
ARNOLD & PORTER LLP

December 5, 2007

Zoning Commission
Office of Zoning
441 Fourth Street, N.W., Suite 210
Washington, D.C. 20001

Re: Corcoran PUD; No. 07-13; Testimony
On Behalf of Square 643 Associates

Dear Zoning Commission Members:

The attached statement and report is being submitted on behalf of Square 643 Associates which owns the property immediately across H Street, N.W. from the subject PUD. The proposed loading and the parking garage access currently located on the H Street frontage of the PUD has the potential to negatively impact the Square 643's approved PUD project which includes the historic Friendship Baptist Church. The historic church and approved condo addition are largely oriented to H Street and are accessed from H Street.

Square 643 is very concerned about the siting of the Corcoran PUD's loading and parking facilities at its front door as well as the impact of all of the traffic and service functions associated with these facilities on H Street. H Street is also the only point of access to the Randall Recreation facilities -- an important community resource. Square 643 is also concerned that the H Street façade of the proposed project is not sufficiently rendered at the street level to enhance the pedestrian experience along this important gateway to the Randall recreation facilities.

Square 643 has retained traffic experts, Osborne George and Associates, to analyze the likely transportation impacts and make recommendations. In response, some changes have been made by the Applicant but a detailed study of the alternative of shifting the proposed loading and parking access functions to First Street has not occurred to date as requested by Square 643. We are requested that the Commission direct the applicant to do that study and to cure the defects in its transportation study identified by O.R. George in its report.

A copy of O.R. George's statement and report which address this issue and other likely impacts is attached hereto for your consideration.

Thank you for your consideration of these materials.

Sincerely,

ARNOLD & PORTER LLP

Cynthia Giordano (Re)

ZONING COMMISSION

District of Columbia

CASE NO. 07-13

EXHIBIT NO. 59

Attachments

O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Lanham, MD 20706-2218
Tel: (301) 794-7700 • Fax: (301) 794-4400
E-mail: ogeorge@orgengineering.com

MEMORANDUM

DATE: October 5, 2007

TO: Cynthia Giordano, Esq.
Arnold & Porter LLP

FROM: Osborne R. George/Sol M. Khan/Iain J. Banks

RE: Corcoran School of Arts, Southwest, Washington, D.C.
First Street, SW, Loading Dock Feasibility and Traffic Impact Study Update

Loading Dock Location

Based upon our recent discussions we understand that the developer of the subject property is proposing to eliminate the 55-Ft loading berth in their attempts to minimize the impacts on the abutting properties to the north. That being the case it may well be worth the while to consider providing loading and possibly parking access off First Street. The following are some potential considerations in regard to the First Street access alternative:

- 1) First Street is approximately 36-Ft wide (curb-to-curb) and the original Right-of-Way was in the region of 90-Ft. As you know, it is now a private street, with the property line bisecting the roadway R-O-W. The R-O-W appears to be the same as for H Street (with a curb-to-curb width of approximately 40-Ft).
- 2) There could be potential pedestrian/vehicle conflicts and related safety concerns with the residential entry, as per the latest site plan; but this may not be a major issue.
- 3) The 30-Ft truck bays could possibly be better incorporated into the First Street face of the building, and be of overall benefit (i.e., more compatible with the abutting properties and the neighborhood setting in general.)
- 4) The loading access modification would (of course) require an easement agreement with the abutting property. Perhaps the parking along the west side would need to be altered (i.e., from angled parking to parallel parking). If this results in a net parking loss, there could be an arrangement for some replacement parking.
- 5) With the loading dock arrangement off First Street, the roadway could be made two-way in order to allow trucks to enter and exit via I (Eye) Street. This would obviate the need to negotiate the H Street Circle.

The points noted above have addressed primarily the vehicular access. We have not considered any adverse impact on pedestrian linkage/access to the open space and the circle; and we would defer to others on this issue.

Transportation Impact Study Update

We have reviewed the March 2, 2007 study by Wells & Associates (reissued on September 6, 2007). Our previous review (dated July 25, 2007) highlighted a number of factors which should be considered. The following items outline how the current Wells study has addressed those factors:

- 1) *Roadway Lane Configuration/Capacity Analysis:*
 - The lane configuration for the intersection of Delaware Avenue at M Street is still incorrect.
 - No analysis was presented for the H Street/“Randall Circle”. Capacity and/or qualitative analysis must be an important element of the study, since the plan maintains all vehicular access to the development off H Street. (*It is our opinion that impacts on the access to the Randall Recreational Center should also be discussed*).
- 2) *Background (Pipeline) Developments:*
 - The background developments appear to be addressed appropriately and it considers the 700 Delaware Avenue PUD.
 - The Consultant’s trip generation estimates in Table 3.2 continue to be difficult to follow. In particular, it provides limited explanation of the non-auto mode splits assumed.
- 3) *Trip Generation Rates (Corcoran PUD):* The trip generation and assumptions of non-auto modes are unclear. The estimate of 100 vehicle trips during the peak hour appears to be quite low (only 3 trips are attributed to the School during the morning peak hour).
- 4) *Trip Distribution and Traffic Assignment:* The current study presents some limited information regarding the trip distribution and traffic assignment of the trips to be generated by the background developments.
- 5) *Transportation Management Plan:* Given the very low level of vehicle trips estimated by the study, it seems that a Transportation Management Plan is essential to provide a basis of justification. (This is generally considered an essential part of a PUD application).

We note again that we had initially tried (unsuccessfully) to contact Wells & Associates to inform them that we had been requested to review their studies; and that this review was intended to support our client’s input to the Applicants community outreach. We understand that you have informed Wells & Associates of our continued role in this effort. Accordingly, we trust that the above satisfies your current needs regarding this matter. Please let us know if we can be of further assistance. Thanks!

O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Lanham, MD 20706-2218
Tel: (301) 794-7700 • Fax: (301) 794-4400
E-mail: ogorge@orgengineering.com

MEMORANDUM

DATE: July 25, 2007

TO: Mr. Stephen Tanner
Square 643 Associates, LLC
FROM: Osborne George / Sol Khan

RE: Site Access Evaluation for Randall School (Corcoran School of Arts)
Planned Unit Development Application, Southwest, Washington, DC.

INTRODUCTION

Further to our proposal and meeting with you at the Randall School site, we have reviewed the development proposal for the Corcoran School mixed use project in the context of the on-going Planned Unit Development application for that site. The review was performed from three (3) perspectives:

- 1) The development proposals for the loading and access facilities of the site and their potential impacts on abutting properties, particularly to the north (off H Street);
- 2) The contents of the Corcoran PUD traffic study prepared by Wells & Associates; and
- 3) Specific impacts on the Planned Unit Development that was approved by the Zoning Commission for the 700 Delaware Ave., SW site, which abuts H Street immediately to the north and the Randall Recreational Field to the west.

We note that the three (3) items above are inextricably linked, but will be referenced individually in the discussion below. It is particularly relevant to note that potential impacts on the approved PUD site and the Randall Recreational Center are of particular relevance to the PUD process, from the perspective of impacts on neighboring properties, and potential public benefits.

It is our assessment that the density and mix of land uses proposed, as well as the location of the property within a residential community, dictates that a much more in-depth analysis would be appropriate. Our efforts to contact the Consultant for information and clarification were not successful; and it is not known whether the study is in its final form. However, we find that an updated analysis would certainly be of considerable advantage to all stakeholders of the on-going Planned Unit Development process.

SITE ACCESS AND LOADING

Our evaluation of the site access situation is based principally on the site plan concept by Shalom Baranes Associates (dated April 5, 2007). That plan shows two (2) pedestrian access points off of I (Eye) Street into the school and residential components of the proposed building. The garage and loading docks are both accessed off H Street to the north, just east of the "Randall Circle". For context, it is noted that Eye Street (between South Capitol Street and 7th Street) is classified as a Principal Arterial by the City. The other roadways in the vicinity are local streets, and most notably H Street, to the east of Delaware Avenue, is truncated at its eastern end and serves historically as access to institutional and recreational uses (a church, the Randall Public School, and the Randall Recreational Center).

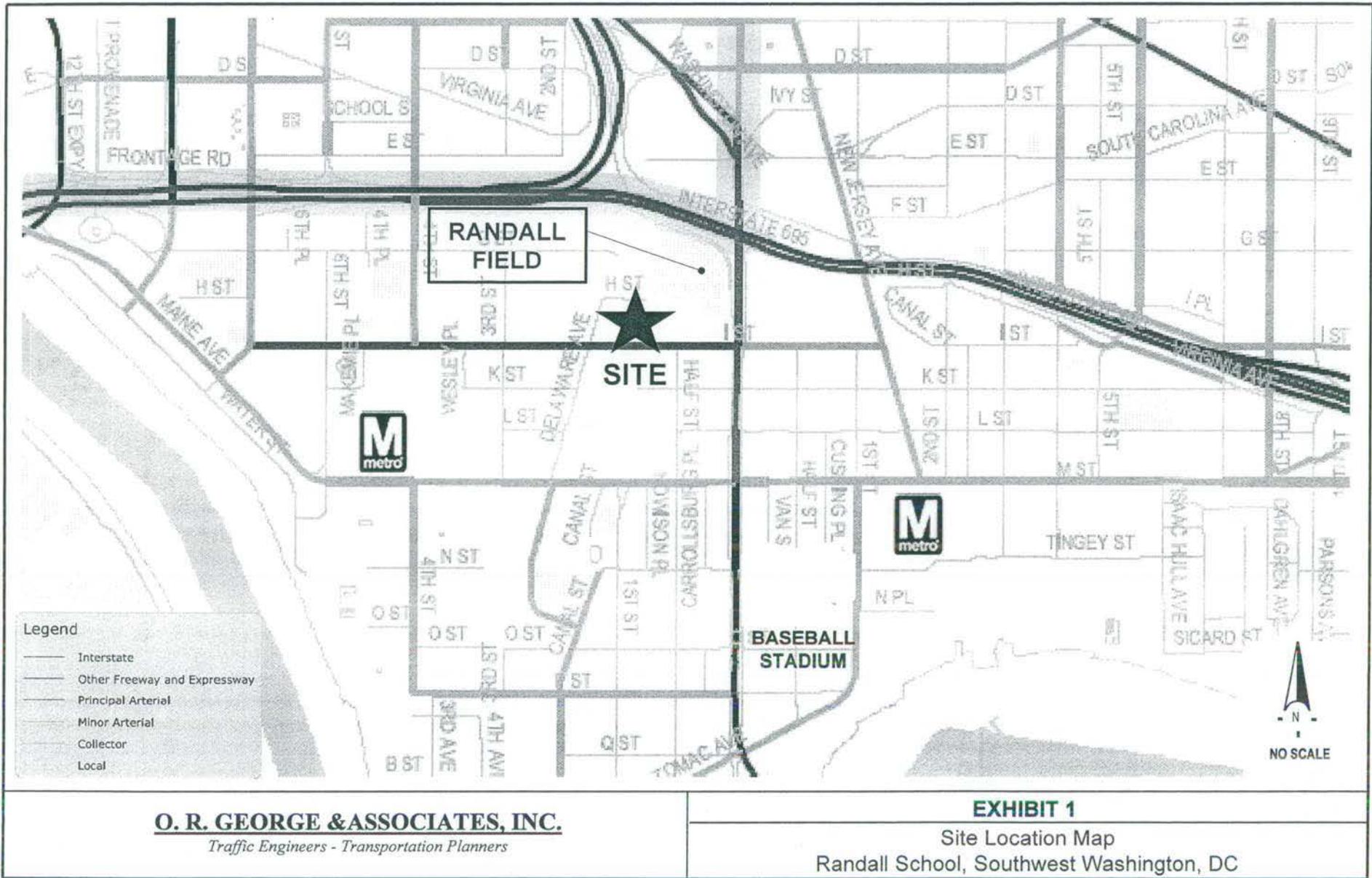
Exhibit 1 shows the site location as well as the functional classification of the area roadways. Exhibit 2 shows the current PUD site plan, and the overall local access situation.

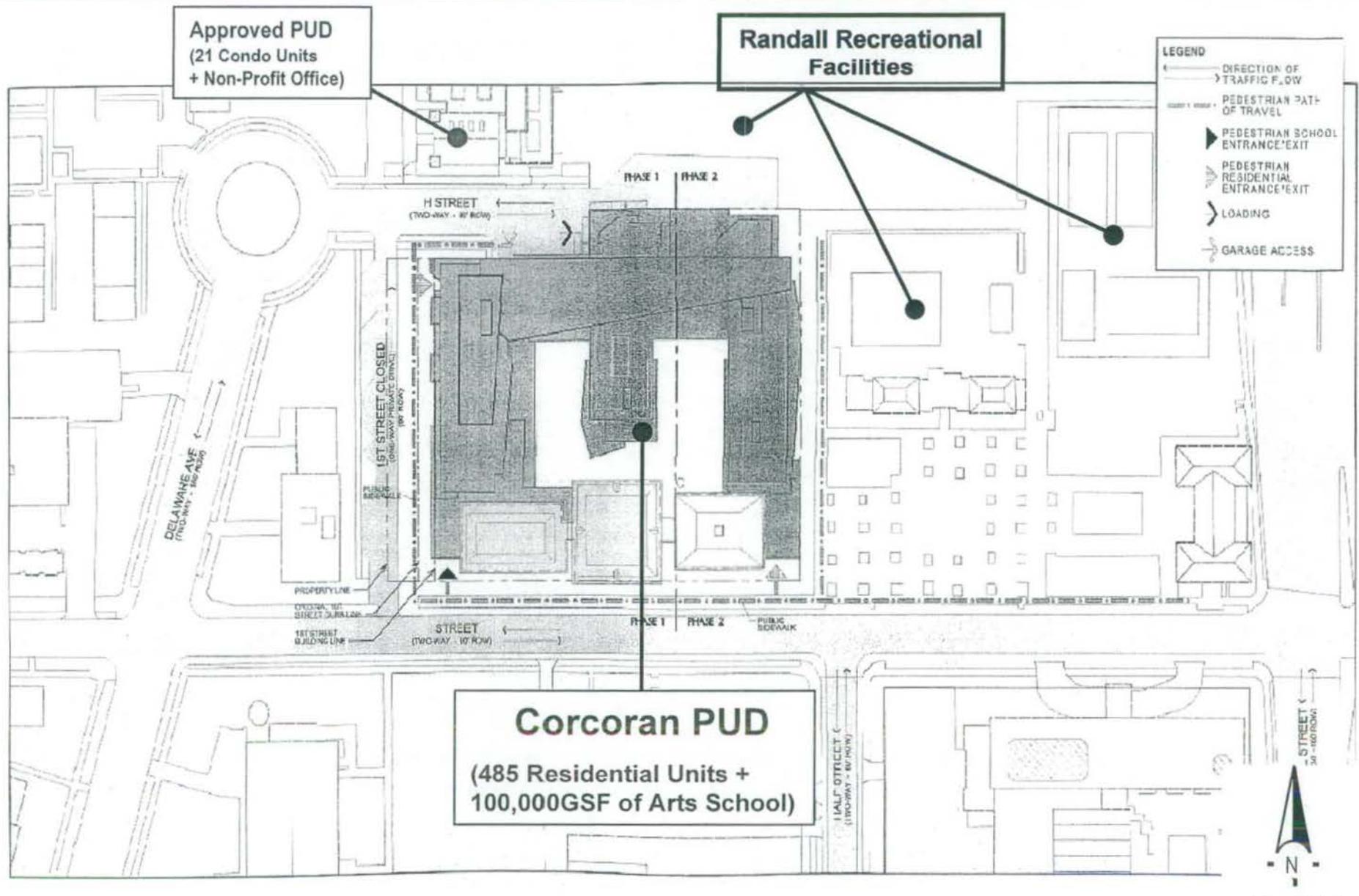
Vehicle trip generation and truck movements will be discussed later under the section dealing with the evaluation of the traffic impact study. However, the site plan clearly shows that all truck and other vehicular movements would be via the "stubbed" section of H Street, through the traffic circle. It is noteworthy that this circle, by its design and associated landscape treatment, can be considered a very local residential community amenity.

The site plan does not detail the parking facilities, in terms of the numbers of spaces, and the gate entry features. The Traffic Impact Study notes that 460 spaces will be provided. Per the Zoning Regulations, 484 spaces could be required. The ultimate parking provision will be based on the final PUD approval. However, the following considerations would apply to the parking within the PUD:

- a) Considering the mix uses of the proposed PUD site would operate substantially based on a "shared parking" principle.
- b) As an illustration of the implication of Item a) above, during the morning peak period, the peak direction with trips associated with the residential component would be outbound, while the dominant direction for the school would be inbound. (The reverse situations would occur during the afternoon peak period).
- c) The consequence of the situations described in items a) and b) above, is that unusually heavy access demands would be placed on the adjacent sections of Delaware Avenue, the "Randall Circle", and H Street, including the garage entry and loading area.

Clearly the impacts, associated with these traffic movements on the local area, needs to be addressed. It is perhaps reasonable that particular attention should be paid to the adjacent PUD site, taking into consideration the approved parking entrances.





Source: Shalom Baranes Associates 04/05/07

O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers - Transportation Planners

EXHIBIT 2

Site Circulation Map,
Square 643, Southwest Washington, DC

SITE ACCESS AND LOADING (*Continued*)

With respect to the loading provisions, the site plan does not provide details; and as was noted for the parking, the ultimate loading provisions would be as ordered by Zoning Commission. However, based on the Zoning regulations, the following loading facilities could be required:

- One (1) 55-ft loading berth;
- One (1) 30-ft loading berth; and
- Two (2) 30-ft loading spaces.

Given the mix of uses within the future development, we believe it would be important that the application provide relevant “programming” information that would enable an assessment of the type and frequency of trucks accessing the site. This refers particularly to the tractor trailer (55-ft) trucks, which could be involved in servicing the storage and display needs of the Corcoran School of Arts. Other aspects of the garage and loading dock facilities are discussed in the remainder of this section.

In terms of issues related to site access and potential impacts, it is important to note that in addition to the residential community immediately to the west, the Randall School property is situated within a rapidly redeveloping section of the City’s waterfront and baseball stadium area. In addition to increased local traffic and pedestrian volumes, it is expected that increased use will be made of the adjacent Randall Field Recreational Center. We made attempts to determine the City’s plans for the Center, but could not get specific information other than that the City will be looking at upgrading the facility to better accommodate the growth and activity in the general area. *[Note: This appears to be the only significant recreational amenity between the expressway system to the north and the Anacostia River/Washington Canal].* Accordingly, we see the following as principal issues relating to accessibility of the site and potential impact on the surrounding properties:

- a) **General Vehicular Traffic:** The overall vehicular traffic accessing the development would be quite significant. No analysis was performed to examine the operational situation for the section of Delaware Avenue and H Street, including the traffic circle.
- b) **Truck Access:** Considering the types of loading facilities and trucks noted earlier in this section, trucks accessing the site could only do so with a very circuitous maneuver, i.e., north on Delaware Avenue and partially around the circle, and a “backing” movement from the circle along H Street into the loading facility. This situation would specifically require that truck tracking movements around the traffic circle, as well as the maneuvering between the loading facilities, should be illustrated to confirm whether this proposed arrangement would be feasible. It would also show any potential encroachment onto sidewalks, as well as impacts on the adjacent driveways and loading facilities of the abutting properties.

- c) **Truck Access Conflicts:** The number of trucks accessing the site on a daily basis, as per item (b) above, has not been provided. However, with both the residential and institutional delivery needs to be considered, this could be quite significant. The truck movements would also conflict with movements into and out of the garage, which serves both components of the site uses.
- d) **Parking and Recreational Facility Access:** As part of our evaluation, we made several attempts to determine, from the City's Department of Parks and Recreation, the level of organized/scheduled events currently and projected for the Randall Recreational Field. However, with the proposed development, much of the existing on-street parking spaces along H Street and the "Randall Circle" would no longer be available for use. Opportunities for vehicular and pedestrian access would also be severely restricted.

In addition to the above specific factors, it is important to note that the Randall Recreational Center and its access needs should be given particular consideration. Since the property is "hemmed in" by the freeway system to the north and east, the adjacent section of H Street is the only point of access for pedestrians and vehicles entering the site center. While the configuration of the narrow/funneled access onto H Street is not within our specific area of expertise, it clearly is an issue for consideration within the overall scheme of things, and particularly with special attention to the context of Planned Unit Development process, including impacts on existing and potential uses north of H Street. This would include particular consideration of the approved PUD north of H Street.

REVIEW OF TRANSPORTATION IMPACT STUDY – CORCORAN PUD

As noted earlier, this evaluation focuses on the Traffic Impact Study by Wells & Associates, dated March 2, 2007. Given the nature of the development and the surrounding land uses and roadway network, it seems reasonable that careful consideration should be given to a number of local factors, which may often not be included in a study for a stand-alone type of development. The following factors are therefore noted for possible consideration in subsequent analysis and potential updates of the traffic study:

i) **Study Area Roadway Network**

Given the complexity of the local area roadway network, and the level of development activity currently occurring within the area, it would certainly be reasonable for the consultant to have pursued a "scoping agreement" with the responsible City agencies, i.e., the District Department of Transportation (DDOT) and the Office of Planning. This would ensure that local issues and concerns would be appropriately addressed. That being said, the roadway network assumed in the study seems generally appropriate.

ii) Adjacent Roadway Considerations

Given the fact that all vehicular traffic (i.e. personal vehicles and trucks) will be required to use the “Randall Circle” and the adjacent section of H Street, capacity analysis of “Randall Circle” should have been performed. [*This is in addition to specific operational analyses of the truck ingress and egress movements, discussed earlier.*]

iii) Capacity Analysis Procedures/Roadway Lane Configuration

A critical factor in performing capacity analyses is using the correct intersection lane configuration. The Consultant’s intersection geometrics are presented in Figure 2-1 titled “Lane Use and Traffic Control”, and show the following errors:

- The lane configuration for the intersection of South Capitol Street @ Eye Street is incorrect. [*It shows double left-turn lanes from Northbound South Capitol Street into I Street, whereas left-turns are prohibited altogether*].
- The lane delineation for the South Capitol Street @ M Street intersection is inaccurate, and does not reflect the “diamond” interchange configuration of this location; with the ramps to and from M Street.
- The lane configuration for the Delaware Avenue @ M Street is inaccurate. It shows all movements can be made from the four (4) approaches, whereas a number of movements were observed to be restricted by signage and physical geometric features.
- The lane uses for the intersection of Half Street @ M Street illustrate inaccuracies as well. The eastbound and westbound approaches on M Street use left-turn lanes that are separate, not shared left and through movements.

In addition to the above, it is noted that the intersection of South Capitol Street and Eye Street is perhaps the most complex location within the study area with the southbound movements consisting of the I-395 off-ramp as well as the local street movements from the north. These two “approaches” are accommodated by two (2) separate signal phases. However, the Consultant’s analysis assumed them as a combined “approach” movement.

iv) Capacity Analysis (Software Utilized)

It appears that the consultant utilized the SYNCHRO software, instead of the Highway Capacity Analysis Software which DDOT requires. While the two methodologies utilize a number of the same parameters, actual application of the two processes requires different supporting data, as well as other related factors and considerations. As an illustration, in order to use the SYNCHRO process for the intersections along South Capitol Street, it would be necessary to also include data and operational features for the intervening intersections, particularly for the merging and weaving situations at the ramps to and from South Capitol Street.

The inadequacy and inappropriateness of the analysis can perhaps be summed up by the Consultant's reference on page 15 (first paragraph) to the "SYNCHRO Intersection Capacity Analysis Software" whereas by its name and accepted application, SYNCHRO is primarily a network analysis tool. The Consultant does not state whether or not they analyzed the intersections as a complete network or as stand-alone intersections. In addition to the SYNCHRO software not being deemed appropriate, the lane configuration of one of the most critical intersections (M Street @ Delaware Avenue) was analyzed using the incorrect lane configuration.

v) Capacity Analysis/Unmet Demand

The Consultant's analysis shows no evidence that "unmet traffic volume demand" was included in the analysis of the intersections. [This refers to the traffic volumes that would typically be "waiting" on a particular intersection approach at the time that the particular green phase for that approach ends.]

vi) Background (Pipeline) Developments

The Consultant provides no basis for the "pipeline developments" that were considered. It is clear that, with the level of development activity on-going within the local impact area, there is the need to coordinate with the City's planning agencies in selecting the background developments to be considered. This information is usually available from both the Office of Planning and the City's Office of Economic Development.

In addition to those "high visibility" developments that are the subject of PUD and BZA applications, there are developments that are proceeding as a matter-of-right. For example, the development of 76 L Street, SE (Square N-699) known as Velocity Capitol Riverfront) has been going through public space reviews with the City since September, 2006 and broke ground in March, 2007. This development was not included in the analysis. Similarly, (and perhaps most importantly) the study does not consider the 700 Delaware PUD, situated directly across on H Street to the north.

The Consultant's development of trip generation general estimates for pipeline developments in Table 3.2 is extremely difficult to follow, and the process and overall results are quite questionable.

vii) Trip Generation Rates (Randall PUD Site)

- Residential Component – The Consultant notes that they used the rates recommended by the Institute of Transportation Engineers (ITE) for Land Use Code 230 in estimating total trips for the 485 multi family (apartment) units. This ITE code applies to "Residential Condominium/Townhouse" developments for which the average number of units is stated to be just over 200 units. Even though the report is based on application of ITE rates, Table 3.3 does not indicate the rates, and includes footnotes pertaining to "Average Vehicle Occupancy" and Non-Auto Mode Splits" which are poorly sourced, and makes the computation process virtually impossible to follow.

- Arts School – For this use, the Consultant uses ITE Land Use Code 550, which applies to Universities and Colleges having an average student population of over 9,500. It is quite questionable that this is appropriate for a school of 400 students. It is extremely important to note that ITE acknowledges that it does not provide trip rates for all land uses, and situations. ITE specifically recommends that where good local data sources are available, they should be cited and used. It is almost inconceivable that no observations and references were made to the existing Corcoran School of Arts. The ITE process does allow for use of a trip rate equation, but this was also not used.

As for the residential component, the Consultant does not include the trip rates, and cites vehicle occupancy factors without any illustration of how they are applied. Here again, the Consultant's computations and process are extremely difficult to follow and are questionable. For convenience, the ITE descriptions and trip rates for Land Use codes 230 and 550 are included in Attachment A.

viii) Trip Distribution and Traffic Assignment

This is perhaps one of the most critical aspects of a traffic impact analysis. The Consultant estimates that over 2,100 AM, and 2,400 PM peak hour vehicle trips would be generated by the pipeline developments. However, absolutely no discussion is provided in the text (or on the graphical illustrations) of how these trips are assigned to the roadway network. Only the final assigned numbers are shown. This process is not according to ITE recommendations, and is not in accordance with DDOT's procedures.

GENERAL ASSESSMENT

The general level of activity that is on-going within the general Stadium/Southeast Federal Center/Southwest Waterfront area of the City is a given. It also is in keeping with what is understood to be the City's overall economic development goals and land use policies. However, the submitted traffic study fails to acknowledge and respect the fact that the subject development is situated within a well-established residential community immediately adjacent to significant institutional and recreational community assets. This appears to be quite contrary to the Planned Unit Development process, which has at its core the consideration of the proper "fit" of the proposed use within the physical and operational context of the defined local impact area. The foregoing discussions have highlighted a number of technical and procedural inadequacies, which need to be addressed in a specific and substantial way. These include the following considerations:

- a) Analysis of the impacts of the subject development on the adjacent section of Delaware Avenue, the "Randall Circle" and H Street. All vehicular traffic accessing the site will use these roadway segments.
- b) The analysis should specifically address the loading facilities and service needs of this mixed use project. This should include provisions of specifics regarding the usage programs associated with the Corcoran School, and should consider truck access for bringing in art displays, as well as trip generation for special shows and public events, if this is part of the school program.
- c) The analysis should present all relevant details regarding truck access, and consider physical operational and environmental factors (such as noise due to large trucks idling and backing into the site). Such data and analyses would allow for potential conditions of approval to be considered by the City.
- d) The study should provide substantial information regarding the schedule and planned usage of the Randall Field Recreational Center. This should consider all modes of access to that important community amenity, including pedestrian, vehicular, and service vehicle movements.
- e) The study should consider the approved 700 Delaware PUD site to the north as part of its background (or pipeline) developments, and should also consider any impacts on that site that could reasonably be associated with the projected vehicular (and particularly truck) movements into and out of the subject development.

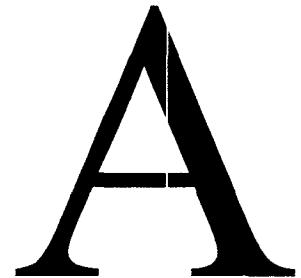
We trust that the above will be useful. Please let us know if we can assist you further in this matter.

Thank you!

ORG/s nk

Attachments: As Noted

ATTACHMENT

A large, bold, black letter 'A' is centered on the page, serving as a visual indicator for an attachment.

ITE DESCRIPTIONS AND TRIP RATES
FOR LAND USE CCDES 230 AND 550

Land Use: 230

Residential Condominium/Townhouse

Description

Residential condominiums/townhouses are defined as ownership units that have at least one other owned unit within the same building structure. **Both condominiums and townhouses are included in this land use.** The studies in this land use did not identify whether the condominiums/townhouses were low-rise or high-rise. Low-rise residential condominium/townhouse (Land Use 231), high-rise residential condominium/townhouse (Land Use 232) and luxury condominium/townhouse (Land Use 233) are related land uses.

Additional Data

The number of vehicles and the number of residents had a high correlation with average weekday vehicle trip ends. The use of these variables was limited, however, because the number of vehicles and residents was often difficult to obtain or predict. The number of dwelling units was generally used as the independent variable of choice because it is usually readily available, easy to project and had a high correlation with average weekday vehicle trip ends.

The peak hour of the generator typically coincided with the peak hour of the adjacent street traffic.

The sites were surveyed from the mid-1970s to the 2000s throughout the United States and Canada.

Source Numbers

4, 92, 94, 95, 97, 100, 105, 106, 114, 168, 186, 204, 237, 253, 293, 319, 320, 321, 390, 412, 418, 561, 562, 583

Residential Condominium/Townhouse (230)

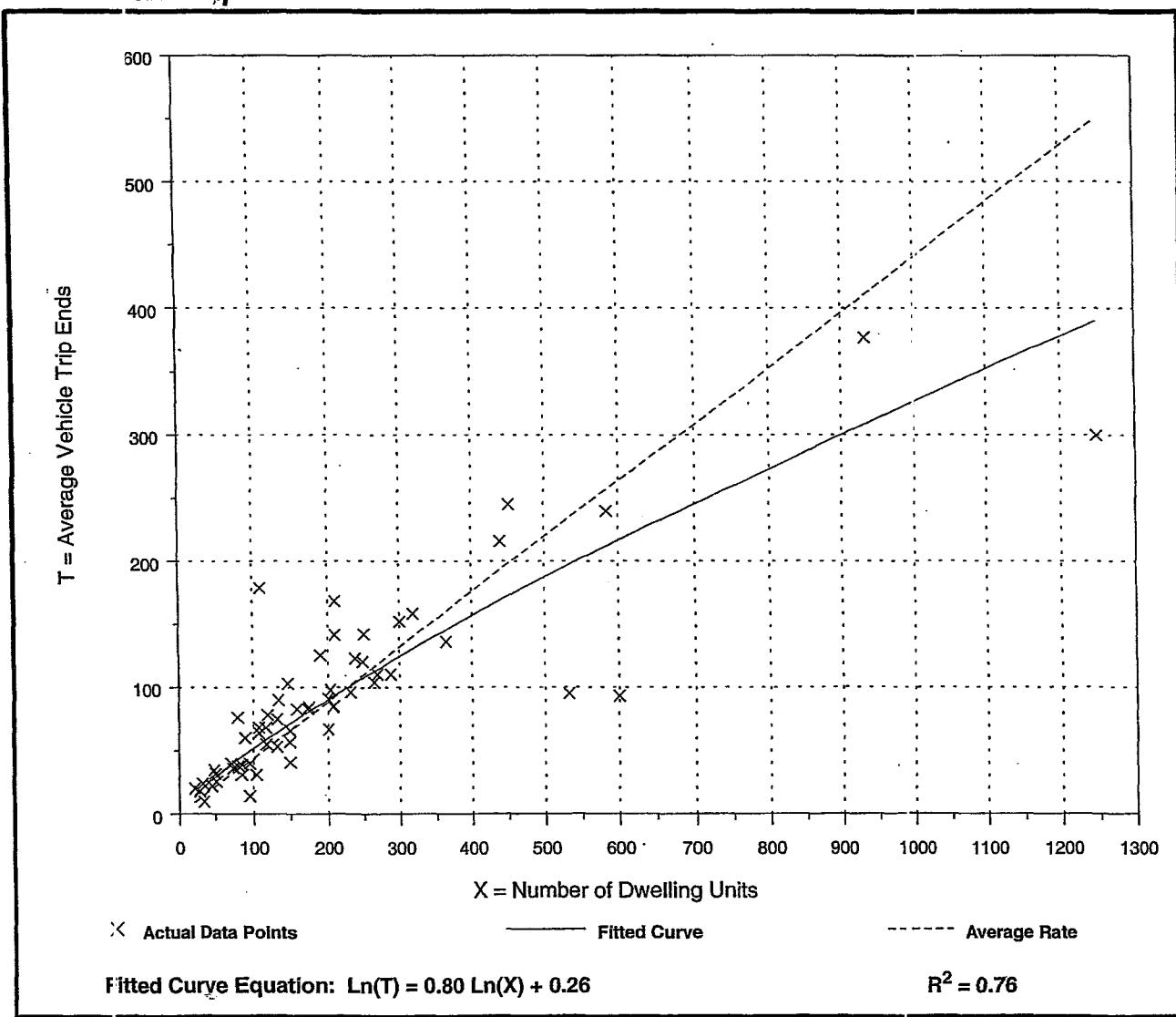
Average Vehicle Trip Ends vs: Dwelling Units
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.

Number of Studies: 59
 Avg. Number of Dwelling Units: 213
 Directional Distribution: 17% entering, 83% exiting

Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.44 | 0.15 - 1.61 | 0.69 |

Data Plot and Equation



Residential Condominium/Townhouse (230)

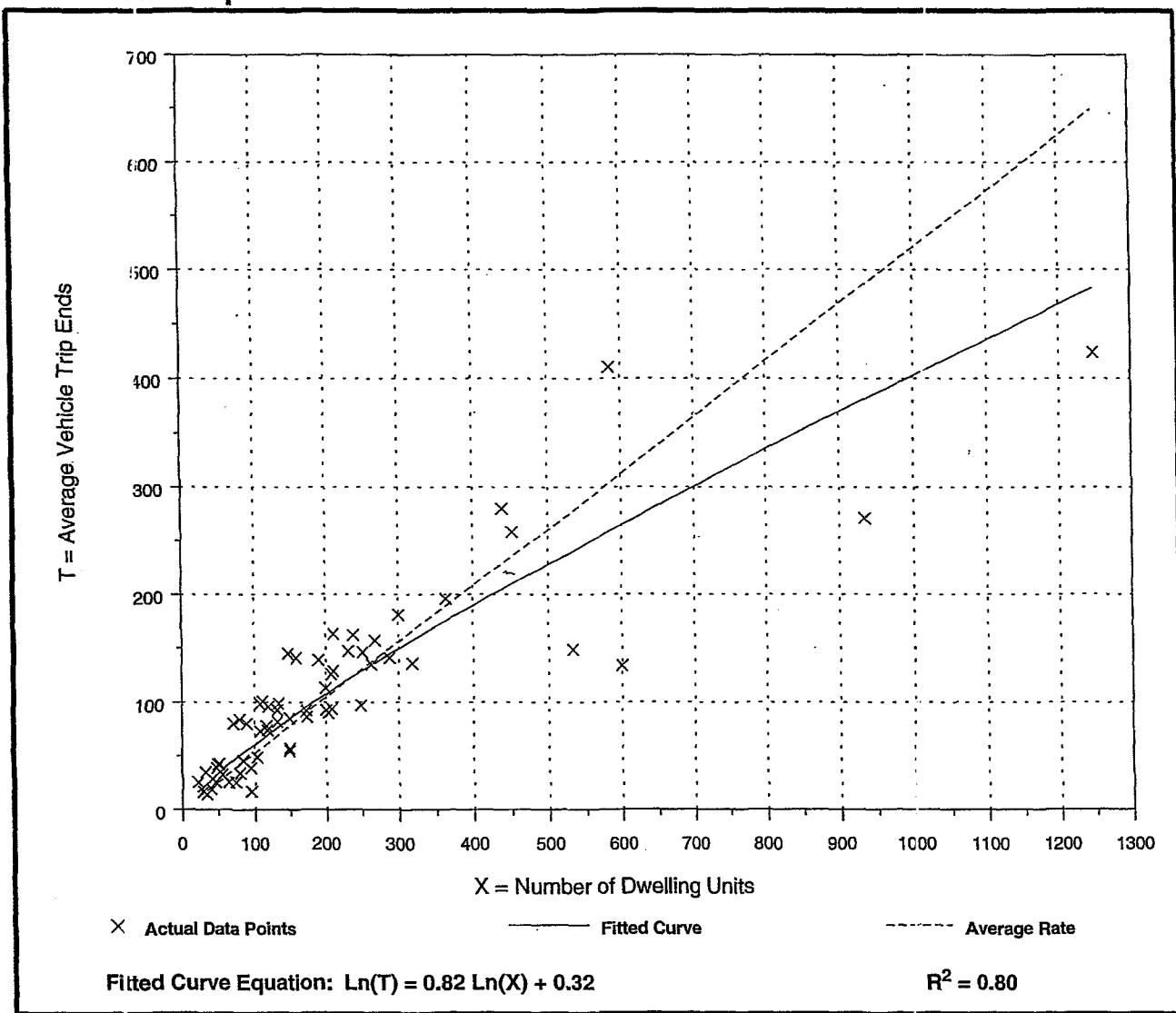
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 62
 Avg. Number of Dwelling Units: 205
 Directional Distribution: 67% entering, 33% exiting

Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.52 | 0.18 - 1.24 | 0.75 |

Data Plot and Equation



Land Use: 550 University/College

Description

This land use includes four-year universities or colleges that may or may not offer graduate programs. Two-year junior, community, or technical colleges are described in junior/community college (Land Use 540).

Additional Data

The trip generation for weekend time periods varied considerably; therefore, caution should be used when applying weekend statistics. Information describing the weekend activities conducted at universities/colleges was not available.

Acreage, floor space, staff and parking accommodations varied widely with the populations served and the social and economic characteristics of the area; thus, the number of students may be a more reliable independent variable on which to establish trip generation rates.

The sites were surveyed from the late 1970s to the 1990s throughout the United States.

Source Numbers

86, 365, 423, 440

University/College (550)

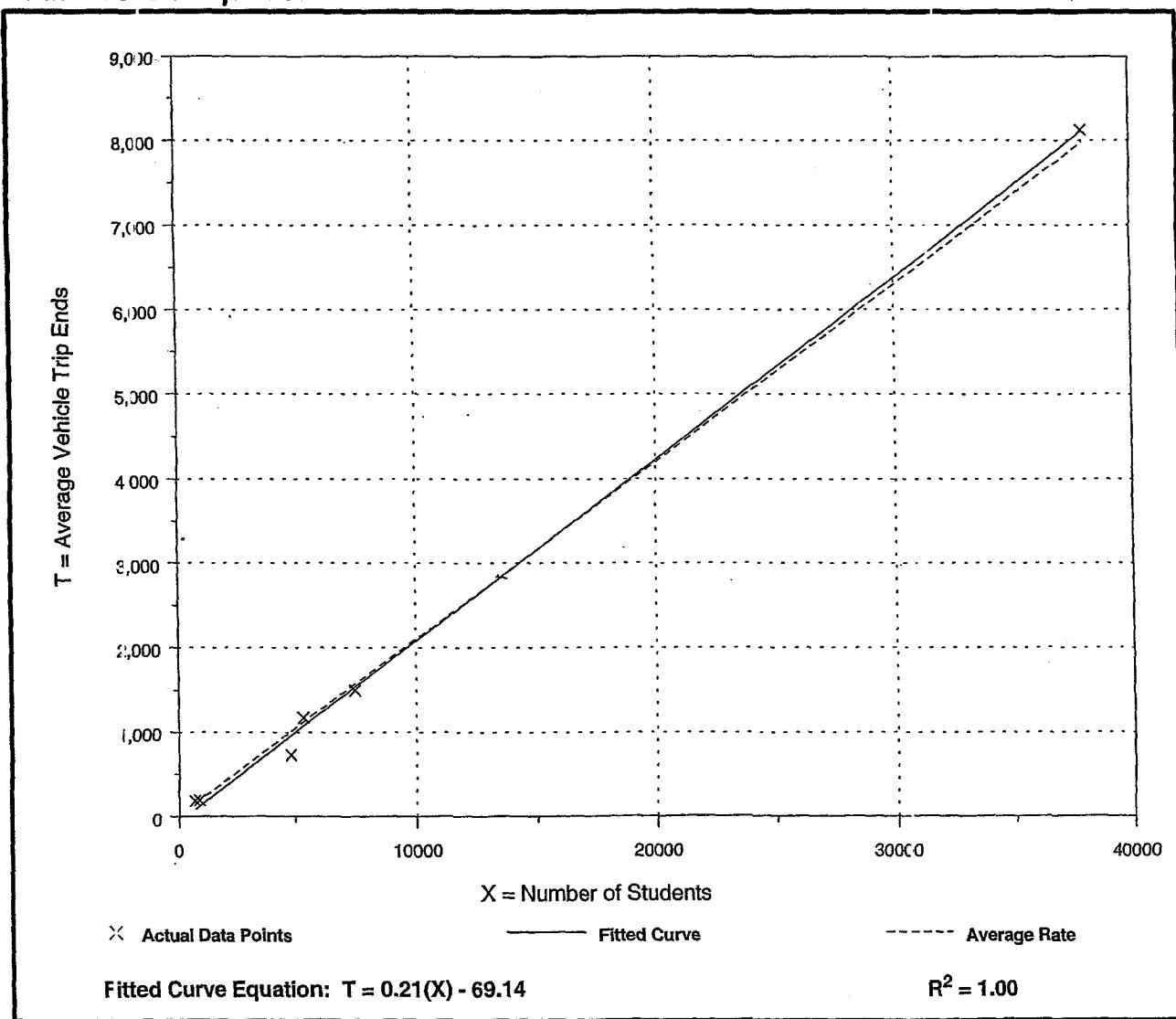
**Average Vehicle Trip Ends vs: Students
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.**

Number of Studies: 6
Average Number of Students: 9,545
Directional Distribution: 80% entering, 20% exiting

Trip Generation per Student

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.21 | 0.15 - 0.26 | 0.46 |

Data Plot and Equation



University/College (550)

Average Vehicle Trip Ends vs: Students

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Number of Studies: 7

Average Number of Students: 8,353

Directional Distribution: 30% entering, 70% exiting

Trip Generation per Student

| Average Rate | Range of Rates | | Standard Deviation |
|--------------|----------------|--------|--------------------|
| 0.21 | 0.20 | - 0.43 | 0.46 |

Data Plot and Equation

