PLEASE DO NOT PARK HERE !!!

You have inadvertently parked in our carpool line. We have an agreement with our neighbors to leave this lane clear of traffic at all times. If you need to come into the school on business or to drop off a child, please park in a legal parking space.

Thank you for your cooperation! NCRC Staff

PLEASE DO NOT PARK HERE !!!

You have inadvertently parked in our carpool line. We have an agreement with our neighbors to leave this lane clear of traffic at all times. If you need to come into the school on business or to drop off a child, please park in a legal parking space.

Thank you for your cooperation! NCRC Staff

Board of Zoning Adjustment
District of Columbia
CASE NO.16970
EXHIBIT NO.87A3

COUNCIL OF THE DISTRICT OF COLUMBIA
WASHINGTON, D.C. 20001

KATHY PATTERSON
COUNCILMEMBER, WARD 3

CHAIRPERSON
COMMITTEE ON GOVERNMENT OPERATIONS

OFFICE: (202) 724-8062
FAX: (202) 724-8118

April 12, 2000

Vanessa Dale Burns, Director
Department of Public Works
6th Floor
2000 14th Street N.W.
Washington D.C. 20009

By facsimile

Dear Ms. Burns,

I have been contacted by the National Child Research Center in my jurisdiction regarding parking signs and markings that have been promised by Mr. Brown over a year ago but have not yet been installed. (correspondence attached) My staff spoke with Ms. Pavetto today to inquire on the status and learned that not only were signs not installed but a staff member from Councilmember Schwartz office and the Chair of the ANC had spoken with Mr. Brown March 27, 2000. Mr. Brown again promised them that the requested signs would be installed within two weeks.

Please have the signs installed as requested by Ms. Pavetto. I look forward to your response.

Sincerely yours,

Kathy Patterson

cc: OIR
Maryann Pavetto
National Child Research Center
3209 Highland Place N.W.
Washington D.C. 20008

NCRC
National Child
Research Center

Susan L. Piggott
Director

September 12, 2000

Dear NCRC Neighbors,

We are just about to begin our school year, and wanted to keep you apprised of our new opening date and continuing efforts to monitor the carpool and parking in the neighborhood.

Our clean-up process is complete and we do plan to open school for orientation days Thursday and Friday of this week. All classes will begin on Monday, September 18. We appreciate your patience with our delayed beginning, as we anticipate some carpool and parking confusion the first few days of our school year. To help facilitate our drop off and pick up, we have enlisted the help of an off-duty police officer.

Our Board has been working throughout the summer to address your concerns and further improve the carpool and parking situation. Just recently, we have communicated with all NCRC families about the parking and carpool rules. We intend to reiterate these guidelines regularly, from the first day of school, with leaflets distributed on-site to all drivers as well as those families who park in the neighborhood. We also plan to have a select number of informed Board members and staff visibly present "on the street" from the beginning of school to help during critical arrival and dismissal periods.

We have seen improvement with the increased use of orange cones to delineate "no-parking" zones. In addition, this fall, we would be pleased to add cones to neighbors' driveways that might be blocked by the carpool line.

For school events, we will also continue to hire an off-duty police officer to assist with the parking regulations. We will send you our fall shedule of events once they are scheduled.

We are pleased to be a member of the neighborhood, and we hope you see NCRC as an asset to the community. We are very proud of the breadth and depth of our program and strive to be a model preschool in all respects. NCRC is dedicated to the inclusion of children with special needs, and we believe that early intervention can make an enormous difference in the life of a child. Our

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202.363.8777 • Fax 202.244.3459

teachers are outstanding educators, supported by ongoing professional development and research; and we look for opportunities to share our knowledge and experience with parents and colleagues.

NCRC is committed to being a good neighbor, and we sincerely appreciate your ideas and concerns. You are welcome to contact NCRC Business Manager Maryann Pavetto, at 202-363-8777 or by e-mail at mpavetto@ncrcpreschool.org or Paul Thaler, Board member and Chair of the Facilities Committee, at 202-466-4110, or by e-mail at paulthaler@aol.com. We hope you will continue to keep us apprised, and look forward to communicating with you throughout the year.

Sincerely,

Susan Piggott
Director, NCRC

Chrissie McHenry
Board Chair, NCRC



NCRC
National Child
Research Center

Susan L. Piggott
Director

September 25, 2000

Dear NCRC neighbors,

I promised to send you a revised list of our fall events. They are as follows:

Thurs., Sept. 28	7:30 - 9:30 pm	Back-to-School Night
Sat., Oct. 14	9:30 - 12:30	Family Work Day
Sat., Oct. 28	11:00 - 1:00	Pumpkin Party

We have worked hard this fall to continue to educate our parents about pick-up and drop-off procedures. I'm sure you've noticed the school Trustees in their bright orange "official" vests, as well as our off-duty policemen. They have been posting themselves in the area to explain the procedures to parents and caregivers, and to remind people about parking legally and leaving driveway spaces open. We have sent home several written notices about procedures as well, and I'm enclosing the latest one. I hope you've felt the results of these efforts and that things are easier and more positive for you.

Warmly,

Susan

Susan L. Piggott
Director

3209 Highland Place, NW • Washington, DC 20008
202.363.8777 • Fax 202.244.3459



NATIONAL CHILD RESEARCH CENTER
3209 Highland Place, N.W. Washington, D.C. 20008
Telephone (202) 363-8777
Fax (202) 244-3459

Susan L. Piggott
Director

May 11, 2000

Dear NCRC Neighbors,

As we near the end of the school year, we are working very hard to keep traffic moving on Highland and to prevent illegal parking. Maryann Pavetto, NCRC's Business Manager, Paul Thaler, a Trustee, and I have communicated with some of you to see what we can do to alleviate any continuing problems. We write to our families about this issue on a regular basis, asking them to work with anyone who might be transporting their children. We take very seriously our agreement with you and want to be good neighbors!

We have three upcoming events that parents will attend. They are:

Tuesday, May 16	5:30 - 7:30 pm
Monday, May 22	7:00 - 8:00 pm
Wednesday, May 31	Noon - 1:30 pm

At an evening event this past Tuesday, we hired an off-duty police officer to patrol the area and remind people about parking regulations. Because we felt this was helpful, we have engaged him for the next three events, as well. I would appreciate any feedback you have as to whether the presence of a police officer has been helpful. Please call me or Maryann with your response or email at *spiggott@ncrcpreschool.org* or *mpavetto@ncrcpreschool.org*.

We will continue our communication with you. I am making a very sincere effort to improve the situation for you. We value you as neighbors!

Sincerely,

Susan L. Piggott
Director

NCRC
National Child
Research Center

Susan L. Piggott
Director

April 9, 2001

Dear NCRC Families,

We are all energized and excited as we return from spring break, and welcome the warmer weather.

We would like to recap our parking and carpool guidelines that will ensure our arrivals and departures from school will continue to move smoothly.

In addition to the attached Carpool Etiquette reminder that we ask you to review, please note the following NCRC "good neighbor" policies. All of our reminders are written with safety in mind, as well as being courteous to our Highland Place and Ordway Street neighbors.

- Please park legally.
- Please respect our neighbors - do not block or turn around in their driveways.
- Do not double park in front of the school.
- Please be sure other family members or care-givers are informed of these guidelines, if they drop off or pick up at NCRC.

We greatly appreciate your support and suggestions!

Thank you from your "Orange Vest Patrol" of the NCRC Facilities Committee.

3209 Highland Place, NW • Washington, DC 20008
202.363.8777 • Fax 202.244.3459

Carpool Etiquette

1. Be a good neighbor and a courteous safe driver.

2. Drive slowly and watchfully.

3. While waiting in the carpool line, never block a driveway. (Note: There are driveways on both sides of Highland Place.)

4. If there are no cars in line, pull in front of NCRC and wait for staff to assist children getting in/out. If there are no spaces in front of school, wait behind the white line until there is space in front of school.

5. Be sure your carpool numbers are visible.

6. Children will be escorted by staff in/out of your car. Drivers should stay in the car at all times. Staff will help with car seats and seat belts.

7. Please do not double park in front of school or elsewhere for drop off or pick up.

8. If you are early, do not leave engines running for long periods. Please turn off your engine, and stay in the car.

9. Parents are responsible for insuring that all carpool drivers understand and abide by carpool etiquette.

10. Let's be certain that our NCRC neighbors see our school community as thoughtful, courteous, respectful neighbors.

THANK YOU



NCRC
National Child
Research Center

Maryann
FYI

Susan L. Piggott
Director

August 30, 2001

Dear friends and neighbors,

I am writing to let you know that school will begin next week. Because we serve preschoolers and children with special needs, the first few days can be difficult for both parents and children as they adapt to the routine. At first, parents will want to bring their children into the school in order to meet the teachers and accomplish a smooth and happy separation. After a few days, they will be more comfortable with the carpool line.

We will have the carpool up and running on Tuesday, September 4. We have sent all of our parents detailed information regarding the carpool and parking process. In order to help, we will put in place some of the procedures that have worked well for you in the past. We have hired an off-duty policeman to help during the first week or two, as needed. Our trustees and staff members will be out front wearing orange vests to help new families understand the importance of parking legally and using the carpool line properly. We will put our orange cones out at the beginning of the day. Teachers will continue to use the walkie-talkie system for carpool to move things along quickly and safely. I will be available on the porch to help, as well.

We want to be good neighbors, get off to a great start, and be accessible should problems arise. We will be visible and vigilant. However, if you need assistance, please call or e-mail Maryann McGowan, NCRC's Business Manager (202-363-8777; mmcgowan@ncrcpreschool.org.) or me, (202-363-8777; slpiggott@his.com).

I am enclosing a calendar so that you will know when to expect major school events. Back-to-school night is Thursday, September 20 at 7:30 pm; Family Work Day is Saturday, September 29 from 9:30 – 12:30 am; and the Pumpkin Party is Saturday, October 20 from 11:00 am – 1:00 pm. If you'd like to join us for the Pumpkin Party and bring your children or grandchildren, we'd love to have you. Also, remember that the playground is available for your use after school hours.

I look forward to seeing you soon. Please keep in touch and let me know if I can be of help to you in any way.

Sincerely,

Susan

Susan L. Piggott, Director

3209 Highland Place, NW • Washington, DC 20008
202.363.8777 • Fax 202.244.3459

April 17, 2002

Dear NCRC Neighbors:

As the end of the school year approaches, I want to remind you of the schedule for our traditional end-of-year events. These include:

Thursday, May 2	5:30 – 7:00 pm
Tuesday, May 21	5:30 – 7:00 pm
Friday, May 31	12:00 –1:00 pm

As always, we will work to keep traffic moving and to prevent illegal parking on Highland and Ordway Streets. Security officers will patrol both streets to remind people about parking regulations. Please contact the school's Business Manager, Maryann McGowan, 202- 363-8777 x27, if you have questions or concerns.

Sincerely,

Susan Piggott
Director

TOYS AT SCHOOL

updated + Distributed yearly!

Sometimes teachers invite children to bring books, tapes or items of interest from home to share with their classmates. Please label personal items and avoid sending anything of great value or sentiment. Otherwise, you can help you child remember that toys remain at home. Teachers will recommend items which can be brought in for children to have during rest time.

DISCIPLINE

Children are gently guided toward appropriate behavior by experienced faculty, the support team and the director. Each child's developmental level is considered regarding behavioral expectations; parents are our partners in setting and carrying out behavioral goals. Corporal punishment is not deemed appropriate at NCRC.

Arrival & Dismissal

ARRIVAL

Arriving parents are encouraged to drop their children at school by using the car pool line on Highland Place. Please do not stop in the curb area in front of the school between 8:00 a.m. and 4:00 p.m. unless you're part of the car pool line. Cars will be met by a staff member who will open the doors and help the children to the sidewalk and into school. Staff will meet carpool during the first 10 minutes of arrival time. Detailed car pool instructions and numbers will be distributed at the beginning of the school year. Please be sure that anyone transporting your child has these instructions and follows them.

For parents escorting their children to the classroom, please park in a legal space on Highland Place or Newark Street. Parents may also park legally on Ordway Street (behind NCRC) to escort their children to school, especially for the Early Bird Program or Lunch Bunch. It is essential that you not block driveways or intersections, or double park, even for the briefest moment. Teaching our children respect for rules and common courtesy by example is a powerful means of education.

DISMISSAL

Your child needs to be picked up promptly at the end of the school day.

Classes gather on the porch for dismissal. Walking parents wait in front of the porch to the right side; children will be individually escorted down the steps. Car pool drivers should follow the written instructions. Each child will be walked to the car and safely secured in the car by a staff member.

Only people designated on the transportation form may pick up children from school. If transportation arrangements change, please let the school office know promptly in writing. If your child is going home with a classmate, a written note must be sent to the teachers in advance. Should you be delayed, please call the office. Young children may be uneasy if parents do not arrive on time. In case of late pick-ups, children will wait in the reception area with a teacher.

TRANSPORTATION REMINDERS

We ask that all drivers follow the car pool rules at arrival and dismissal times. You are responsible for sharing these rules with grandparents, nannies, or others authorized to pick up your child.

- Approach Highland Place on the school side of the street, coming from Newark Street.
- Maintain 15 mph speed limit.
- Carpool drivers form a single line on the school side of the street behind the white painted lines when all slots in front of the school are taken.
- Refrain from leaving your car, blocking traffic or driveways, turning around in driveways, double parking or parking in front of the school.

Communication Between Home & School

RESPECTFUL COMMUNITY

All adults (staff, parents, caregivers, employees and guests) have the responsibility to model respectful and cooperative behavior. Positive and constructive working relationships built on direct and honest communication ensure that the best interests of the children will be obtained in a warm and nurturing community.

Did you ignore the parking rules this week?

Light tan mini-van with child's window shade on driver's side back seat
AJ 5970
Parked illegally at 33rd and Newark St.

Dark green Explorer
DC plate BC 0292
Parked illegally at the corner of Highland and 33rd

RETURN BY:
SEPTEMBER 1, 2002

NCRC Transportation Agreement

FOR THE 2002-2003 SCHOOL YEAR

THIS FORM MUST BE COMPLETED FOR ALL CHILDREN ATTENDING NCRC.

Child's Name _____ Class _____

My child's most frequent form of transportation to and from NCRC will be: ❑ Walking ❑ By car

Vehicle #1 used for school transportation: Make/Model _____ Tag No._____

Vehicle #2 used for school transportation: Make/Model _____ Tag No._____

Vehicle #3 used for school transportation: Make/Model _____ Tag No._____

Other children in carpool (if applicable):

NAME	CLASS

Other adults designated to pick-up my child:

NAME	RELATIONSHIP/PHONE	DRIVER'S LICENSE

I have read and fully understand the enclosed transportation procedures and I agree to abide by the transportation procedures and will instruct any person taking my child to school or picking my child up after school of these procedures.

Parent/Guardian#1_____ Date_____

Parent/Guardian#2_____ Date_____

PLEASE RETURN THIS FORM TO

NCRC • 3209 Highland Place, NW • Washington, DC 20008-3299
202.363.8777 (fax) 202.244.3459

NCRC
National Child
Research Center

Transportation Procedures

FOR THE 2001-2002 SCHOOL YEAR

The transportation procedures below are required to ensure safety, to show respect to our neighbors, and to ease traffic congestion in the community. Please acquaint yourself with these regulations, and give the information to all persons involved in the transportation of your child.

Every NCRC student, both carpool riders and walkers, will be assigned a transportation number. Teachers will distribute these numbers and instructions for their use on Orientation Day. To receive a number for your child, you must complete and return the Transportation Release Information form.

PLEASE DO NOT BLOCK TRAFFIC, TURN AROUND IN NEIGHBORS' DRIVEWAYS, DOUBLE PARK OR PARK DIRECTLY IN FRONT OF THE SCHOOL.

PLEASE OBSERVE NO PARKING SIGNS.

Carpool Drop off/Pick up

Cars should form a single line on the school side of the street for arrivals and dismissals. When all slots in front of the school are taken, stop at the white line before the curve on Highland Place as you approach the school. Plan to arrive no more than 10 minutes before arrival or dismissal to minimize congestion in the neighborhood.

ARRIVAL

NCRC staff members will be at the curb in front of the school to escort children from cars. For safety reasons, children will be released from the sidewalk side of the car only. Drivers are to remain in their cars at all times.

Children will be released from cars promptly at 8:35 a.m. for morning arrivals and 12:40 p.m. for afternoon arrivals.

DISMISSAL

Carpool line for dismissal forms at 11:30 a.m. for morning classes and 3:00 and 3:30 p.m. for afternoon classes. A staff member will relay the transportation number to classroom teachers who will organize and dismiss children to carpools.

Children must be escorted to cars and assisted with seat belts. To facilitate a quick pick up, drivers must have seat belts ready for use and must remain in their cars unless asked for help in fastening seat belts.

Walk-in Drop off/Pick up

ARRIVAL

Children accompanied to class by a parent or caregiver are to be escorted to their teachers. To avoid the carpool line on Highland, parents who are driving can park on Ordway Street, behind the school. Enter the school grounds via the back gate to the playground. Secure the gates *at all times*. Please do not double park or block our neighbors' driveways.

Arrivals begin at 8:35 a.m. for morning classes and at 12:40 p.m. for afternoon classes.

DISMISSAL

If driving, follow the parking procedures for arrival. Children must wait with their class. The designated adult responsible for picking up children must proceed to the front of the school and relay the transportation number to the classroom teacher who will call children and release them to the parent or caregiver.

Early Bird/Lunch Bunch

Children in the Early Bird and Lunch Bunch programs must be escorted to the Playhouse by a parent or caregiver. Drivers should park on Ordway Street,

behind the school, entering the school grounds via the back gate to the playground. Please be sure to secure the gate *at all times*.

EARLY BIRD

Children should arrive no earlier than 8:00 a.m. A teacher will take them to their classes at 8:35 a.m.

RAINBOW ROOM LUNCH BUNCH

AM Rainbow Students must be picked up promptly at the Playhouse at 12:30 p.m.; teachers are not available to care for the children after 12:30 p.m.

PM Rainbow Students should arrive at 11:30 a.m. A teacher will take them to their classes at 12:40 p.m.

Changes in Transportation Arrangements

Any change in a child's dismissal arrangement should be made in writing. Please write a note and pin it to your child for quick recognition by teachers. Do not put notes in bags since these can be easily overlooked. Please note whether the change is permanent or just for the day and be sure to notify the designated adult picking up children of changes or additions to the carpool arrangement.

For the security of the children, teachers will only honor written changes or changes that have been relayed by a parent and verified by the office. Staff will not go by oral instruction of children.

Late Arrivals and Pick-ups

ARRIVALS

It's in the children's best interest to arrive on time so they can participate in the start of class. If the parent or caregiver is unavoidably late, it is their responsibility to bring the child to class and release the child to a teacher. Please do not allow children to come in unattended.

PICK-UPS

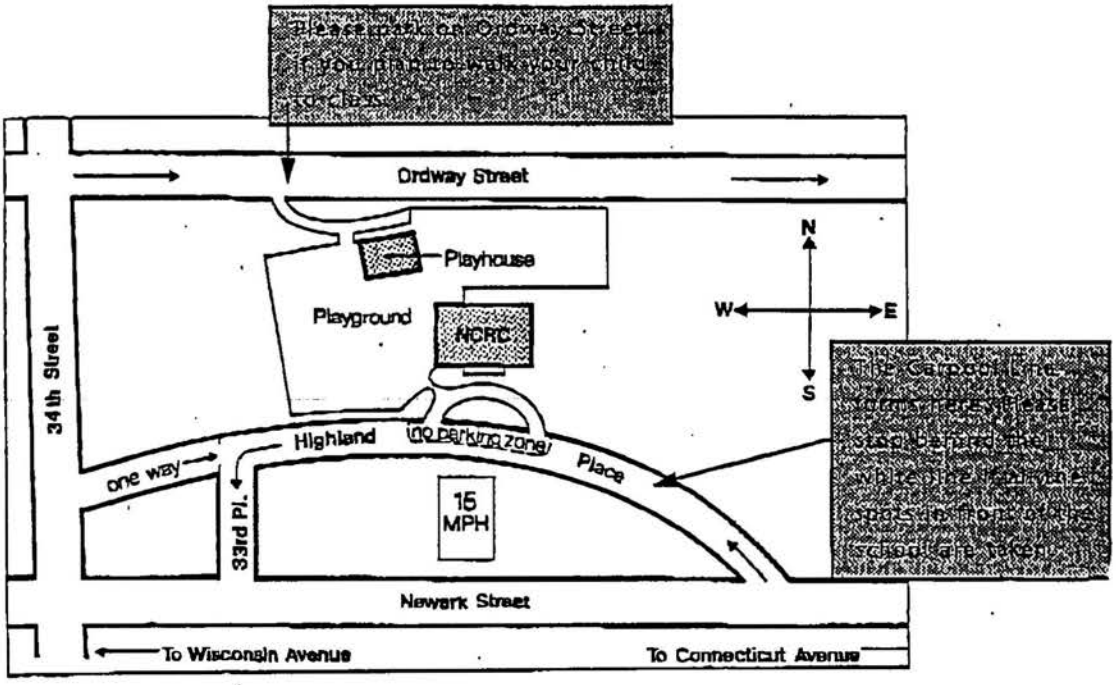
It is each parent's responsibility to ensure that children are picked up on time. Children are often upset and worried when they are the only ones left. Caregivers and parents who are consistently late place an unreasonable burden on the teachers.

UNDER NO CIRCUMSTANCES IS A PARENT OR CAREGIVER TO RELEASE CHILDREN ON OR REMOVE CHILDREN FROM THE SCHOOL PREMISES WITHOUT THE ACKNOWLEDGEMENT OF A STAFF MEMBER.

◆

QUESTIONS? PLEASE CONTACT US AT

3209 Highland Place, NW
Washington, DC 20008-3299
202.363.8777
(fax) 202.244.3459



Neighbor Contact with NCRC

1998 – 99

Complaint:	Because the Cleveland Park Club and NCRC Camp scheduled the same arrival times, neighbors complained that there was an inordinate amount of traffic/parking in the morning
Response:	NCRC Camp Director agreed to change our arrival time to alleviate the situation
Complaint:	Across the street neighbor came into the school to complain that the carpool line was keeping her from moving her car (she parks in front of the school, not in her driveway)
Response:	Director went to her house to apologize; NCRC began instructing staff to direct cars to move up fewer at a time
Complaint:	Highland Pl. neighbor complained that driveway was being blocked by carpool line
Response:	Business Manager met with her and revised parent education packet

1999 – 2000

Complaint:	Several neighbors complained about parking on the first day of school
Response:	Staff monitor assigned to the corner of 33rd and Highland; another parent education flyer sent home; parking "tickets" created to post on illegally parked cars
Complaint:	Neighbor complained about a part-time staff member who parked too close to her driveway, blocking it
Response:	The Business Manager explained to the employee who complied; employee no longer at the school
Complaint:	Temporary employee was not parking properly in the area of 33rd and Highland. A neighbor complained by e-mail with a description of the car
Response:	Employee had not been briefed but once told, parked correctly

2000 – 2001

Complaint:	Ordway neighbor upset about a parent parking in the no parking zone in front of his house. He spoke with the parent who was not cooperative, then e-mailed the director
Response:	The director met with him at his house to observe. This resulted in the placement of two new cones in the area, as well as a call to DDOT to ask that a missing parking sign be restored
Complaint:	A Highland Place neighbor complained that the carpool line blocked her driveway
Response:	Director and a Trustee worked with her over several months to try to improve the situation; this resulted in a second white line being painted in the street
Complaint:	Highland Pl. neighbor complained about parking near 33rd and Highland
Response:	Neighbor worked with school to get the city to clarify parking restrictions in the area

2001 – 2002

Complaint:	Several neighbors called to say that there were many cars parked illegally during an all-school function
Response:	The school hired an off-duty policeman to help monitor parking for the next school event; later, two off-duty policemen were added to Highland parking duty and one to Ordway
Complaint:	An Ordway neighbor asked us to remove the cone in front of her house because she didn't like the way it looked
Response:	Done
Complaint:	A neighbor near the corner of Reno Rd. and Ordway called to say there was an illegal parker in front of his house; did not leave a phone #
Response:	Director walked up to see, then wrote him a follow-up letter asking for more information; there was no response
Complaint:	A neighbor complained about NCRC cars parked illegally in the alley near the Cleveland Park Club
Response:	The tag #s and descriptions of the cars were published in the weekly school newsletters

2002-2003

Complaint:	Two Ordway neighbors who live next door to each other have reported parents turning around in their driveways and thereby driving across a corner of their grass
Response:	We have just assigned one more staff member to the Ordway side of our property during drop-off times



Technical Memorandum:

TRAFFIC AND PARKING IMPACT ASSESSMENT, NATIONAL CHILD RESEARCH CENTER – BOARD OF ZONING ADJUSTMENT APPLICATION, CLEVELAND PARK, NW, WASHINGTON, D. C.

(BZA Application No. 16970)



Prepared for:

NATIONAL CHILD RESEARCH CENTER
3209 Highland Place, N. W.
Washington, D. C. 20008
Ms. Susan Piggott, Director

Correspondents:

SHAW - PITTMAN, LLP
2300 N Street, N. W.
Washington, D. C. 20037
Maureen E. Dwyer, Esquire
Paul A. Tummonds, Esquire

Prepared by:

O. R. GEORGE & ASSOCIATES, INC.
Transportation Planning & Engineering Consultants
10210 Greenbelt Road, Suite 310
Greenbelt, MD 20706-2218
Tel: (301) 794-7700

January 22, 2003

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: orgassoc@aol.com

TECHNICAL MEMORANDUM

DATE: January 22, 2003

TO: Ms. Susan Piggott, Director
NATIONAL CHILD RESEARCH CENTER

FROM: Osborne R. George

RE: Traffic and Parking Impact Assessment – National Child Research Center, Northwest, Washington, D.C. – Board of Zoning Adjustment Application

1.0 INTRODUCTION

1.1 Project Background

The National Child Research Center (NCRC) is situated at 3209 Highland Place, N.W., within the Cleveland Park Historic District of the District of Columbia. NCRC has been at this location since 1930, and has been operating in accordance with conditions of approval of the District of Columbia Board of Zoning Adjustment (BZA) Order No. 16307 (March 3, 1999). Seven (7) of the nine (9) conditions of the 1998 BZA order pertain to traffic circulation and parking issues, placing emphasis on NCRC's Transportation Management Program. NCRC has submitted an application to the BZA for the approval of the renovation to one of the existing buildings, development of an additional building, as well as a modest increase in staff and student enrollment.

In accordance with the City's Zoning Regulations, this study was undertaken to determine whether the proposed changes would result in traffic that *"is likely to become objectionable to adjoining or nearby property or otherwise would tend to affect adversely the use of neighboring property"*. The analysis was undertaken to reflect perspectives and considerations related to traffic and parking conditions. For ease of reference, and to facilitate the analyses and discussions that follow, the existing conditions and the proposed changes are presented in Table 1 on page 2.

Prior to undertaking this study, discussions were held with the staff of the Transportation Policy and Planning Administration of the District of Columbia Department of Transportation (DDOT), as well as with the planning staff of the Office of Planning. The approach taken reflects the fact that the site has been in use as an educational/institutional center since 1930, and is in general compliance with the provisions of the City's Zoning Regulations. A copy of correspondence with DPW, broadly defining the scope of study, is included as Attachment A. Exhibit 1 (on page 3) shows the site location within its regional setting.

TABLE 1

NCRC BOARD OF ZONING ADJUSTMENT APPLICATION – EXISTING CONDITIONS VS PROPOSED CHANGES

Existing Program	Proposed Changes
• **Facilities:** Schoolhouse and Playhouse (8,969 GSF).	• *Renovation of Schoolhouse.* • *Addition of Carriage House (Yielding a total of 10,724 GSF)*
• **Hours of Operation:** 8:00 AM to 5:00 PM including Early Bird Program (8:00 – 8:35 AM) and "Lator Gator"- After School Program (3:00 to 5:00 PM).	*None Proposed.*
• **Student Occupancy**: 120 Children at any one time.	*None Proposed.*
• **Staff Strength**: 32 Full-Time Equivalent (FTE) Staff.	*Thirty Eight (38) FTE Staff.*
• **Transportation Procedures**: (Per Zoning Order #16307, Conditions 2 – 7).	*Some enhancements proposed in a comprehensive Transportation Management Plan.*

Source: BZA Order No. 16307, and National Child Research Center.

1.2 Report Organization and Summary

As noted in Table 1, the changes proposed by the school should not result in significant trip generation and parking demands. Since the school is currently operating within its permitted occupancy, this study analyzes the impact of potential full occupancy as approved, and the increase in staff noted in Table 1. However, the school is situated within an established residential community and the analyses undertaken are intended to fully evaluate existing operations, to quantify the impacts of the changes proposed, as well as to identify aspects of the school's access plans and related transportation procedures, which could be improved in order to reduce existing and potential impacts.

The report is organized into five (5) sections. The current section introduces the study and defines its scope. Section 2 discusses local area traffic and parking conditions. Section 3 examines the current traffic and parking characteristics of the National Child Research Center. Section 4 presents the traffic and parking impact assessment of the proposed changes in the site use. Section 5 presents the summary and conclusion of this assessment.

The analysis concludes that the changes proposed by the school are not likely to become objectionable in the context of impacts on the local area roadway network. The school's proposal to encourage carpooling, improve its drop-off and pick-up arrangements as part of its enhanced Transportation Management Plan will also be beneficial. The basis for these conclusions is presented in the remaining sections of this report.



O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers - Transportation Planners

EXHIBIT 1:

SITE LOCATION MAP

National Child Research Center – BZA Application

Northwest, Washington, D. C.

2.0 LOCAL AREA TRAFFIC AND PARKING CONDITIONS

2.1 Land Use and Zoning

The subject property is zoned R-1-B, which permits private school/childhood learning center as a Special Exception use. NCRC has been at this location continuously, since 1930. The subject property is situated within the Cleveland Park Historic District, which establishes policies regarding residential and small-scale business uses. As detailed in Section 2100.5 of the Zoning Regulations, the historic designation of the area and the subject property has significant implications on the parking requirements, particularly since the school's existence on the site pre-dated the City's adoption of the Zoning Regulations (in 1958). This is discussed further in Section 3 of the report.

The general area of the subject property is developed with residential and institutional uses, as called for in the City's Land Use Policies Map. The Washington International and Eaton Elementary Schools are situated within the general area. In the immediate vicinity of the subject property, the Cleveland Park Club (an institutional/recreational use) is situated just west of the school site, off 33rd Place. Notably, the Cleveland Park Metrorail Station and commercial uses along Connecticut Avenue, between Macomb Street and Porter Street, are also within the defined local area. Square 2072 (which houses the subject property) consists primarily of low-density, single-family-detached residential uses, except for the Cleveland Park Club cited earlier.

2.2 Study Area Road Network

For purposes of this evaluation, the study area was defined as bounded by Connecticut Avenue to the east, Newark Street to the south, 34th Street to the west, and Ordway Street to the north. The general physical characteristics and operational functions of the roadways, which serve the area, are described below:

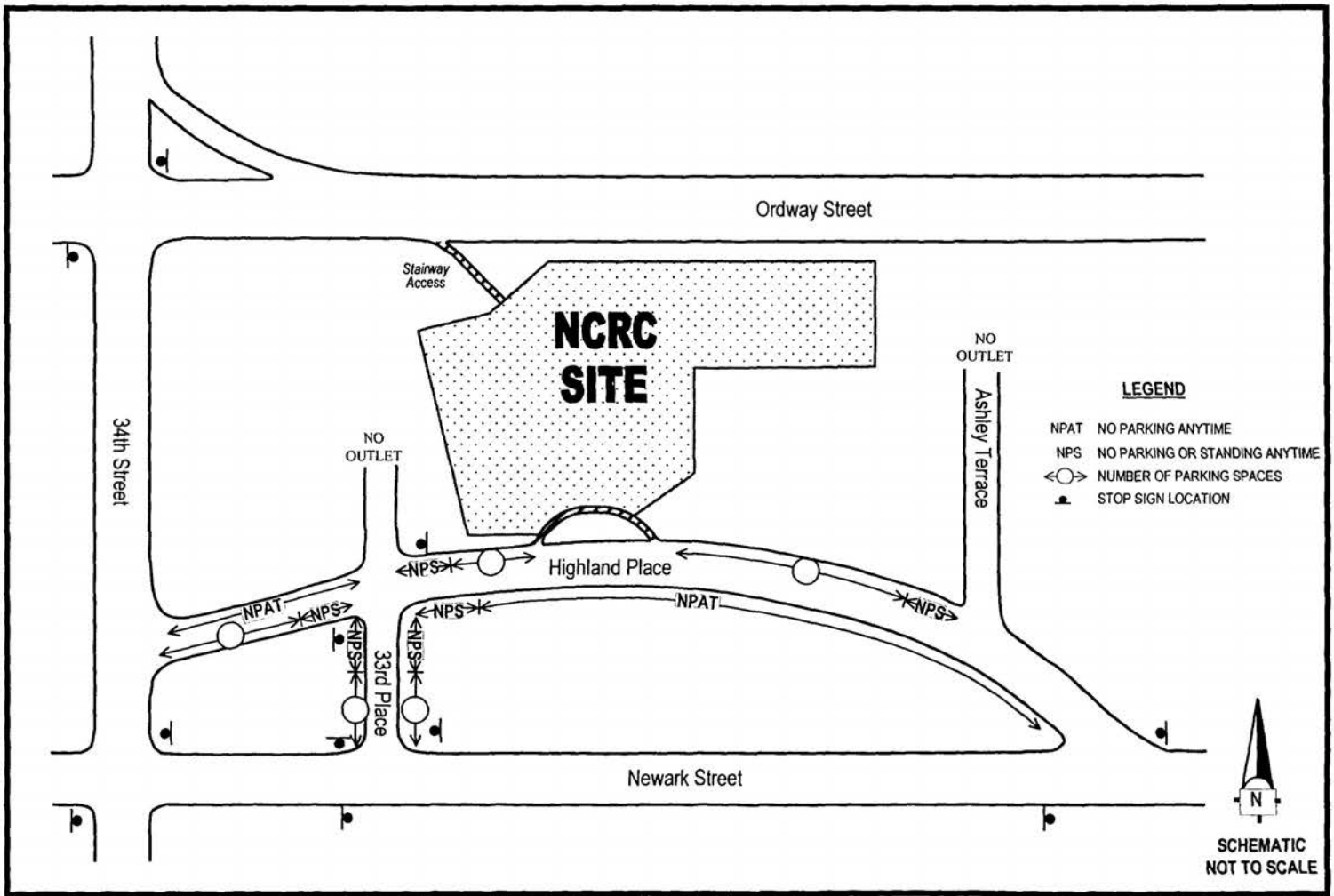
- **Connecticut Avenue, NW** is designated as a principal arterial*, and is generally six (6) lanes in cross-section, with parking allowed on both sides during off-peak periods. This roadway runs in a generally north-south direction, and is one of the principal commuter routes serving the Central Business District. Connecticut Avenue currently carries approximately 35,700 vehicles per average weekday. The posted speed limit is 35 MPH in the vicinity of the subject property.
- **Newark Street, NW** is classified as a local roadway*. This 26-feet wide roadway serves a single lane of traffic in each direction, with parking on both sides between 34th Street and 33rd Place. Between 33rd Place and Ashley Terrace, parking is allowed only along the north side; and between Ashley Terrace and Connecticut Avenue, parking is allowed only along the south side. This roadway runs in a generally east-west direction, and currently carries approximately 1,500 vehicles per average weekday. The posted speed limit is 25 MPH.
- **Highland Street, NW:** A local street on the City's roadway system.* It is approximately 26 Ft wide, and serves two-way traffic, with parking permitted only along sections of the north side. This roadway carries traffic volumes in the range of 700 – 800 vehicles per day. The applicable speed is 25 MPH. The subject property fronts on Highland Street, and there are parking restrictions and pavement markings in the school's vicinity, representing conditions of the 1998 BZA approval of the site. These are discussed in later sections of the report.

- **34th Street, NW** is classified as a minor arterial*. This roadway runs in a north-south direction, and serves a single travel lane in each direction with a two-way left-turn lane (TWLTL). Within the vicinity of the subject area, no parking is allowed along either side. This roadway currently carries approximately 16,500 vehicles per average weekday. The posted speed limit is 25 MPH, within the study area.
- **Ordway Street, NW** is classified as a local roadway*. This roadway serves a single lane of traffic in each direction, with parking allowed on both sides. This roadway runs in a generally east-west direction, and currently carries approximately 2,000 vehicles per average weekday. In view of the proximity of this roadway section to the Cleveland Park Metrorail Station, this section of roadway serves significant pedestrian volumes. However sidewalks are not provided along the entire adjacent segment (between Connecticut Avenue and 34th Street). The posted speed limit is 25 MPH.

* *All classifications are based on the City's Roadway Functional Classification Map.*

Immediate access to the NCRC site is provided via Highland Place, 33rd Place, and Ordway Street. These roadways have a strong bearing on vehicular and pedestrian access, parking, as well as circulation within the local area; and are hence specifically included in this evaluation. For ease of reference and in order to present the details regarding the traffic circulation and parking situations within the school's impact area, the local area roadways are detailed in Exhibit 2.

As noted earlier, the defined study area is bordered by two (2) major commuter routes, i.e., Connecticut Avenue and 34th Street. These roadways connect the study area, and the outlying sections of the City, with the central employment area. Because of these factors, and in keeping with its neighborhood preservation policies, the local area is covered under the City's Residential Parking Permit (RPP) program. All roadway sections are signed to restrict non-permit holders to 2-hour limits, generally during the period 7:00 AM – 8:30 PM. It is noted that no RPP signage restriction is provided along the frontage of the NCRC property on both Highland Place and Ordway Street. However, parking is restricted along the Highland Place frontage during school hours. Existing local area traffic and parking conditions are discussed further in later sections of the report.



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EXHIBIT 2:
EXISTING STREET PARKING SIGNS – STUDY AREA ROAD NETWORK
National Child Research Center – BZA Application

2.3 Existing Traffic Conditions

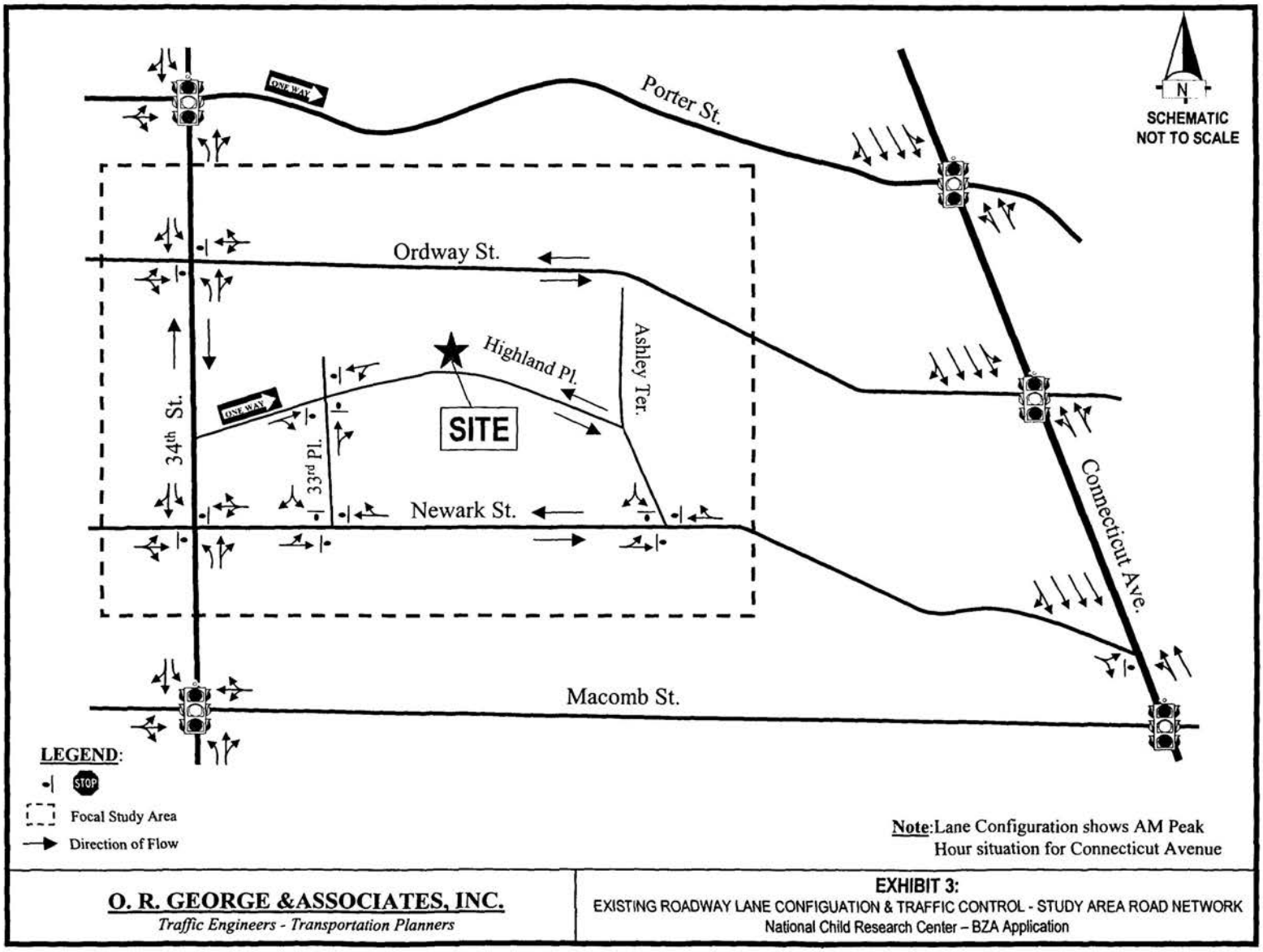
In accordance with discussions held with the Department of Public Works, as well as in order to address potential concerns of the neighborhood, this study focussed on the roadway network defined by the following intersections:

- 34th Street @ Ordway Street; and
- 34th Street @ Newark Street.

In addition, the study included turning movement counts and generalized assessments of the adjacent intersections of Newark Street at Ashley Terrace and at 33rd Place, as well as for Connecticut Avenue at Newark Street and at Ordway Street.

Exhibit 3 presents the study area roadway lane configuration. With respect to the roadway geometrics and traffic control provisions in the local area road network, there have been no significant changes since the 1998 BZA approval.

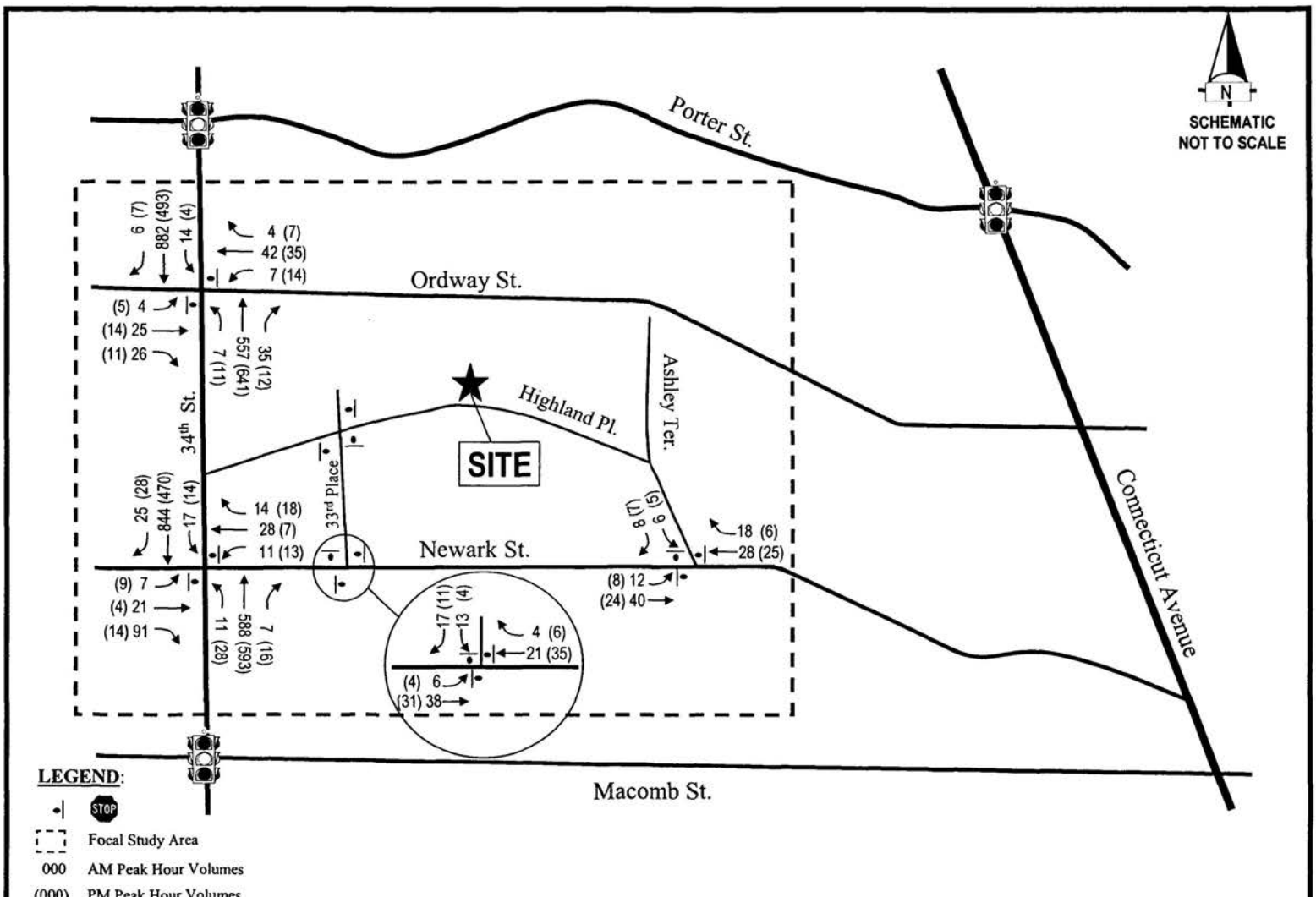
In order to determine existing traffic usage, turning movement counts were conducted for the four (4) primary study area intersections noted earlier during both the morning and afternoon commuter peak periods of the local roadway network on typical weekdays, with the focus on the peak morning arrival period for the school. (The peak afternoon departure occurs between 2:50 and 3:40 PM.) The peak hour turning movement count data is presented in Exhibit 4. This data was analyzed using the Highway Capacity Manual (HCM) procedures as specified by DDOT. The results are summarized in Table 2 on Page 10.



Note: Lane Configuration shows AM Peak Hour situation for Connecticut Avenue

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EXHIBIT 3:
EXISTING ROADWAY LANE CONFIGUATION & TRAFFIC CONTROL - STUDY AREA ROAD NETWORK
National Child Research Center – BZA Application



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

EXHIBIT 4:
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES
National Child Research Center – BZA Application

TABLE 2

SUMMARY OF CAPACITY ANALYSIS RESULTS - EXISTING TRAFFIC SITUATION (HIGHWAY CAPACITY MANUAL METHODOLOGY)

Intersection	AM Peak Hour		PM Peak Hour	
	Level Of Service	Average Delay Sec./Veh.*	Level of Service	Average Delay Sec./Veh.*
1) 34th St. @ Ordway St.	D	25.0	C	18.1
2) 34th St. @ Newark St	C	18.5	B	12.7
3) Newark St. @ 33rd Place.	A	7.09	A	7.04
4) Newark St. @ Ashley Terrace	A	6.91	A	7.03

Note: * Sec./Veh. = Seconds per Vehicle.

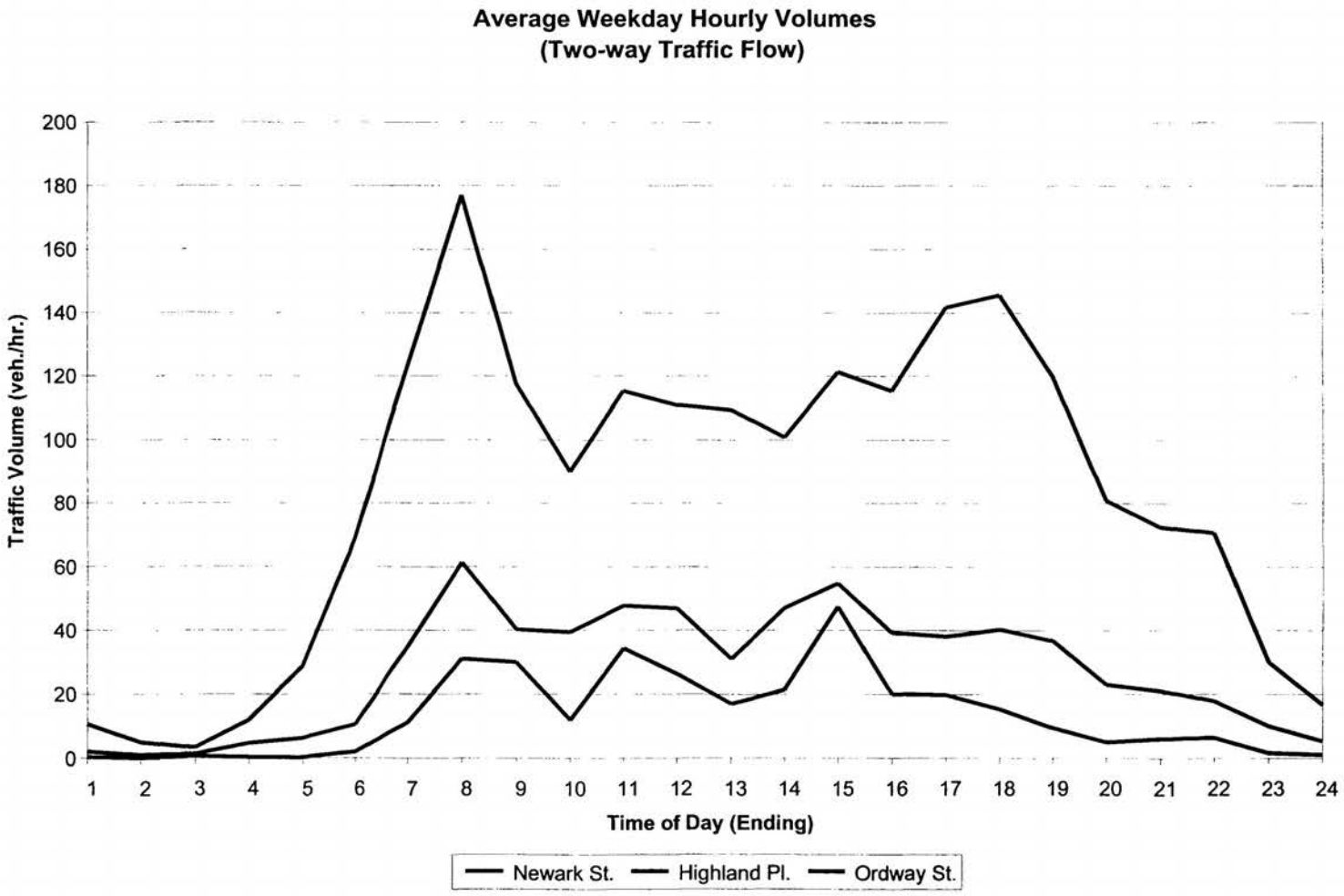
Source: O. R. George & Associates.

"Level of Service" is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and their perception by roadway users. Principal factors are speed and travel time, delay, and freedom to maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) levels of service (A - F), with Level of Service "A" representing best operating conditions, and Level of Service "F" representing worst conditions. Level of Service D is generally considered by the District of Columbia as the minimum acceptable standard for planning and design purposes.

The traffic volume data used in the analysis are presented in Attachment B. The capacity analysis worksheets are presented as Attachment C. Pictorial illustrations of the levels of service conditions within basic freeway segments (extracted from the HCM) are included in Attachment D. Levels of service are shown for freeway segments, since conditions at intersections are subject to additional operational factors, which do not lend themselves to easy illustration.

Table 2 shows that all intersections currently operate at Level of Service D or better. Field observations by this Consultant's technical staff showed no significant roadway capacity or operational constraints. Additional surveys were performed to specifically determine the level of vehicular trips generated by NCRC on weekdays, for the peak periods of the school's activities. Data showing relationships between NCRC traffic and other background traffic are presented in Section 3.0 following.

Machine traffic volume counts were conducted along Newark Street, Highland Place, and Ordway Street over a seven (7) day period. The purpose was to determine the level of usage for these roadways. The data is illustrated graphically in Exhibit 5. (Note: Due to the relatively slow vehicle movements and relatively narrow roadway width, the data may not be truly representative. However, it is being presented for background consideration.)



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EXHIBIT 5:
AVERAGE WEEKDAY TRAFFIC DISTRIBUTION PATTERN - LOCAL AREA ROADWAYS
National Child Research Center – BZA Application

3.0 EXISTING TRAFFIC AND PARKING SITUATION – NCRC

3.1 Background

A key consideration of this study was the current trip generation and parking demand characteristics of NCRC. As noted earlier, the City's development review guidelines require only weekday morning and afternoon peak periods to be evaluated. This is due to the fact that these periods represent the highest demand on the roadway system. However, in order to provide a more comprehensive basis for the current evaluation, this section of the report examines trip making and parking demand during both the peak and off peak periods.

The following three (3) factors affect the school's parking and traffic situation:

a) The school is situated within the Cleveland Park Historic District, which exempts development on the property from parking requirements;

b) The arrivals and dismissals are relatively well dispersed over the period 8:00 AM – 5:00 PM; and

c) The school has two (2) access points, i.e., one (1) off Highland Place and the other off Ordway Street.

The effect of items (b) and (c) above is that only the morning peak period of the local roadway system is affected to any significant degree. In addition, the two (2) points of access allows for a more favorable distribution of traffic accessing the school.

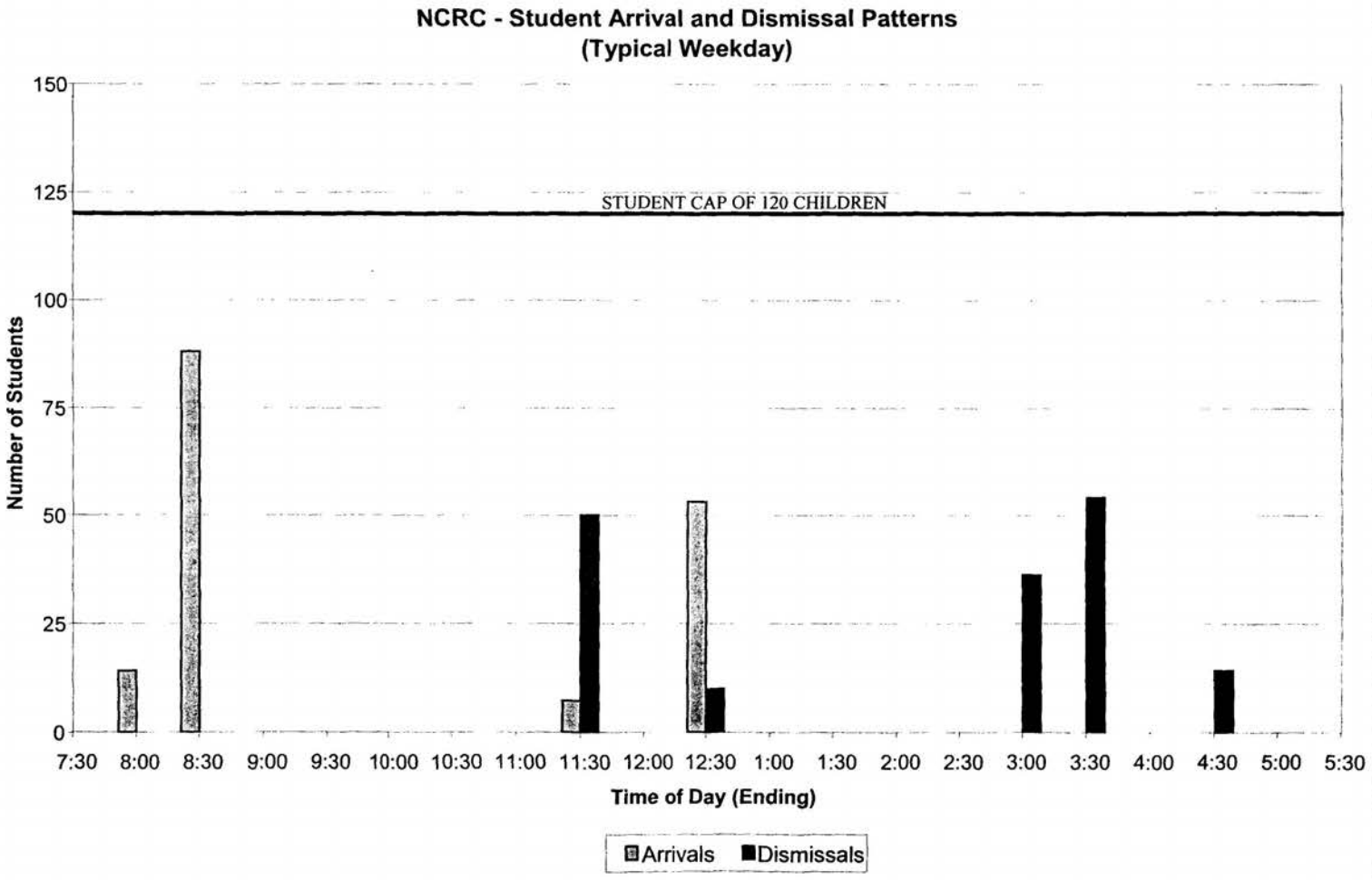
Exhibit 6 was developed to show the student arrival and departure patterns over a typical weekday. Information provided by the school shows the following modal split for students during the peak AM arrival period.

- Total Student Arrivals = 85
  - Number of Walkers = 15
  - Number of Carpools = 15
- Total Number of Single-Child-Occupant Vehicles = = 55
- Number of Carpool Vehicles (15 ÷ 2) = 8

Number of Vehicles (8:00 – 8:35AM) = 63

Field observations undertaken as part of this study show that approximately seventy percent (70%) of the vehicles arriving at the site utilize the Highland Place entrance, while thirty percent (30%)utilizes Ordway Street. Applying this distribution pattern to the trip generation/mode split presented above, a computation of the vehicular and pedestrian usage generated by the school during the peak arrival period of 8:00 – 8:35 AM is shown below:

Location	Vehicles	Pedestrians
Highland Place	44	12
Ordway St.	19	3
TOTAL	**63**	**15**



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EXHIBIT 6:
STUDENT ARRIVAL AND DISMISSAL PATTERN - TYPICAL WEEKDAY
National Child Research Center – BZA Application

Our field observations show that traffic approaching the "Highland Place Main Entrance" of the school, during the peak arrival period, use several roadways including Highland Place from the east and west, and 33rd Place via Newark Street from the west. However, the majority of vehicles approach the school via Highland Place from the east. This distribution of traffic is generally favorable. However, the restriction of carpools to an approximate ten (10) minute period prior to the 8:35 AM opening, contributes to an undesirable level of "peaking" and accumulation of vehicles in the vicinity of the school's entrance. This is due in large measure to the school's interpretation of the conditions of the 1998 BZA approval, regarding the drop-off arrangements particularly during the morning peak arrival period. Recommendations to address this operational issue are presented in Section 5 of this report.

Outside of the approximate 8:20 – 8:40 AM situation described above, no unfavorable traffic operational conditions were observed along either Highland Place, or the adjacent streets to the south and west of the school. As noted earlier, there are no parking restrictions, including RPP signage along the Ordway Street frontage of the NCRC property. Due to the greater roadway widths and different land use situation along this roadway, no operational constraints related to the NCRC School, were noted.

The school currently has a FTE staff strength of thirty-two (32) persons, approximately 30% of whom are part-time. The school is situated two (2) blocks from the Cleveland Park Metrorail Station and from numerous bus routes along Connecticut Avenue. This provides a good opportunity for a favorable modal split. NCRC staff, who do use personal vehicles, were noted to park primarily along the school frontage on Ordway Street, where parking is not restricted. In general, it was found that the parking needs of the school are compatible with those of the host neighborhood. This is because the residential uses experience peak parking demand during evening and nighttime hours, while the school's parking peaks during daytime periods.

In general, this study finds that the access demand of the school does create some moderate level of congestion during the periods of peak demand. However, based upon independent observations on several different occasions no unsafe conditions were noted, particularly in view of the "destination" type of activity, which occurs, and the fact that vehicular speeds are quite low. Observations show some difficulty of vehicular access to and across 34th Street at the Newark Street and Highland Place intersections. This is due principally to the relatively high commuter traffic volumes along 34th Street. Accident records have been obtained for those two (2) locations, and these have been brought to the attention of the DDOT Traffic Services Administration staff.

4.0 IMPACT ASSESSMENT – NCRC PROPOSALS

4.1 Introduction

As noted earlier, the school's current proposals are for renovations and modest facility changes that would enhance the quality of its educational programs. They include renovation of the schoolhouse, addition of a Carriage House to provide additional classroom space and construction of a shed for storage of recreational and other material supporting the School's operations. (Details are presented in Table 1 on page 2.

It is emphasized that the current application proposes no change in the approved student occupancy of the site facilities at any one time. Over the course of a typical weekday, however, the total number of students attending during either the morning or afternoon sessions (as part of the approved enrollment cap) is 162; and the school is proposing to increase this number to 171. ***It is underscored that the occupancy level at any one time will continue to be within the approved occupancy of one hundred twenty (120) students***. Table 3 summarizes the average daily site activity, and presents typical related vehicle trip generation factors.

The school is requesting the flexibility to also increase the enrollment cap by 2% (i.e., by 4 students) in any given year, in order to accommodate siblings, continuing students, or students with special needs. As far as site staff, NCRC is currently at a full-time-equivalent level of thirty-two (32) persons, and plans an addition of six (6) staff over the foreseeable period of the Special Exception use.

In addition to the above physical and operational changes, it is noted that the school continually monitors, and plans to enhance its Transportation Management Program (TMP). This is intended to address operational constraints, which NCRC has identified, as well as to respond to the access-related issues that have been raised by the community over the period, since the 1998 Board of Zoning Adjustment approvals.

4.2 Trip Generation and Parking Considerations

Table 3 shows the programming changes proposed with respect to student attendance schedules and vehicular activity. It is estimated that the increase of about twelve (12) students during the peak arrival period will result in an additional nine (9) vehicle trips during the peak AM arrival period. This would be split between the Highland Place and Ordway Street access points, with about six (6) of these vehicles using Highland Place. Considering the results of the existing conditions evaluation presented earlier, it is quite apparent that the planned physical and operational site changes would have no appreciable adverse impacts.

The additional six (6) FTE staff would be on site during different time periods of the day, and on different days of the week. Some of these staff would also use public transportation. This study estimates that a demand for approximately three (3) parking would be the maximum demand that would be generated by the additional staff at any one time. Based upon field observations undertaken as part of this study, significant numbers of on-street parking spaces are typically available both along Highland Place and Ordway Street during the times that these staff will be on the NCRC site. Table 4 shows the availability of on-street parking over the course of a typical weekday, measured against a generalized inventory of on-street parking spaces.

TABLE 3

National Child Research Center — Typical Daily Site Activity and Trip Generation Summary

NCRC Site Access Activity	Time Period	Existing		Proposed		Change	
		Students	Vehicles	Students	Vehicles	Students	Vehicles
1) Early Bird Drop-Off	8:00 - 8:15 AM	14	13	20	18	+6	+5
2) AM and Full Day Nursery Drop Off	8:25 - 8:50 AM	88	69	100	78	12	+9
3) AM Nursery Pick-Up	11:20-11:40 AM	50	41	42	34	-8	-7
4) Lunch Bunch Drop-off (via Ordway Street)	11:25-11:35 AM	7	7	10	10	3	3
5) PM Nursery Drop-off	12:30-12:50 PM	53	35	43	27	-10	-8
6) Lunch Bunch Pick-Up (via Ordway Street)	12:25-12:35 PM	10	8	10	8	No Change	
7) Full Day Nursery Pick-Up	2:50 - 3:10 PM	36	30	57	47	+21	+17
8) PM Nursery Pick-Up	3:20 - 3:40 PM	54	36	44	28	-10	-8
9) Later Gator Pick-Up	3:30 - 5:00 PM	12	11	20	18	+8	+7
TOTALS	**Drop-offs**	162♦	**124**	173	**133**	**11**	**9**
	Pick-ups	162♦	**126**	173	**135**	**11**	**9**

Source: National Child Research Center, and O. R. George & Associates.

♦ This number reflects the maximum number of students that attend the school on a given day. The number of students currently enrolled in the school is 171, which includes students who attend part-time, e.g. Tuesdays and Thursdays only. The new enrollment is requested to rise to 181, with typical daily attendance of 173.

TABLE 4

On-Street Parking Availability and Usage Pattern – NCRC Local Area

Roadway Section	On-Street Parking Supply*	Observed Parking Usage				
		10 - 11 AM	11 AM -12: NOON	12 - 1 PM	1 - 2 PM	2 -3 PM
1) Ashley Terr. (Newark St.- Highland Pl.)	5	2 (40%)	3 (60%)	3 (60%)	3 (60%)	2 (40%)
2) Highland Pl. (Ashley Terr.- 33rd Pl.)	36	20 (56%)	30 (83%)	24 (67%)	24 (67%)	22 (61%)
3) Highland Pl. (34th St.-33rd Pl.)	14	10 (73%)	11 (79%)	11 (79%)	11 (79%)	9 (64%)
4) 33rd Place (Newark St. -Highland Pl.)	16	9 (56%)	9 (56%)	7 (44%)	6 (78%)	8 (50%)
5) Ordway St. (34th St.- NCRC Entrance)	30	18 (60%)	15 (50%)	13 (43%)	10 (33%)	10 (33%)
6) Ordway St. (NCRC Entrance - Ashley Terr.)	72	31 (43%)	31 (43%)	29 (40%)	30 (42%)	32 (44%)
7) Ordway Street (Ashley Terr.- 30th St.)	29	26 (90%)	26 (90%)	26 (90%)	24 (83%)	26 (90%)
Totals – Percentage Occupancy	**202**	**116 (57%)**	**125 (62%)**	**111 (55%)**	**108 (53%)**	**109 (54%)**

*Numbers of spaces are approximate.

Source: National Child Research Center, and O. R. George & Associates.

Two (2) factors are noted with respect to the above table. Firstly, the relatively high percentage utilization of Highland Place reflects the drop-off and pick-up activity for that roadway section. Secondly, the usage of the section of Ordway Street east of Ashley Terrace reflects the apparent use by commuters and the proximity of this roadway section to Connecticut Avenue and the Cleveland Park Metrorail Station.

5.0 MITIGATION MEASURES AND RELATED CONSIDERATIONS

Based on the forgoing data, analysis and discussion, and considering the history of the school at this location for the past seventy-two (72) years, this study finds that the proposed changes would satisfy the stipulated requirements of the City's Zoning Regulations. However, in keeping with the school's request, we have examined the feasibility for operational changes that would further address access to the school, as well as traffic operations within the local area as a whole. These are considered below:

a) **34th Street Intersections**: It is understood that issues have been raised regarding delays experienced by side-street traffic along Ordway and Newark Streets. Our field observation and analyses confirm some level of delay, particularly for the Ordway Street westbound approach to 34th Street. This situation was exacerbated by the recent construction activity along Porter Street to the north, and the consequent elimination of westbound traffic flow along the latter roadway. While signalization is often seen as a solution, it is noted that specific volume and other criteria would need to be satisfied in order to justify a traffic signal. Our preliminary assessment is that signalization would not be warranted.

b) **Carpool/Drop-off Operation**: It is apparent that the school's attempts to comply with the BZA order, regarding the timing and other operational aspects for the carpool lanes, results in accentuated peaking. This poses related queuing and some operational problems. This study finds that extending the period of car pool drop-offs would relieve this situation considerably. In conjunction with the plans to enhance access via Ordway Street, it is our preliminary assessment that the situation could be essentially eliminated. The school's enhanced Transportation Management Plan is being provided as a separate Exhibit to the Applicant's Statement.

c) **Ordway Street Improvements**: As part of the School's site modifications, consideration is being given to increasing opportunities for vehicular and pedestrian access via Ordway Street. Discussions have been held with the City's Department of Transportation; and it has been confirmed that the Department proposes to improve Ordway Street. This proposal may incorporate sidewalk, pavement marking, frontage improvements, and traffic calming features that could benefit the local community as a whole. Further information is being sought from the DDOT Design and Engineering Management staff. The Ordway Street improvements are programmed to be implemented in 2004.

With respect to Item (a) above, the study has also included analyses using the Synchro software, which is the operational tool utilized by the City for its signal system. The preliminary results of this analysis are presented in Attachment E. It is intended that the results of final analyses, as well as prospective traffic volume changes due to the re-opening of Porter Street, will be used as the basis for further discussions with the City's Department of Transportation. This should contribute to enhancing traffic operations within the local area.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This study has examined the existing conditions and the potential impacts of the changes proposed by the National Child Research Center. The primary purpose was to determine whether the school's proposal would comply with the City's Zoning Regulations, as it pertains to the creation of objectionable and adverse impacts on neighboring properties. Additionally, the study examined potential measures for improving traffic and parking conditions within the local impact area. The principal findings were as follows:

a) Traffic volumes along the local and abutting streets are generally quite low, and well within their practical capacities considering their functional classification.

b) The School's existing and planned program of activities affects only the morning peak hour to any significant degree.

c) The traffic generated by the school, and which uses the intersection along Connecticut Avenue and 34th Street, currently exists. As such, it is part of the "ambient" conditions evaluated in this report.

d) The present carpool/drop-off arrangements during the morning peak hour are in general compliance with the governing BZA order. However, some operational problems were noted, particularly during the period 8:20 – 8:40 AM.

e) NCRC does not generate significant parking demands on the local area roadways, particularly as they pertain to the Residential Parking Permit (RPP) provisions for the area.

f) The proximity of the school to the Cleveland Park Metrorail Station and other transit service along Connecticut Avenue provides opportunity for increased transit usage, particularly by NCRC staff, as part of an enhanced Transportation Management Program (TMP) for the school.

g) The ages of student clients (which is as low as 2 – 3 years) presents some constraints to significant carpooling. However, there are presently a significant number of patrons from the local community who walk to school, thus reducing the vehicle trips and parking demand.

The study recommends that the NCRC management consider the following measures:

i) Increase the duration of time when attended student arrivals and carpool operations are in effect. It is our assessment that an additional 5 - 10 minutes would substantially reduce the peaking activity and related operational constraints, particularly along Highland Place.

ii) As part of its site improvements, the school may examine physical and operational measures to increase drop-offs via Ordway Street.

iii) The school should seek to promote transit usage by its staff, including Metro-Check and other subsidiary arrangements as incentives, as part of its enhanced TMP. The school should also remind staff of the City's RPP provisions.

iv) NCRC should continue its interaction with the Department of Transportation staff regarding travel demand along Ordway Street. The school also joins the rest of the community in providing input to DDOT regarding the prospective upgrading of Ordway Street.

v) The school should work with Department of Public Works to replace or otherwise upgrade faded parking restriction signs within the vicinity.

vi) NCRC should review BZA Condition no. 6 relating to parking restriction signage along the Ordway Street frontage of its property. Such a review should include consultations with DDOT staff and the community to ensure that the interests and concerns of key stakeholders are duly considered. *(As provided, this is a joint responsibility with the Local Advisory Neighborhood Commission; and the changes made were at the request of the Advisory Neighborhood Commission.)*

6.1 Summary And Conclusion

This assessment concludes that the school satisfies the conditions stipulated by the Board in its 1998 order, as pertains to traffic and parking impacts. However, the study has identified minor areas where changes could further mitigate impacts on the local area. Input from on-going discussions with the local community could also be the basis for further improvements, including the preparation of an enhanced Transportation Management Plan (TMP). For ease of reference, a copy of the school's existing Transportation Management Plan is included as Attachment F. With these prospective changes, we are of the view that NCRC could demonstrate to the Board of Zoning Adjustment that its proposed site and program changes would not create objectionable conditions to adjoining or neighborhood property, or otherwise adversely impact the neighborhood.

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

<<<<< : : : : : >>>>

ORG/RB/gw

Attachments: As Noted

ATTACHMENT

A

CORRESPONDENCE WITH DC-DPW STAFF

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

10210 Greenbelt Rd., Ste. 310
Greenbelt, Maryland 20706-2218

Tel: (301) 794-7700
Fax: (301) 794-4400
orgassoc@aol.com

FAX COVER SHEET

TO: **Mr. Abdoulaye Bah**
DC-DPW FAX No.: **(202) 671-0617**

FROM: **Osborne George/Raj Basavaraju** DATE: **04/26/02**

REGARDING: PROJECT NAME: **National Child Research Center - BZA Application**

NUMBER:

NUMBER OF PAGES INCLUDING COVER: **3**

COMMENTS:

Dear Mr. Bah:

As per our recent telephone conversation, please see the attached for the referenced project. Please let us know if you have any questions or comments. *Thank you*.

Osborne/Raj

FAXED Raj 3:40 PM

ORIGINAL BEING SENT: YES [ ] NO [x] MAIL [ ] COURIER [ ] OTHER:

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Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite # 310 • Lanham, Maryland 20706
Tel: (301) 794-7700 • Fax: (301) 794-4400
E-mail: orgassoc@aol.com

April 26, 2002

Mr. Abdoulaye Bah, Sr. Transportation Engineer
Office of Intermodal Planning
District of Columbia Department of Public Works
2000 14th Street, N.W. (7th Floor)
Washington, D.C. 20009

Re: Board of Zoning Adjustment Application – National Child Research Center, Cleveland Park, Northwest, Washington, D. C.

Dear Mr. Bah:

Please be advised that we have been retained by the Applicant, National Child Research Center, to prepare a traffic impact analysis in support of the referenced matter. The subject property is situated within Square 2072 in the Cleveland Park area of Northwest, Washington, D.C. The property is zoned residential (R-1-B), and is currently improved with two structures, the principal building and an accessory building whose combined area totals approximately 9,025 Gross Square Feet. The Applicant proposes to renovate the principal building, add a new building, and also increase the number of students in the range of thirteen (13) to nineteen (19) and the number of staff by six (6).

Our assessment is that the future development will generate less than ten (10) vehicle trips during the morning peak hour only. These trips will access the site from both Highland Place and Ordway Street via a number of "gateways" allowing for a well distributed traffic pattern. These factors strongly suggest that the development will not have any appreciable impact. However, in keeping with the City's guidelines for processing applications to the Board of Zoning Adjustment, we propose to undertake a generalized assessment of traffic as well as parking conditions within the area bounded by Ashley Terrace to the east, Newark Street to the south, 34th Street to the west, and Ordway Street to the north. Our study will consider potential developments (if any) within the area, as background to our assessment. We are also attaching a site location map for your convenience.

Should you have any questions or further information, which may be useful to our study effort, please let us know. Thanks for your usual attention and assistance in this matter.

Sincerely,
O. R. GEORGE & ASSOCIATES, INC.

Osborne R. George
Principal

Rajasekhar Basavaraju
Project Engineer

ORG/rb

cc: Mr. Gary Baker, Realco Project Management Services
Maureen Dwyer, Esquire, ShawPittman



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

EXHIBIT : 1
SITE LOCATION MAP
National Child Research Center – BZA Application
Cleveland Park, Northwest, Washington, D. C.

ATTACHMENT

B

TURNING MOVEMENT COUNT SUMMARIES -
EXISTING TRAFFIC SITUATION

ATTACHMENT

C

CAPACITY ANALYSIS WORKSHEETS -
EXISTING TRAFFIC SITUATION

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	ORGA - RB
Agency/Co.	O. R. George & Associates, Inc
Date Performed	03/04/02
Analysis Time Period	AM Peak Period

Site Information

Intersection	Ashley Terrace @ Newark Street
Jurisdiction	Washington D. C.
Analysis Year	2002

Project ID NCRC - BZA Application

East/West Street: Nowark Street

North/South Street: Ashley Terrace

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	12	40	0	0	28	18
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	6	0	8
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR				LR	
PHF	0.95		0.95				0.97	
Flow Rate	54		47				14	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.0				0.4	
Prop. Right-Turns	0.0		0.4				0.6	
Prop. Heavy Vehicle	0.0		0.0				0.0	
hLT-adj	0.2	0.2	0.2	0.2			0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	4.01		4.01				4.01	

Departure Headway and Service Time

hd, initial value	3.20		3.20				3.20	
x, initial	0.05		0.04				0.01	
hd, final value	4.01		4.01				4.01	
x, final value	0.06		0.05				0.01	
Move-up time, m	2.0		2.0				2.0	
Service Time	2.0		2.0		2.0		2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	304		297				264	
Delay	7.27		6.94				6.91	
LOS	A		A				A	
Approach: Delay	7.27		6.94				6.91	
LOS	A		A				A	
Intersection Delay	7.09							
Intersection LOS	A							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	ORGA - RB	Intersection	Ashley Terrace @ Newark Street
Agency/Co.	O. R. George & Associates, Inc	Jurisdiction	Washington D. C.
Date Performed	03/04/02	Analysis Year	2002
Analysis Time Period	PM Peak Period		

Project ID NCRC - BZA Application

East/West Street: Newark Street | North/South Street: Ashley Terrace

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	8	24	0	0	25	6
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	5	0	7
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR				LR	
PHF	0.95		0.95				0.97	
Flow Rate	33		32				12	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	0.2		0.0				0.4	
Prop. Right-Turns	0.0		0.2				0.6	
Prop. Heavy Vehicle	0.0		0.0				0.0	
hLT-adj	0.2	0.2	0.2	0.2			0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	4.00		4.00				4.00	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value	3.20		3.20				3.20	
x, initial	0.03		0.03				0.01	
hd, final value	4.00		4.00				4.00	
x, final value	0.04		0.03				0.01	
Move-up time, m	2.0		2.0				2.0	
Service Time	2.0		2.0		2.0		2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	283		282				262	
Delay	7.15		6.98				6.82	
LOS	A		A				A	
Approach: Delay	7.15		6.98				6.82	
LOS	A		A				A	
Intersection Delay	7.03							
Intersection LOS	A							

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All-Way Stop Control

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	ORGIA - RB
Agency/Co.	O. R. George & Associates, Inc
Date Performed	03/04/02
Analysis Time Period	AM Peak Period

Site Information

Intersection	33rd Place @ Newark Street
Jurisdiction	Washington D. C.
Analysis Year	2002

Project ID NCRC - BZA Application

East/West Street: Newark Street

North/South Street: 33rd Place

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	6	38	0	0	21	4
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	13	0	17
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR				LR	
PHF	0.95		0.95				0.97	
Flow Rate	46		26				30	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.1		0.0				0.4	
Prop. Right-Turns	0.0		0.2				0.6	
Prop. Heavy Vehicle	0.0		0.0				0.0	
hLT-adj	0.2	0.2	0.2	0.2			0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	4.01		4.01				4.01	

Departure Headway and Service Time

hd, initial value	3.20		3.20				3.20	
x, initial	0.04		0.02				0.03	
hd, final value	4.01		4.01				4.01	
x, final value	0.05		0.03				0.03	
Move-up time, m	2.0		2.0				2.0	
Service Time	2.0		2.0		2.0		2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	296		276				280	
Delay	7.23		7.03				6.92	
LOS	A		A				A	
Approach: Delay	7.23		7.03				6.92	
LOS	A		A				A	
Intersection Delay	7.09							
Intersection LOS	A							

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All-Way Stop Control

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	ORGA - RB
Agency/Co.	O. R. George & Associates, Inc
Date Performed	03/04/02
Analysis Time Period	PM Peak Period

Site Information

Intersection	33rd Place @ Newark Street
Jurisdiction	Washington D. C.
Analysis Year	2002

Project ID NCRC - BZA Application

East/West Street: Newark Street

North/South Street: 33rd Place

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	4	31	0	0	35	6
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	4	0	11
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR				LR	
PHF	0.95		0.95				0.97	
Flow Rate	36		42				15	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	0.1		0.0				0.3	
Prop. Right-Turns	0.0		0.1				0.7	
Prop. Heavy Vehicle	0.0		0.0				0.0	
hLT-adj	0.2	0.2	0.2	0.2			0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	3.99		3.99				3.99	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value	3.20		3.20				3.20	
x, initial	0.03		0.04				0.01	
hd, final value	3.99		3.99				3.99	
x, final value	0.04		0.05				0.02	
Move-up time, m	2.0		2.0				2.0	
Service Time	2.0		2.0		2.0		2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	286		292				265	
Delay	7.16		7.06				6.73	
LOS	A		A				A	
Approach: Delay	7.16		7.06				6.73	
LOS	A		A				A	
Intersection Delay	7.04							
Intersection LOS	A							

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Two-Way Stop Control

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	ORGA - RB	Intersection	34th St. @ Ordway St.
Agency/Co.	O. R. George & Associates, Inc	Jurisdiction	Washington, D. C.
Date Performed	3/4/02	Analysis Year	2002
Analysis Time Period	AM Peak Period		
Project Description	NCRC - BZA Application		
East/West Street:	Ordway Street	North/South Street:	34th Street
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	557	35	14	882	6
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	7	618	38	15	980	6
Percent Heavy Vehicles	1	--	--	1	--	--
Median Type			Two Way Left Turn Lane			
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			1	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7	42	4	4	25	26
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	7	46	4	4	27	28
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	7	15		57			59	
C (m) (vph)	629	922		236			266	
v/c	0.01	0.02		0.24			0.22	
95% queue length	0.03	0.05		0.92			0.83	
Control Delay	10.8	9.0		25.0+			22.3	
LOS	B	A		D			C	
Approach Delay	--	--		25.0+			22.3	
Approach LOS	--	--		D			C	

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	ORGA - RB	Intersection	34th St. @ Ordway St.
Agency/Co.	O. R. George & Associates, Inc	Jurisdiction	Washington, D. C.
Date Performed	3/4/02	Analysis Year	2002
Analysis Time Period	PM Peak Period		
Project Description	NCRC - BZA Application		
East/West Street:	Ordway Street	North/South Street:	34th Street
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	641	12	4	493	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	12	712	13	4	547	7
Percent Heavy Vehicles	1	--	--	1	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			1	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14	35	7	4	25	28
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	15	38	7	4	27	28
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	12	4		60			59	
C (m) (vph)	1024	875		335			414	
v/c	0.01	0.00		0.18			0.14	
95% queue length	0.04	0.01		0.64			0.49	
Control Delay	8.6	9.1		18.1			15.1	
LOS	A	A		C			C	
Approach Delay	--	--	18.1			15.1		
Approach LOS	--	--	C			C		

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	34th St. @ Newark St.
Agency/Co.	O. R. George & Associates, Inc	Jurisdiction	Washington, D. C.
Date Performed	3/4/02	Analysis Year	2002
Analysis Time Period	AM Peak Period		

Project Description	NCRC - BZA Application
East/West Street:	Newark Street
North/South Street:	34th Street
Intersection Orientation:	North-South
Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	11	588	7	14	844	25
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	12	653	7	15	937	27
Percent Heavy Vehicles	1	–	–	1	–	–
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		1			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	11	28	14	7	21	91
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	12	31	15	7	23	101
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	12	15		58			131	
C (m) (vph)	710	997		324			423	
v/c	0.02	0.02		0.18			0.31	
95% queue length	0.05	0.05		0.64			1.30	
Control Delay	10.2	8.7		18.5			17.3	
LOS	B	A		C			C	
Approach Delay	–	–	18.5			17.3		
Approach LOS	–	–	C			C		

>

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	34th St. @ Newark St.
Agency/Co.	O. R. George & Associates, Inc	Jurisdiction	Washington, D. C.
Date Performed	3/4/02	Analysis Year	2002
Analysis Time Period	PM Peak Period		
Project Description	NCRC - BZA Application		
East/West Street:	Newark Street	North/South Street:	34th Street
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	28	593	16	14	470	28
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	31	658	17	15	522	31
Percent Heavy Vehicles	1	–	–	1	–	–
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		1			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	13	7	18	9	4	14
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	14	7	20	10	4	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	31	15		41			29	
C (m) (vph)	1012	1001		509			511	
v/c	0.03	0.01		0.08			0.06	
95% queue length	0.09	0.05		0.26			0.18	
Control Delay	8.7	8.7		12.7			12.5	
LOS	A	A		B			B	
Approach Delay	–	–	12.7			12.5		
Approach LOS	–	–	B			B		

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ATTACHMENT

D

PICTORIAL ILLUSTRATIONS OF VARIOUS LEVELS OF SERVICE

Illustration 3-5. LOS A



Illustration 3-6. LOS B



Illustration 3-7. LOS C



Illustration 3-8. LOS D



Illustration 3-9. LOS E



Illustration 3-10. LOS F



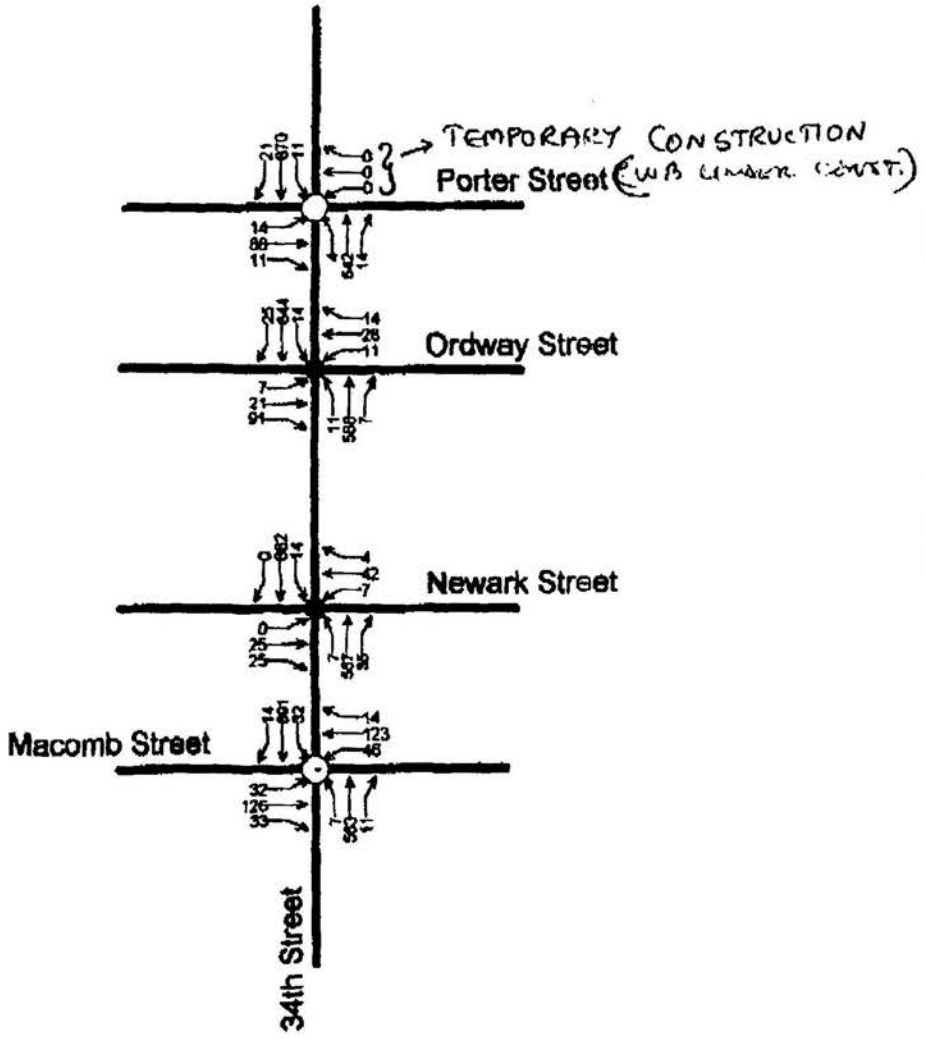
ATTACHMENT

E

QUEUING ANALYSIS WORKSHEETS AND SYNCRO ANALYSIS OUTPUT - EXISTING SITUATION

FROM :ORDEORDER&ASSOCIATES, Inc. FAX NO. :301 794 4400 Jan. 28 2003 02:16PM P19

Map - NCRC
Volumes AM PEAK PERIOD 6/3/2002



SYNCHRO NETWORK

E-1

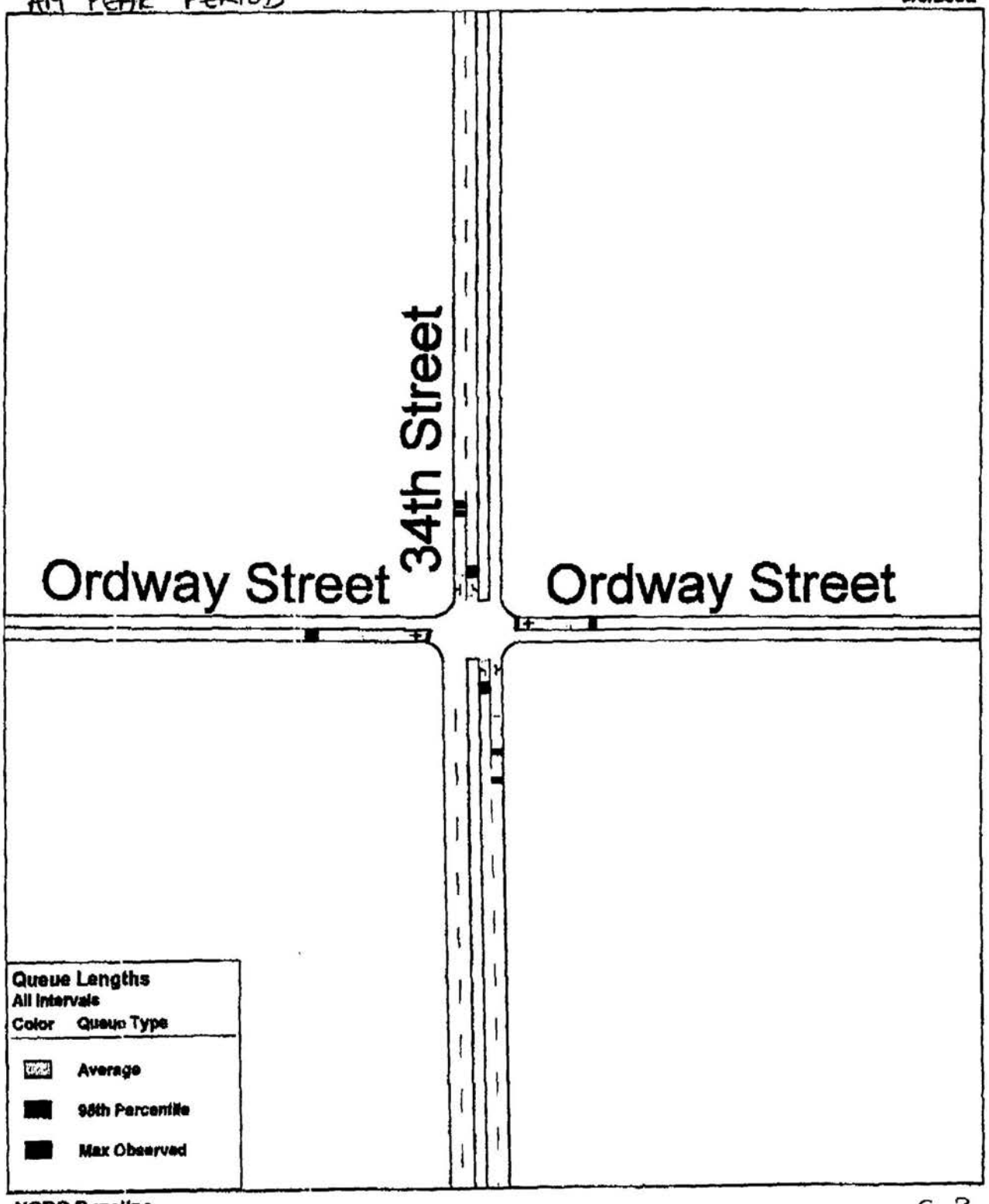
NCRC Baseline
ORGA-RB/MFO

FROM :ORGEORGEASSOCIATES, Inc. FAX NO. :301 794 4400 Jan. 28 2003 02:16PM P20

SimTraffic - NCRC

AM PEAK PERIOD

5/3/2002

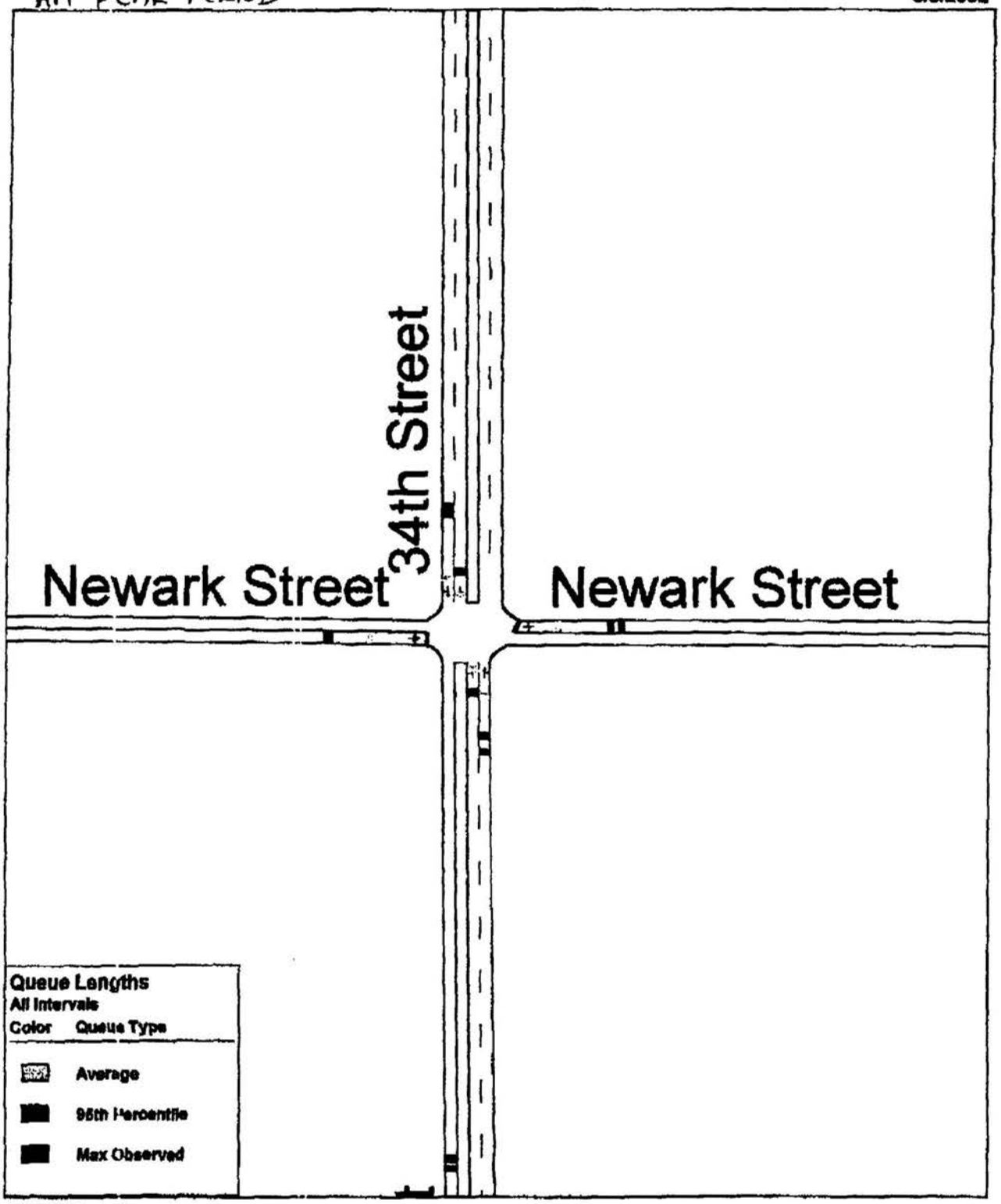


NCRC Baseline
ORGA-RB/MFO

E-2

SimTraffic - NCRC
AM PEAK PERIOD

5/3/2002



NCRC Baseline
ORGA-RB/MFO

e-3