units 19,060 Sq. Ft. Library 73,258 Sq. Ft. Retail	-7	77	70	129	72	201	1,960
4	Matter of Right in Zoning District C-R with Office and Retail 185 Residential Units 19,060 Sq. Ft. Library 135,575 Sq. Ft. Retail 30,000 Sq. Ft. Office	47	47	94	113	120	232	1,960

Note: The tables Site Trip Generation – Option 1, Site Trip Generation Option 2, Site Trip Generation Option 3 and Site Trip Generation Option 4 included in Appendix G present detailed information on the trip generation calculations for the four options.

The trip generation estimation indicates that Options 3, which has retail components, and Option 4, which has retail and office components, have the largest daily and PM peak hour trip generation. As shown in Table 6, these options are expected to generate over 200 PM peak hour trips and nearly 2,000 daily trips. The addition of a large number of trips during the PM peak hour is critical because delays and traffic congestion in the study area are more severe during the PM peak hour than during the AM peak hour.

SITE TRIP DISTRIBUTIONS

The Study Team used existing traffic count information and trip distribution information documented in other traffic studies in the area[1] to develop trip distributions for the forecast site trips. The Study Team developed one set of distributions for residential trips and one set of distributions for commercial trips. The same residential and commercial distributions were used for all three of the development options. The residential and commercial distributions used to assign the site trips for this study are summarized in figures 16 and 17. More details on the distributions are presented in Appendix F.

SITE TRIP ASSIGNMENTS

The Study Team assigned the site trips generated by each of the development options to the study area network using the trip distributions shown in Figures 16 and 17. The estimated future year trip assignments for options 1, 2 and 3 are summarized in Figures 18, 19 and 20.

The addition of traffic volumes at the critical intersections increases with proximity to the rezoning site. Under Option 1, the maximum increase in approach volumes is 27 trips on southbound 24th Street at L Street during the AM peak hour. Under Option 2, the traffic increases in the vicinity of the rezoning are much greater than they are under Option 1, but they are relatively low compared to the overall traffic traversing the critical intersections during the peak hours. For Option 2, the maximum increase due to site traffic occurs on the 23rd Street southbound approach to L Street. Traffic on this approach is expected to increase by 76 trips with the implementation of Option 2 during the PM peak hour. For Option 3, the maximum increase at an approach occurs on the eastbound approach of L Street at 23rd Street. Traffic on this approach is expected to increase by 75 vehicles with the implementation of Option 3 during the PM peak hour.

TOTAL TRIP ASSIGNMENTS WITH SITE DEVELOPMENT

In order to forecast the total number of vehicular trips that are expected to traverse the study area intersection during the forecast year, 2007, the Study Team added the following layers of traffic volumes for each of the development options:

1. Existing Traffic
2. Growth in Background Traffic
3. Trips Generated by Other Area Development
4. Site Traffic

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[1] Traffic Impact Analysis – International Monetary Fund Headquarters 2 Building, Rezoning and Planned Unit Development Application, District of Columbia Zoning Commission, Washington D.C., prepared by O.R. George & Associates, May 11, 2001; The George Washington University Replacement Hospital Transportation Impact Analysis, prepared by Gorove/Slade Associates, Inc., November 4, 1998; 2200 M Street N.W. A Mixed Use Development Application to the District of Columbia Zoning Commission, prepared by Gorove/Slade Associates, February 11, 1998.

The total number of trips for each of the development option was estimated under two conditions. The first condition assumed that New Hampshire Avenue between Washington Circle and M Street is maintained as a one-way street. The second condition assumed that New Hampshire Avenue between the circle and M Street is converted to two-way operation. The forecast volumes for these two conditions are different because the conversion to two-way operations would generate traffic diversions throughout the study area. Figure 21 displays the total AM and PM peak hour volumes for Option 1 without any modifications to the one-way operation on New Hampshire Avenue north of Washington Circle. Figure 22 shows the Option 1 forecasts with modified New Hampshire Avenue. Figures 23 and 24 display the total forecast volumes for the two New Hampshire Avenue operations for Option 2. Figures 25 and 26 show the total peak hour volumes for Option with one-way and two-way operations on New Hampshire Avenue.

The total assigned volumes for the three options, shown in Figures 21 through 26, reflect minor increases in traffic volumes, with respect to existing conditions, at the intersections in the immediate vicinity of the site. However, traffic volumes at some of the approaches to Washington Circle are significantly larger than existing traffic counts for all of the three development options. Most of the traffic increases, however, are due to new trips generated by other area development than by the trips generated at the rezoning site.

SITE IMPACTS

The Study Team evaluated the impacts of the site development traffic on the intersections in the immediate vicinity of the site. The site impacts indicate what proportion of the forecast total traffic at a particular intersection is generated by new site traffic. The Study Team calculated the site impacts by dividing the additional site generated traffic by the total forecast traffic at each intersection.

The Study Team calculated the site impacts under two conditions. One condition assumes that New Hampshire Avenue continues to operate as a one-way street and the other condition assumes that New Hampshire Avenue between Washington Circle and M Street is converted to two-way operations.

Site impacts of less than five percent are low and generally reflect negligible effects on traffic operations and delays. Site impacts between five and 15 percent are moderate and minor effects on traffic operations and delays are expected at intersections with site impacts at these levels. Site impacts of more than 15 percent are significant and generally result in significant degradation of traffic operations and increased delays. The intersections most affected by the site traffic are those located in the immediate vicinity of the site. Site impacts generally decrease with increase distance to the site that generates the trips.


ZC 00-27
Aerial & Zoning
0024
0036
0050
CR
DC/CR
M ST NW
0014
0025
0037
0051
R-5-E
C-2-C
22ND ST NW
23RD ST NW
24TH ST NW
25TH ST NW
L ST NW
0072
0026
0026
0052
0038
0015
0027
0040
0063
PENNSYLVANIA AVE NW
0038
GOV
C-3-C
* zoning annotated by the Office of Planning

Exhibit 1

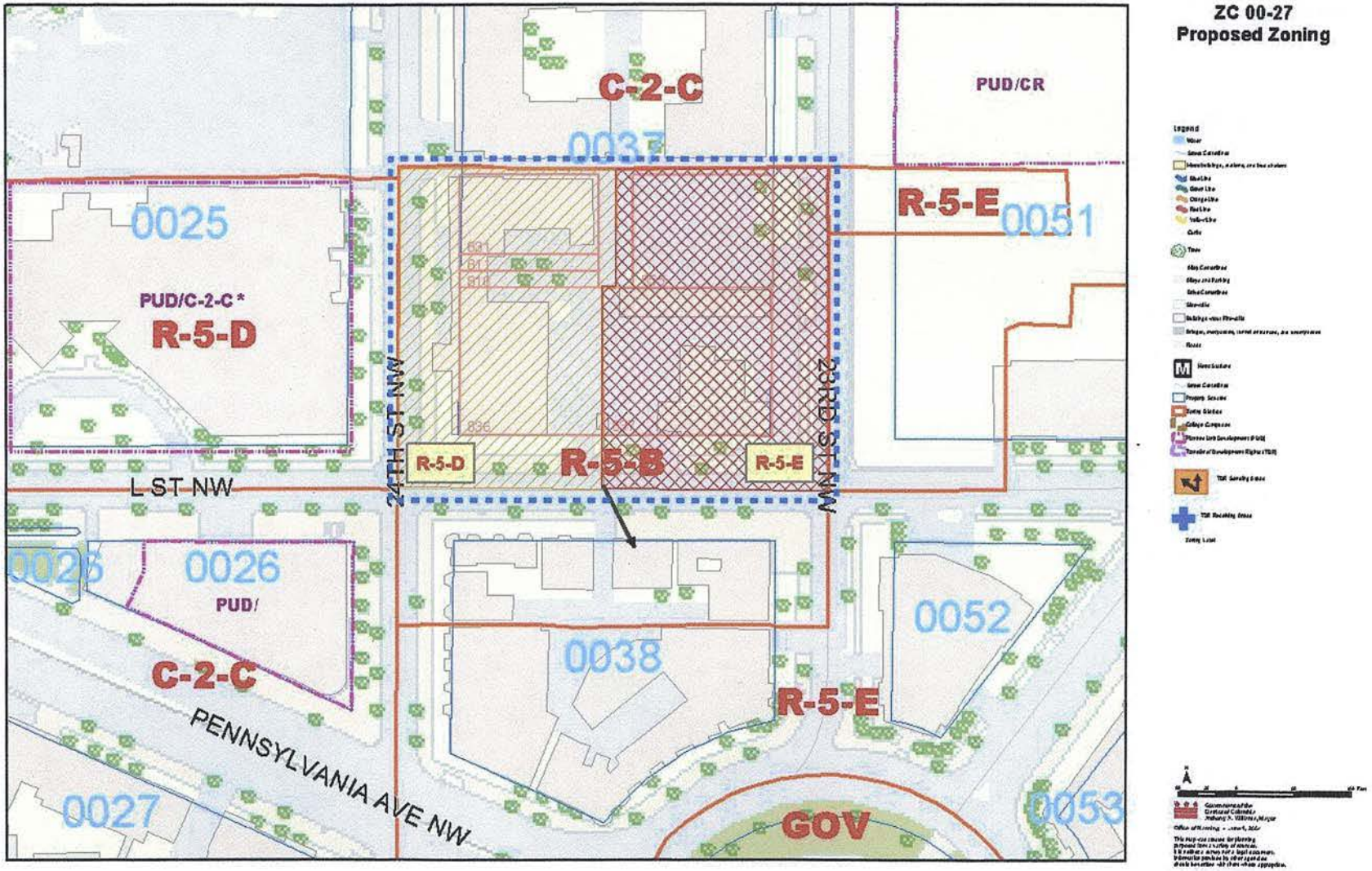
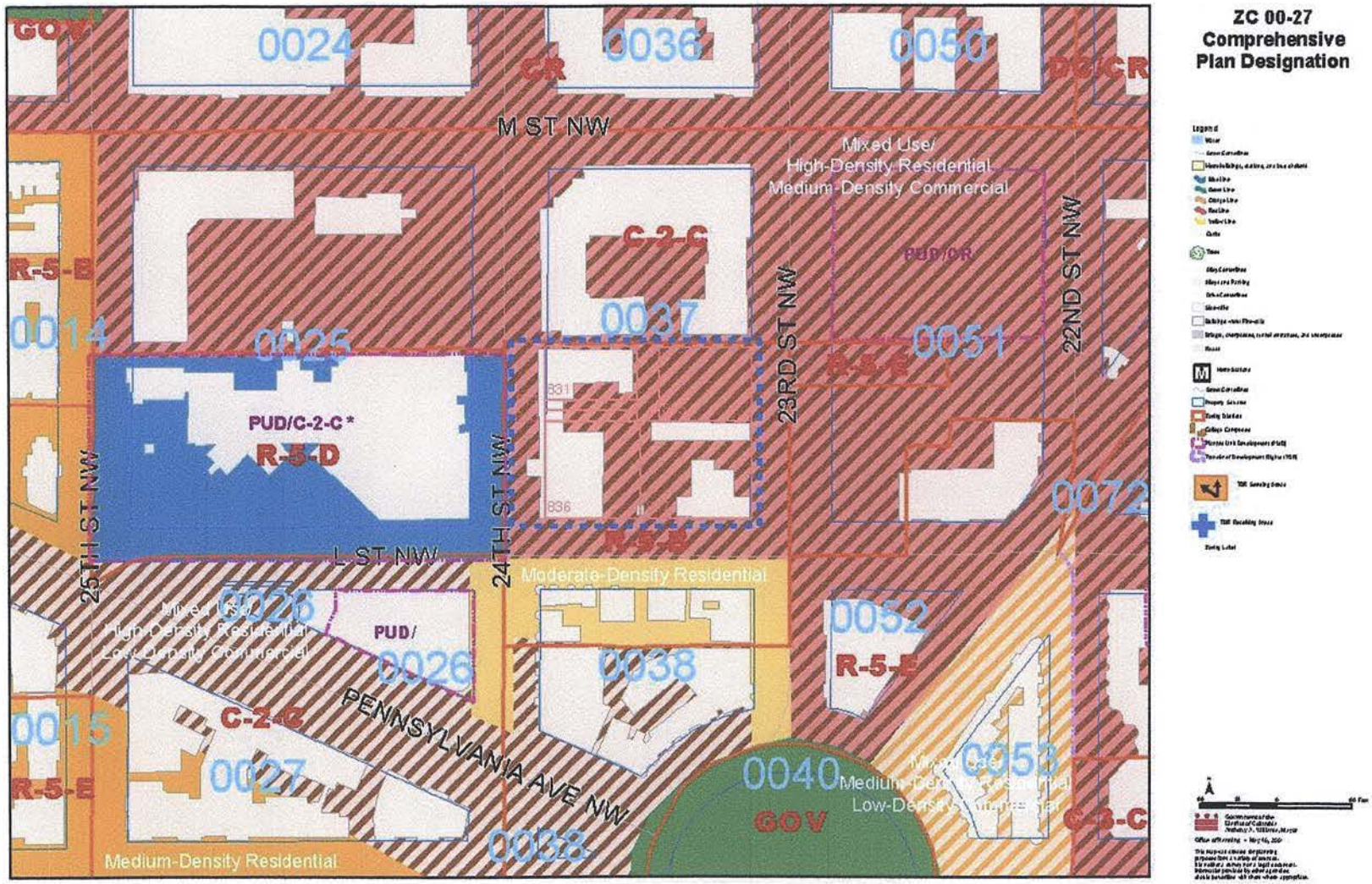

ZC 00-27
Proposed Zoning
C-2-C
PUD/CR
0037
0025
R-5-E
0051
PUD/C-2-C *
R-5-D
631
811
836
22ND ST NW
23RD ST NW
R-5-D
R-5-B
R-5-E
L ST NW
0026
0026
PUD/
0052
0038
C-2-C
R-5-E
PENNSYLVANIA AVE NW
0027
GOV
0053
* zoning annotated by the Office of Planning

Exhibit 2



ZC 00-27
Comprehensive Plan Designation

* zoning annotated by the Office of Planning

Exhibit 3

As shown in Figures 27 and 28, the site impacts for Options 1 and 2 are estimated to be less than five percent at the intersections in the immediate vicinity of the rezoning site during the AM and PM peak hours. Contrastingly, the site impacts for Option 3 at several intersections in the vicinity of the site are expected to be more than five percent but less than 10 percent during the PM peak hour. As Figures 27 and 28 indicate, the intersections most affected by Option 3 traffic are New Hampshire Avenue and L Street, 23rd Street and L Street, 23rd Street and M Street, and 24th Street and M Street. This indicates that the implementation of Options 1 and 2 is expected to have a negligible effect on traffic conditions in the study area and Option 3 is expected to have a marginal negative effect on traffic operations and delays.

FUTURE LEVELS OF SERVICE WITH SITE DEVELOPMENT

As noted previously in this document, the Study Team conducted the analysis for future conditions for the year 2007. This assumes that the new development at the site would be completed by 2007. As described in the existing conditions section of this document, there are several intersections in the Study Area operating at LOS F during the AM and PM peak hours. Therefore, the Study Team made recommendations with respect to improvements needed to address existing deficiencies. Thus, the level of service calculations for all future year scenarios were conducted assuming that the improvements to address existing conditions would be in place.

The Study Team calculated levels of service at all of the Study Area intersections with the traffic forecasted for each of the site development options. As shown in Table 7, compared to existing conditions, the implementation of Options 3 would result in slight degradation in LOS at approximately one-third of the study area intersections during the AM peak hour. The implementation of Option 2 would result in slight degradation in LOS at approximately two-thirds of the study area intersections during the AM peak hour. The implementation of Option 1 would result in slight degradation in LOS at approximately one-quarter of the study area intersections during the AM peak hour. Generally, the degradation in traffic operations corresponds to one grade in the LOS scale; i.e., intersections that are currently operating at LOS A degrade to LOS B with the new site development. As Table 8 indicates, compared to existing conditions, the PM peak hour LOS for Options 1, 2 and 3 is expected to degrade, generally by one letter grade, for approximately one-third of the Study Area intersections. It is important to note that at most of the intersections where the LOS degrades during the AM and PM peak hours, the resulting LOS is expected to be at acceptable levels.

Therefore, the Study Team concludes that there are insignificant differences on the effects on traffic operations between Options 1 and 2. The implementation of Option 3, however, would result in marginally worse traffic conditions than the conditions expected to occur under Options 1 and 2. Furthermore, the assessment of the three options indicates that no additional mitigation measures, other than the ones recommended to address existing conditions, need to be implemented to accommodate either Option 1, Option 2 or Option 3 level of development.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The Study Team found that there is significant congestion in the study area. In addition, there are a number of issues that should be addressed to enhance pedestrian flows and safety in the study area. The most congested streets are 23rd, K, L and M Streets. The most critical location is Washington Circle where several heavily traveled corridors converge. PM peak hour volumes and congestion are greater than AM peak hour.

The Study Team developed a list of recommended improvements to address existing transportation issues and provide enhancements to traffic flow in the study area. These improvements are summarized in Figure 11 and described in the Existing Transportation Issues and Proposed Improvements section of this report. The Study Team recognizes that even with the implementation of the recommended improvements, many of the study area intersections will continue to operate at level of service F, especially during the PM peak hour. The type of improvements that need to be implemented to bring all of the study area intersections to acceptable levels of service are extensive and of a regional nature. They may include the following:

1. Construction of an interchange at the site of the Washington Circle.
2. Reconstruction of the Theodore Roosevelt Bridge to provide necessary downstream capacity and alternative routes to traffic that traverse the study area.
3. Widening or reconstruction of the Key Bridge to provide downstream capacity.

It should be noted, however, that the replacement of the Washington Circle with an interchange is very unlikely because it would be difficult to construct an interchange that fits well with the existing character of the study area.

The Study Team conducted a full evaluation of three development options at the site. The trip generation for a fourth option was calculated to gauge the potential effects on traffic operations that would result from the implementation of an option that included office and retail development. The type and levels of development for each of the study options are summarized in Table 9.

Table 9
Types and Levels of Development for Study Options

Option	Land Use	Square Footage	Dwelling Units
1	Residential	165,575	166
	Library	19,060	N/A
	Total	***184,635***	***166***
2	Residential	184,635	185
	Office	165,575	N/A
	Library	19,060	N/A
	Total	***369,270***	***185***
3	Residential	369,270	369
	Overlay Commercial	73,258	N/A
	Library	19,060	N/A
	Total	***461,588***	***370***
4	Residential	184,635	185
	Overlay Commercial	77,575	N/A
	Office	88,000	N/A
	Library	19,060	N/A
	Total	***369,270***	***370***

As shown in Table 10, the net new trips for Option 1 are negligible. Option 2 is expected to generate more trips during the AM peak hours than the other options but less trips than Option 3 and 4 during the PM peak hour and on a daily basis. The Study Team estimates that Options 3 and 4 will have the greatest trip generation during the PM peak hours and on a daily basis.

Table 10
Trip Generation for Study Options

Option	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips (2-Way)
	In	Out	Total	In	Out	Total	
1	-24	24	0	7	-10	-3	130
2	77	42	119	29	82	111	980
3	-7	77	70	129	72	201	1,960
4	47	47	94	113	120	232	1,960

Note: The tables Site Trip Generation – Option 1, Site Trip Generation Option 2, Site Trip Generation Option 3 and Site Trip Generation Option 4 included in Appendix G present detailed information on the trip generation calculations for the four options.

The evaluation of trip generation, site impacts and levels of service indicates that the implementation of Options 1 and 2 would have a negligible negative effect on traffic operations in the study area. The implementation of Option 3 would have a marginal negative effect on traffic operations in the study area. Even though the Study Team did not conduct a full evaluation of Option 4, the trip generation estimates indicate that the effects on traffic operations associated with the implementation of this option is likely to

be the same as the effects of Option 3. The differences in traffic impacts between the study options are small enough to indicate that the level of necessary mitigation measures is not greater for any of the development options evaluated in this study.

Exhibit 5

Modified Option 2 Net Traffic Generation

Development [1]	Land Use	Independent Variable	Peak Hour Trips		Daily Trips
			A.M.	P.M.	
PROPOSED NEW DEVELOPMENT					
R-5-E Zoning District	Residential	333 Units [2]	171	215	2,232
	Transit Usage	*50%*	*86*	*108*	*1,116*
	Library	19,060 s.f.	20	127	1,150
	Transit Usage	*59%*	*8*	*52*	*470*
	Total Future Traffic		**94**	**160**	**1,586**
EXISTING DEVELOPMENT					
Residential	--	--	8	24	200
Nonresidential	--	--	43	85	710
NET (NEW – EXISTING)					
Residential		--	78	84	916
Nonresidential		--	-35	-33	-240
Total Site Traffic			**43**	**51**	**676**

[1] Abbreviated version of table entitles "Site Trip Generation – Option 2", Appendix G, Square 37 Rezoning Traffic Impact Study, September 2002

[2] Based on the total allowable building area = 58, 628 square feet (lot area) x 6.0 FAR (less 19,060 square feet for the West End Library) being divided by an estimated 1,000 square feet per dwelling unit