MEMORANDUM

TO: North Tonawanda City Planning Commission
c/o Tom Jaccarino, City Clerk

FROM: Tim Gawenus, FRA Engineering TG

CC: Dale Marshall, PE, City Engineer
Heather Langdon, NYSDOT Region 5
Fred Frank, Wendel Duchscherer
Marc Romanowski, Harter, Secrest & Emery
Yelann Yu, Bergmann Associates
File

RE: Proposed Wal-mart Supercenter
866 Niagara Falls Boulevard
City of North Tonawanda, New York

Supplemental Traffic Analysis #3 for Proposed Wal-Mart Project

DATE: February 4, 2008

This supplemental traffic analysis has been prepared by FRA Engineering to address comments received by the City of North Tonawanda and NYSDOT Region 5. This memorandum is intended to become part of the Final Environmental Impact Statement for the Project. This document will resend to the comments provided by the involved agencies and follow with a conclusion section.

NYSDOT REGION 5 LETTER DATED JANUARY 9, 2008

The NYSDOT sent a letter to the City of North Tonawanda on the above noted date. Responses to their comments are addressed below:

Traffic Impact Study included in the Draft Environmental Impact Statement

- *Comment: The table included in the study summarizing the capacity analysis for the intersection of Niagara Falls Blvd and Ruie Road shows some movements will have a drop in Level of Service (LOS). The study states that "reductions could theoretically be mitigated by adding a green left turn arrow" but that it is not warranted based on project left turn volumes. This alternative should be analyzed along with any other improvements that may eliminate the LOS drops at this intersection*
- Response: FRA investigated the alternative of providing an advance green left turn arrow for northbound lefts to Ruie. The finding in terms of total delay and LOS are summarized in the table below:

Niagara Falls Boulevard at Ruie Road (advance green arrow)

Approach	Total Traffic with NBL Turn Arrow		
	AM Peak	PM Peak	SAT Peak
Ruie Road			
Eastbound			
Left + Right Turns	C (33)	C (28)	C (31)
Niagara Falls Boulevard			
Northbound			
Left Turns	A (9)	B (11)	A (9)
Throughs	A (7)	A (7)	A (6)
Southbound			
Through + Right Turns	B (14)	B (17)	B (14)
Intersection Overall	B (15)	B (13)	B (13)

This can be compared to the analysis completed for the DEIS Traffic Study in July of 2007 as attached below:

Niagara Falls Boulevard at Ruie Road (original proposal)

Approach	Total Traffic with NBL Turn Arrow		
	AM Peak	PM Peak	SAT Peak
Ruie Road			
Eastbound			
Left + Right Turns	D (48)	C (35)	C (34)
Niagara Falls Boulevard			
Northbound			
Left Turns	B (11)	c (27)	C (24)
Throughs	A (4)	A (4)	A (5)
Southbound			
Through + Right Turns	B (10)	B (12)	B (11)
Intersection Overall	B (15)	B (12)	B (12)

As shown above, the overall operations are better without the advance left turn phase included. This is primarily because the volumes using the left turn lane are very small compared to the volumes using Niagara Falls Blvd. As such, it is recommended that the current signal phasing remain in place.

Comment: We were advised that CSX will not allow a crossing necessary for Wal-mart to have access on Erie Ave. Without the Erie Avenue access, projected traffic at intersections along Niagara Falls Boulevard will change except at Ruie Ave. Therefore, conclusions of the study in the DEIS are not valid for the affected intersections.

Response: FRA has completed additional studies and addendums subsequent to the August DEIS traffic 2007 study. This Addendum provides additional analysis and supporting figures for NYSDOT review and concurrence. Complete LOS Tables are included Appendix B of this Study.

Supplemental Traffic analysis for proposed Wal-mart project (No CSX/Erie Ave entrance driveway)

Comment: At the intersection of Niagara Falls Blvd and the proposed access road, we concur with the recommendation in the study to install a traffic signal, converting the two-way center turn lane on Niagara Falls Boulevard into an exclusive northbound left turn lane and constructing an exclusive southbound right turn lane on Niagara Falls Boulevard.

Response: Duly noted.

Comment: This supplemental Traffic Analysis recommends coordinating the proposed signal on Niagara Falls Blvd at the Proposed Access Road with the existing signal at Ruie Road and at Erie Avenue/Shawnee Road. However, this supplemental did not include a LOS analysis or summary associated with the proposal to coordinate the signals.

Response: FRA has recommended the coordination of the proposed signal at the proposed access road with Niagara Falls Blvd. /Erie Ave. All the results presented to date have included this coordination. We recommend a hard wire coordination between the proposed driveway and Niagara Falls Boulevard /Shawnee Road.

We have subsequently have noted that the LOS for the Ruie/ Niagara Falls Blvd intersection is greater than ¼ mile and operates at an excellent LOS for the proposed conditions. As such, we recommend that this signal operate as a stand alone signal.

Comment: The supplemental states that there are LOS drops at the intersection of Niagara Falls Boulevard with Shawnee Road and Erie Avenue. It also states that Geometric improvements are not practical due to right of way constraints, close proximity of the CSX railroad and Sawyer Creek. While we agree that geometric improvements are not practical, the analysis does not explore other alternatives in an attempt to improve the LOS. For example, an option to consider is converting the through lane on Erie Avenue and /or Shawnee Road into a shared through left lane and split the signal phasing.

Response: FRA investigated the alternative of providing a through left for existing through lanes and a split signal phasing for the Shawnee /Erie Avenue approaches. The results of that analysis are provided below in a comparison table with the original analysis:

Niagara Falls Boulevard at Erie Avenue/Shawnee Road

Approach	Total Traffic Coordinated with Wal-Mart Driveway (existing phasing & lane config.)			Total Traffic Coordinated with Wal-Mart Driveway (split phasing & new lane config.)		
	AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Niagara Falls Boulevard						
Eastbound						
Left Turns	C (23)	F (132)	C (32)	C (25)	F (175)	C (34)
Throughs	C (89)	D (43)	D (37)	E (76)	C (32)	C (31)
Right Turns	B (14)	B (18)	A (8)	C (23)	C (23)	B (16)
Westbound						
Left Turns	F (104)	F (86)	E (60)	F (142)	E (65)	E (73)
Throughs	D (37)	E (69)	D (35)	C (32)	D (49)	C (35)
Right Turns	B (18)	C (21)	B (15)	D (54)	F (104)	D (40)
Erie Avenue						
Northbound						
Left Turns	C (26)	C (24)	C (28)	D (49)	D (45)	D (51)
Throughs	F (122)	F (102)	E (73)	F (164)	F (136)	F (89)
Right Turns	D (37)	C (21)	C (28)	D (40)	C (24)	C (30)
Shawnee Road						
Southbound						
Left Turns	F (132)	F (100)	E (68)	F (146)	F (156)	F (87)
Throughs	D (40)	C (34)	D (41)	F (156)	F (149)	F (85)
Right Turns	B (10)	A (6)	A (8)	B (20)	C (20)	B (15)
Intersection Overall	E (68)	E (57)	D (38)	F (86)	E (78)	D (46)

As can be clearly seen in the table above, the intersection LOS is worse with the split phasing alternative. As such, it is recommended that the current phasing be maintained. The existing phasing plan coupled with signal timing optimizations will maximize Level of Service and minimize delay at the intersection.

Comment: We identified some errors for values entered in the Synchro capacity model. The eastbound Niagara Falls Left turn storage length is 70' not the 125', the northbound Erie Avenue right turn storage lane length is 75' not 0' and the southbound Shawnee Road right turn lane storage length is 100 feet not 200'.

Response: The Eastbound Niagara Falls left turn storage length of 125' includes the defined 70' white storage lane delineation and 55' of storage length that is a transition area to the dual use left turn lane further to the west. This was confirmed with field observations of actual vehicles using this area for storage at the left turn bay.

The northbound Erie Avenue right turn lane storage length was revised to 75'.

The Southbound Shawnee Road right turn lane storage length was reinvestigated. The findings show that the white line storage lane delineation actual length in the field is 150'. This storage length was used in the latest analysis.

Supplemental Traffic Analysis for the proposed Wal-mart project, Niagara Falls entrance only access.

Comment: We concur with this supplemental statements that providing dual left turn lanes on Erie Avenue at Niagara Falls Blvd would improve the left turn lane delay and understand that it would not be practical to construct due to constraints at this intersection. However, without the dual left turn lanes, the analysis show excessive queue length during the Saturday peak hour that would be greater than 300 feet for vehicles turning left from Erie Avenue.

The Synchro analysis shows that the queue length for vehicles turning left from Niagara Falls Boulevard to the proposed Access Driveway would be in excess of 500 feet. Dual left turn lanes would be required on Niagara Falls Boulevard to mitigate this impact. Due to Right –of way constraints, this mitigation does not appear to be practical either.

We do no support this option to have only one access to Wal-mart since it does not appear feasible to mitigate the traffic impacts.

Response: FRA, as outlined in the supplemental analysis of November 2007, does not support the single access at Niagara Falls Blvd for 2 primary reasons: Better operational characteristics and site access safety reasons.

CITY ENGINEER AND PUBLIC WORKS DIRECTOR COMMENTS

Wendel Duchscherer Architects & Engineers (WD) met with Dale Marshall, the City of North Tonawanda Engineer, and Gary Franklin, City of North Tonawanda Highway Superintendent, on January 18, 2008 regarding the traffic impact study (TIS) for the proposed Wal-Mart Supercenter. At that meeting, Mr. Marshall and Mr. Franklin outlined their outstanding traffic concerns and requested that FRA Engineering revise the TIS to address the following items.

Comment: *The City would like the Bluebird Drive access to be a full access with Wurlitzer Drive, sitting that the low traffic volume predicted for westbound Wurlitzer Drive does not warrant the unusual geometry of a right-in, left-out access, and would put further undo traffic volumes onto non-collector streets such as Ohio Street. This access would include:*

- *Restriping of the Bluebird Drive access to include two outbound lanes – a right turn lane and a left turn lane, and one inbound lane;*
- *Restriping of westbound Wurlitzer Drive to include a thru lane and a right turn lane into the Bluebird Drive access; and,*
- *Restriping of eastbound Wurlitzer Drive to include a thru lane and a left turn lane into the Bluebird Drive access.*

There is approximately 40 feet of pavement on Wurlitzer Drive and 30 feet of pavement on Bluebird Drive that the City indicated should be sufficient to handle said restriping without pavement widening.

In addition to the intersection configuration, the City would like FRA to conduct a LOS analysis ***without*** *a stop control on Wurlitzer Drive and only a stop control on the outbound Bluebird Drive access. The City does not want to worsen the LOS on Wurlitzer Drive.*

Response: FRA analyzed the conditions requested by City Officials as requested above. The revised lane configurations utilized 10' approach lanes and were encompassed within the existing pavement limits. A summary of the LOS and delay is shown below:

Wurlitzer Drive at Wal-Mart Driveway

Approach	Total Traffic All Way Stop Control (two EB lanes)			Total Traffic One way Stop Control (one EB lane)			Total Traffic One way stop control (two EB lanes)		
	AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Wurlitzer Drive									
Eastbound									
Left Turns	A (9)	A (9)	B (10)	-	-	-	A (9)	A (9)	A (9)
Throughs	D (27)	C (17)	C (21)	-	-	-	-	-	-
Through + Left Turns	-	-	-	A (1)	A (1)	A (1)	-	-	-
Westbound									
Throughs	B (12)	C (23)	C (22)	-	-	-	-	-	-
Right Turns	B (11)	B (13)	C (22)	-	-	-	-	-	-
Wal-Mart Driveway									
Southbound									
Left Turns	C (16)	C (21)	E (45)	D (26)	E (45)	F (90)	D (26)	E (45)	F (90)
Right Turns	A (8)	A (8)	A (9)	A (10)	B (11)	B (10)	A (10)	B (11)	B (10)
Intersection Overall	C (18)	C (18)	D (28)	-	-	-	-	-	-

This table can be compared to the table below from the September of 2007 analysis for the Wurlitzer / Bluebird Drive intersection:

Wurlitzer Drive at Blue Bird Drive

Approach	Total with Outparcels								
	Stop sign on Blue Bird only			Stop Sign on Blue Bird w/ WB right turn lane			All-Way Stop w/ WB right turn lane		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Blue Bird Drive									
Outbound									
Left Turns	E (38)	F (95)	F (220)	C (25)	E (43)	F (80)	B (14)	C (18)	D (31)
Wurlitzer Drive									
Eastbound									
Throughs	-	-	-	-	-	-	C (21)	C (15)	C (18)
Westbound									
Through	-	-	-	-	-	-	B (12)	C (22)	C (21)
Right Turns	-	-	-	-	-	-	B (11)	B (13)	C (23)
Intersection Overall	-	-	-	-	-	-	C (16)	C (17)	C (24)

* With an exclusive westbound right turn lane.

The comparison of the all-way stop controlled with the exclusive right in - left out vs. the "free flow" conditions show that the intersection operates slightly better with the right-in-left-out alternative.

With the inclusion of a single stop sign for the outbound traffic on Bluebird Drive, the LOS drops considerably for this approach. Since there would be no delay for the Wurlitzer through traffic, total delay analysis is not possible. However, there is a substantial decrease in LOS for the Bluebird Drive approach. Of particular note, is the fact that during the peak hours of operation, the volumes approaching this intersection are relatively "balanced." With this condition, it is preferable to balance every vehicles "needs". As such, FRA is of the opinion that the all way stop control be implemented to maximize total intersection LOS.

Although the right in-left alternative does push some vehicles to the Ruie/Ohio street corridors, the amount of traffic is very minor (less that 30 Vehicles in the peak hour). This is a minor condition

Wurlitzer Drive/ Erie Avenue

Comment: *The City would like FRA to provide a diagram of the Wurlitzer Drive/ Erie Avenue intersection showing the following:*

Response: A figure has been included in Appendix D for this alternative

Comment: *The extension of Wurlitzer Drive, to consist of a 4-legged intersection, with one westbound lane and one eastbound lane;*

Response: A figure has been included in Appendix D for this alternative.

Comment: *The existing right turn lane on southbound Erie Avenue to Wurlitzer Drive should be lengthened to accommodate the additional traffic queues and for the anticipated railroad pre-emption*

Response: This has been addressed in the FEIS, which states that the current right turn lane for the southbound Erie Avenue approach to Wurlitzer Drive is a 110 foot storage lane with a 110 foot bay taper. Based on the latest Synchro analysis, the 95% queue length for the PM peak hour traffic is 57 feet, therefore, no additional lengthening is proposed.

Comment: *The existing left turn lane on northbound Erie Avenue to Wurlitzer Drive should be lengthened to accommodate the additional traffic queues and anticipated train pre-emption. In addition, this turn lane will require a dedicated left turn arrow.*

Response: This has been addressed in the FEIS, which states that Wal-Mart is proposing an exclusive left turn phase for the traffic signal. Based on the Synchro analysis, the 95% queue length for the left turn approach in the critical peak hour (PM Peak) is 360 feet. The current left turn storage is 270 feet, therefore, the left turn lane will be extended 90 feet to accommodate the 95% queue.)

Comment: *Restriping of eastbound Wurlitzer Drive to include a shared left and thru lane and a right turn lane onto southbound Erie Avenue, with a right turn arrow phase.*

Response: The recommended alternative was analyzed by FRA. The results are shown below. In addition, the elements have been conceptually incorporated into the Bluebird/Wurlitzer detailed figure in Appendix D.

Comment: *Revised LOS analysis for the Erie Avenue/ Wurlitzer Drive intersection.*

Response: See the attached table below for the LOS summary.

Erie Avenue at Wurlitzer Drive

Approach	Four legged intersection		
	AM Peak	PM Peak	SAT Peak
Wurlitzer Drive			
Eastbound			
Left Turns	C (33)	C (33)	C (33)
Through + Right Turns	A (5)	A (6)	A (5)
Westbound			
Left + Thru + Rights	C (26)	C (32)	C (32)
Erie Avenue			
Northbound			
Left Turns	C (33)	D (43)	C (28)
Through + Right Turns	B (12)	B (14)	B (14)
Southbound			
Left Turns + Through	C (34)	D (50)	C (34)
Right Turns	A (4)	A (5)	A (6)
Intersection Overall	C (21)	C (27)	B (20)

Comment: With the reconfiguration of the intersections, as requested by the City, FRA should show a revised traffic distribution.

Response: Revised traffic distribution tables have been included in Appendix A.

Comment: Address why there is a 220 second delay proposed for the outbound Bluebird Drive access to Wurlitzer Drive during the Saturday PM peak under the scenario of no stop controls on Wurlitzer Drive and no westbound right turn lane on Wurlitzer Drive; and,

Response: The 200 second delay is the result of providing stop only control with for the outbound Bluebird Drive. As previously noted, this makes the large volumes approaching this intersection unduly wait to gain access to the intersection. This is improved some with the additon of a right turn lane and Full access. However, as previously noted, FRA recommends 3 way stop control to balance the approaching vehicles needs.

Comment: Provide WD with the Synchro files.

Response: FRA shall provide NYSDOT and Wendel Duscherer (WD) the Synchro files in electronic format.

CONCLUSIONS

FRA has completed this supplemental Traffic study based on comments from the City of North Tonawanda officials and NYSDOT. The Applicant has spent a substantial amount of time and effort producing 2 traffic studies (November 2006 and DEIS Study July 2007). In addition, 3 additional addendums, including this one have been prepared for the City Planning Commission and NYSDOT's use.

Based on the previous analysis and findings in Addendum #3, FRA recommends the following items for implementation:

- Optimize signal timing at Ruie /Niagara Falls Blvd, but do not include an advance left turn phase.
- Niagara Falls Blvd. /Erie Ave: Do not use split phasing cycle; however, optimize signal timing for maximum efficiency.
- Incorporate "full access" at the Wurlitzer/Bluebird Drive intersection. However, to maximize overall LOS, incorporate all way stop control.
- Erie/Wurlitzer intersection: Incorporate 4th leg to D'Angelo Drive including a 12' approach lane. Restripe the Wurlitzer approach leg to include a through-left and exclusive right storage lane.

APPENDIX A

TRAFFIC FIGURES

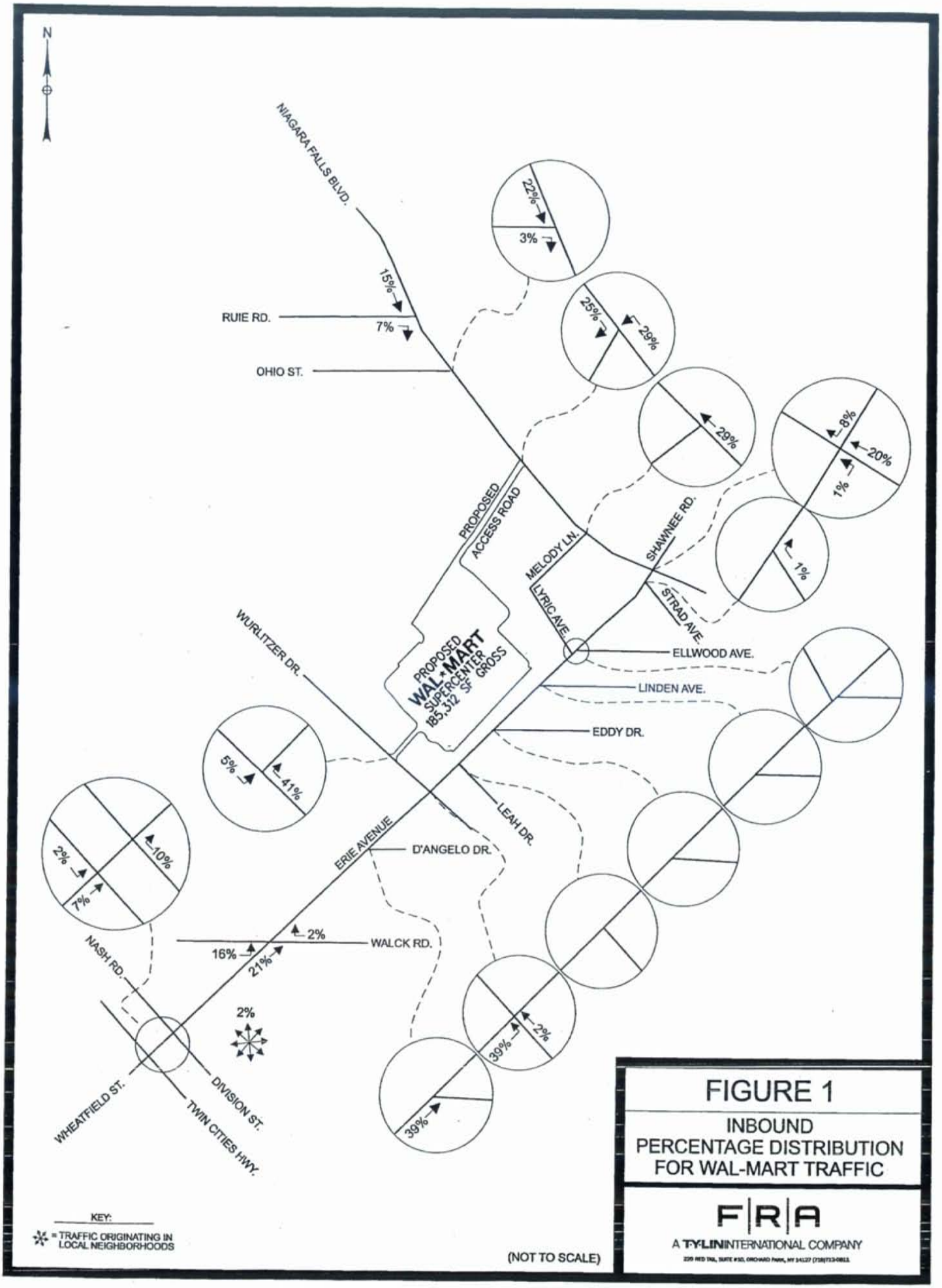


FIGURE 1

INBOUND PERCENTAGE DISTRIBUTION FOR WAL-MART TRAFFIC

F|R|A
A TY-LIN INTERNATIONAL COMPANY
225 RED TAIL, SUITE #10, ORCHARD PARK, NY 14127 (716)713-0813

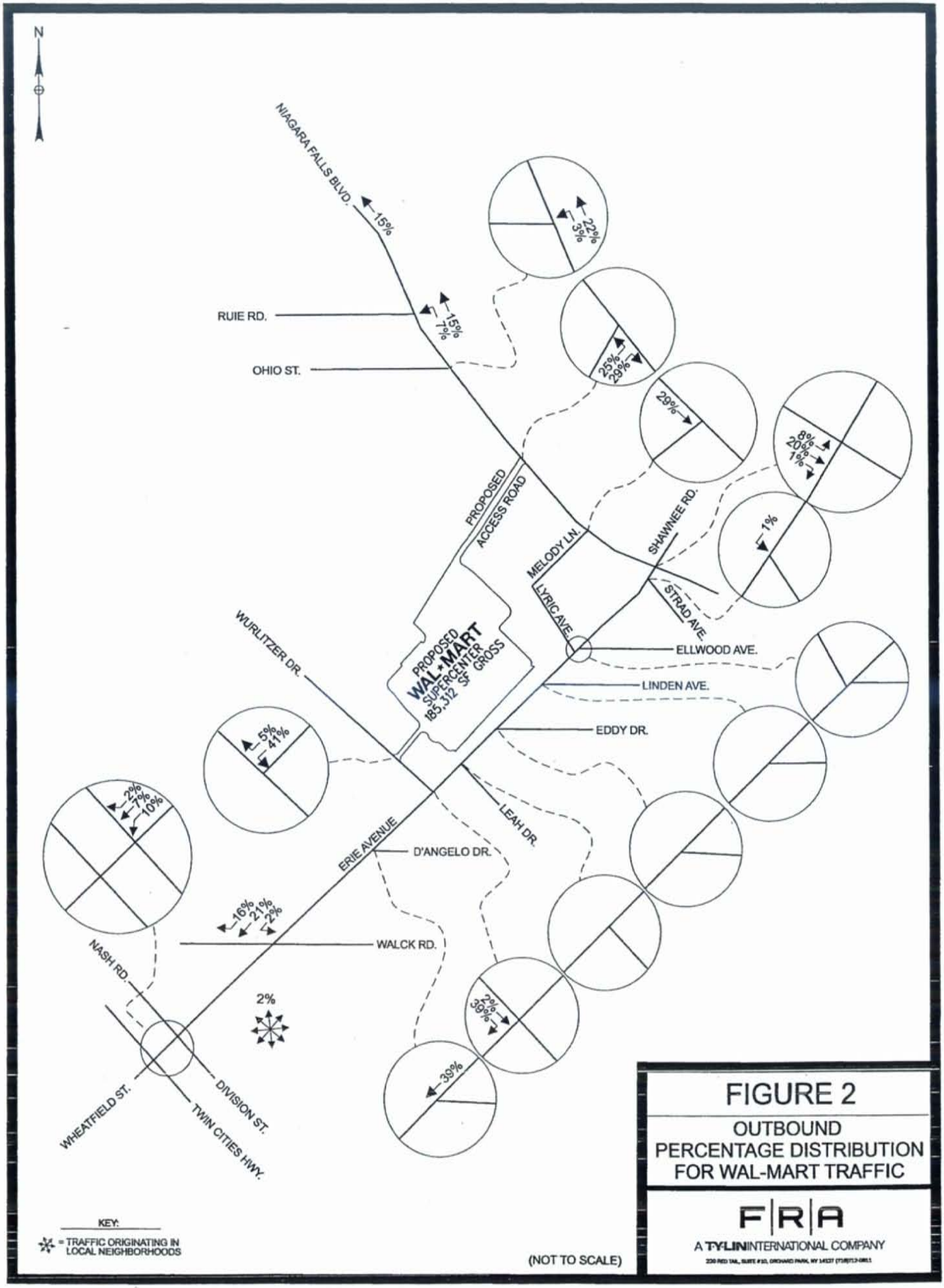
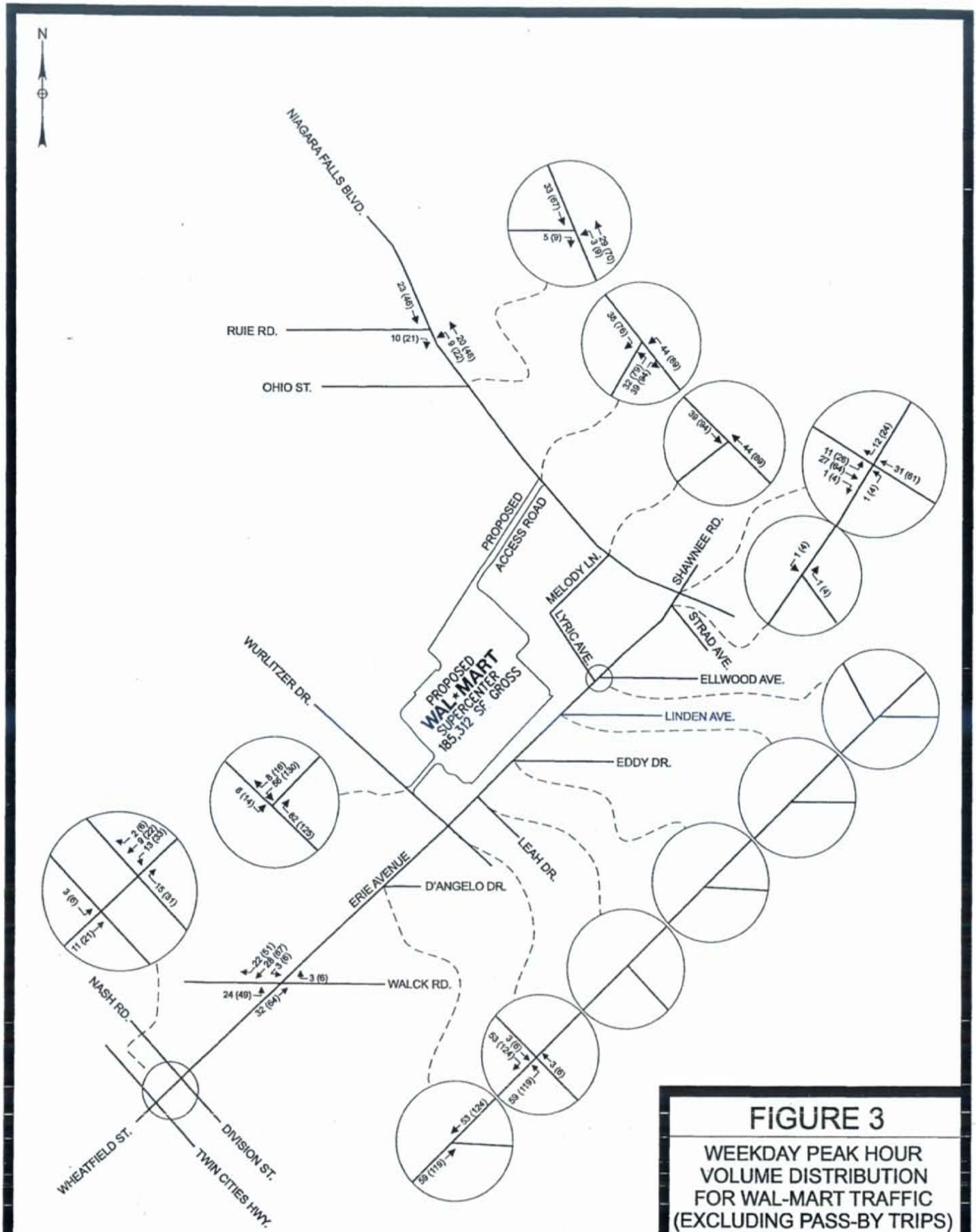


FIGURE 2

OUTBOUND PERCENTAGE DISTRIBUTION FOR WAL-MART TRAFFIC

F|R|A

A TYLIN INTERNATIONAL COMPANY



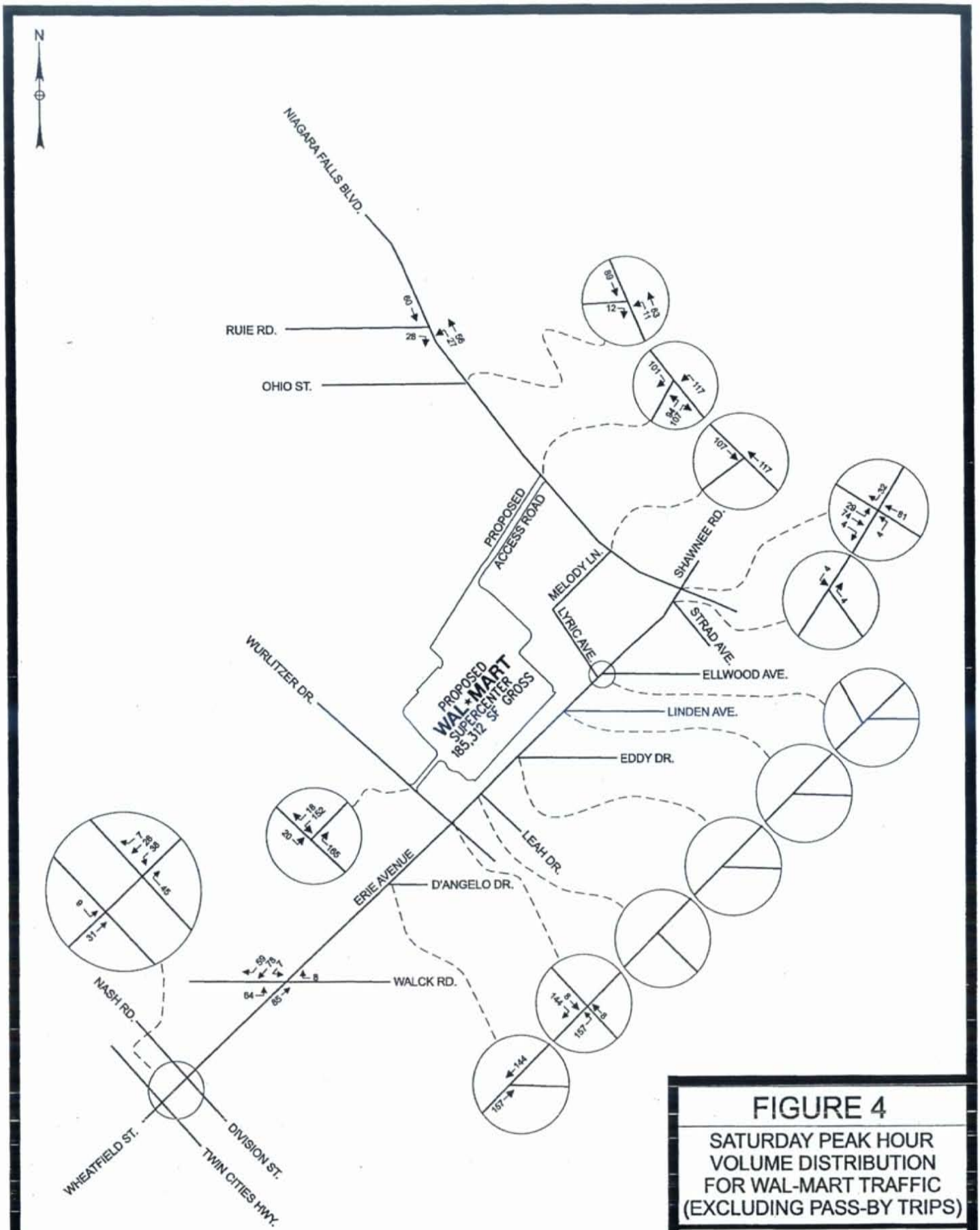
KEY:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

(NOT TO SCALE)

FIGURE 3

WEEKDAY PEAK HOUR VOLUME DISTRIBUTION FOR WAL-MART TRAFFIC (EXCLUDING PASS-BY TRIPS)

F|R|A
A TYLIN INTERNATIONAL COMPANY
220 RED TAIL, SUITE #10, ORCHARD PARK, NY 14127 (716)713-0811

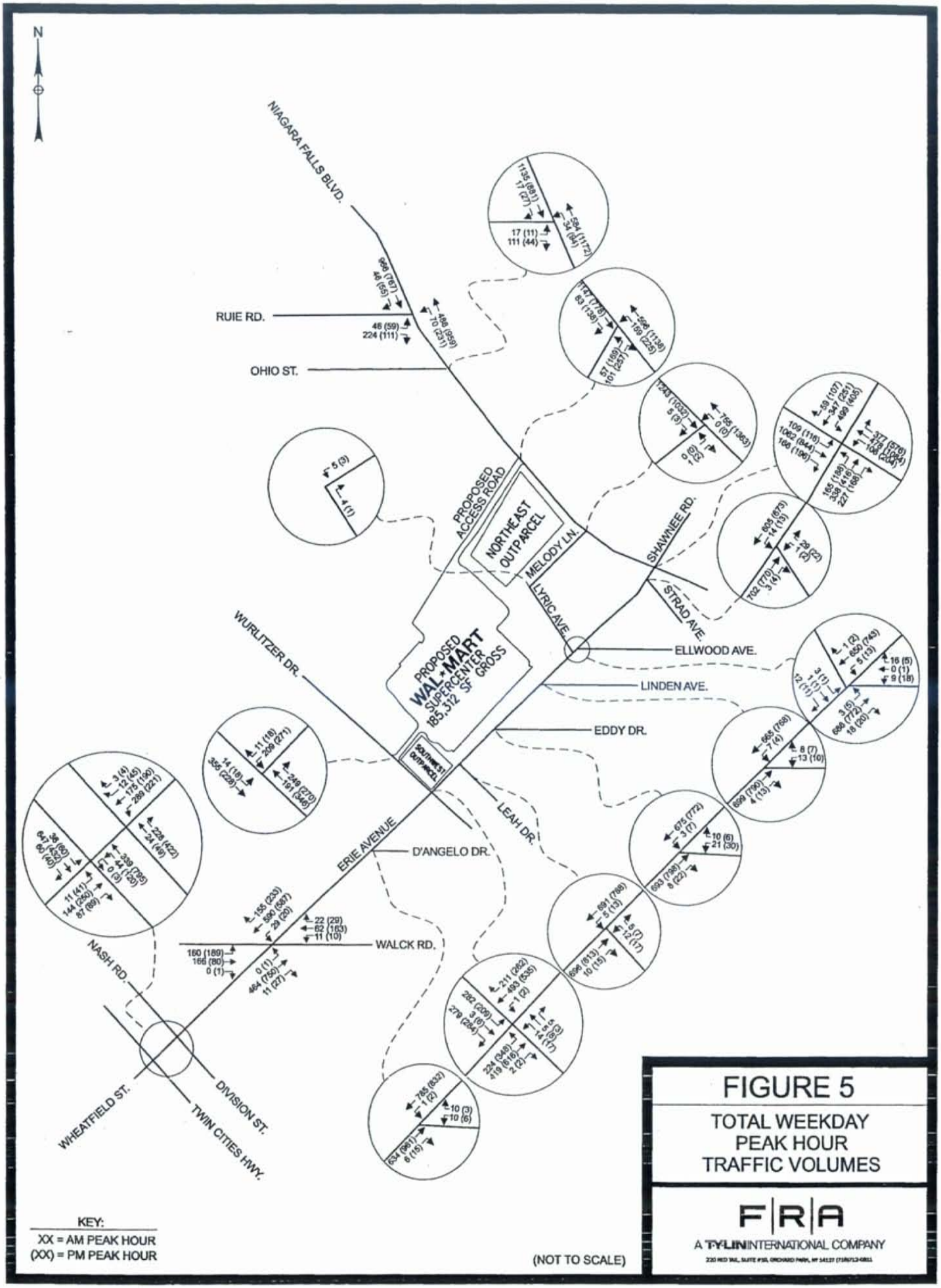


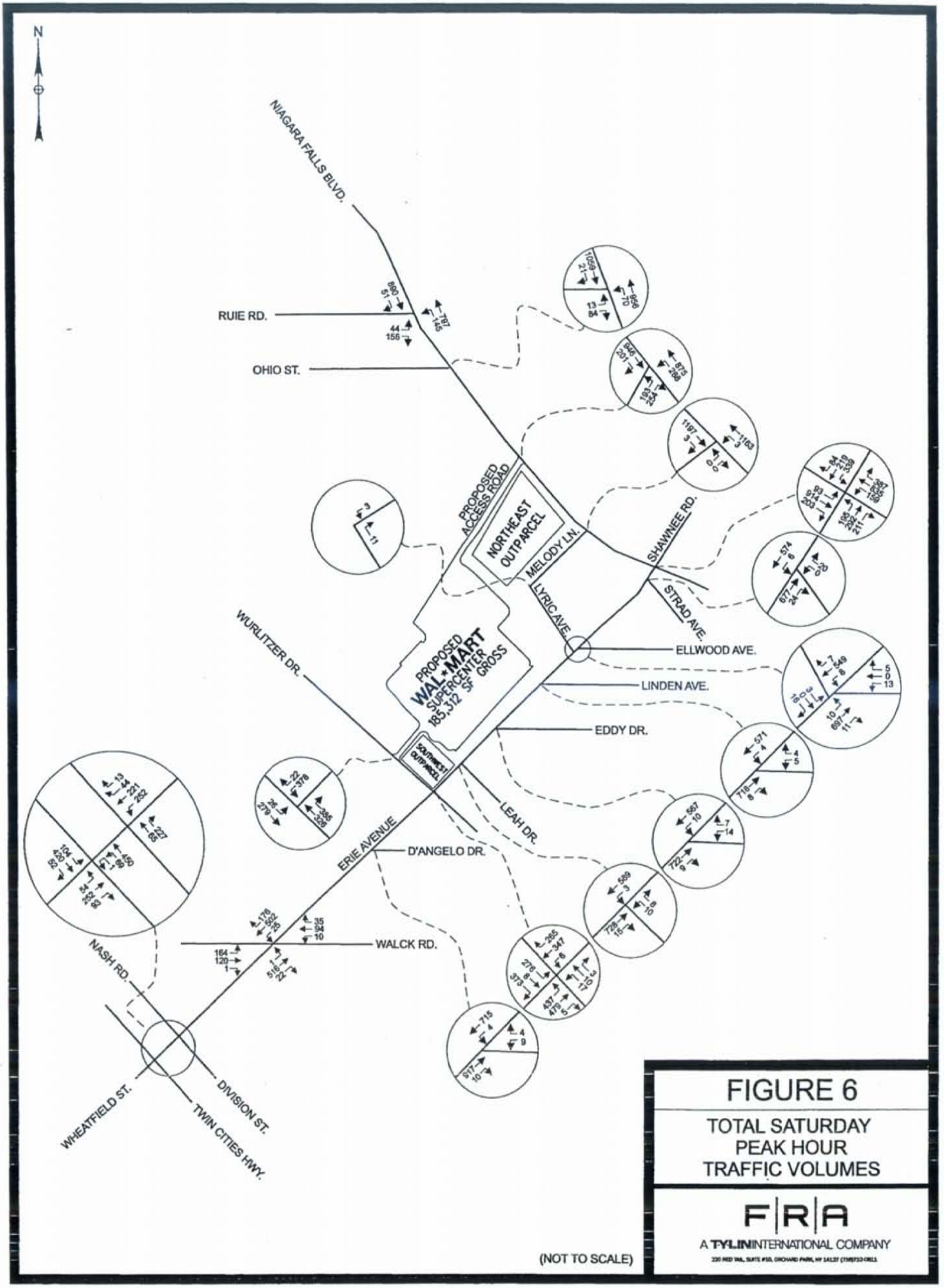
(NOT TO SCALE)

FIGURE 4

SATURDAY PEAK HOUR VOLUME DISTRIBUTION FOR WAL-MART TRAFFIC (EXCLUDING PASS-BY TRIPS)

F|R|A
A TYLIN INTERNATIONAL COMPANY
220 RED TAIL, SUITE #10, BROWARD PARK, NY 14127 (716)713-0015


N
NIAGARA FALLS BLVD.
RUIE RD.
OHIO ST.
PROPOSED ACCESS ROAD
NORTHEAST OUTPARCEL
SOUTHWEST OUTPARCEL
PROPOSED WAL*MART SUPERCENTER 185,312 SF GROSS
MELODY LN.
LYRIC AVE.
SHAWNEE RD.
STRAD AVE.
ELLWOOD AVE.
LINDEN AVE.
EDDY DR.
LEAH DR.
WURLITZER DR.
ERIE AVENUE
D'ANGELO DR.
WALCK RD.
NASH RD.
WHEATFIELD ST.
DIVISION ST.
TWIN CITIES HWY.
KEY:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
(NOT TO SCALE)
FIGURE 5
TOTAL WEEKDAY PEAK HOUR TRAFFIC VOLUMES
F|R|A
A TY LIN INTERNATIONAL COMPANY


N
NIAGARA FALLS BLVD.
RUIE RD.
OHIO ST.
PROPOSED ACCESS ROAD
NORTHEAST OUTPARCEL
MELODY LN.
LYRIC AVE.
SHAWNEE RD.
STRAD AVE.
ELLWOOD AVE.
LINDEN AVE.
EDDY DR.
LEAH DR.
D'ANGELO DR.
ERIE AVENUE
WURLITZER DR.
PROPOSED WAL*MART SUPERCENTER 185,312 SF GROSS
SOUTHWEST OUTPARCEL
WALCK RD.
NASH RD.
WHEATFIELD ST.
DIVISION ST.
TWIN CITIES HWY.
(NOT TO SCALE)
FIGURE 6
TOTAL SATURDAY PEAK HOUR TRAFFIC VOLUMES
F|R|A
A TYLIN INTERNATIONAL COMPANY

APPENDIX B

LEVEL OF SERVICE TABLES

Assumptions

- No NB Left Turn Arrow on NFB at Ruie Road
- No Split phasing at NFB/Erie/Shawnee
- Exclusive Left In & exclusive Right In at Wurlitzer/Blue Bird (plus one EB & one WB through lane)
- EB Wurlitzer config. of (1) LT & (1) R at Erie Avenue with RTO phase
- Wurlitzer Drive Extension config of (1) LTR at Erie Avenue
- Some traffic shifted from side streets to Wurlitzer Dr Ext
- Signals on NFB at Erie/Shawnee and Site Driveway coordinated together
- All Way Stop Control at Wurlitzer & Blue Bird
- Two Outbound Lanes on Blue Bird to Wurlitzer
- NB Right Turn lane on Erie Avenue at NFB has storage length of 75 feet

Niagara Falls Boulevard at Ruie Road

Approach	AM Peak	PM Peak	SAT Peak
Ruie Road			
Eastbound			
Left + Right Turns	C (29)	C (30)	C (31)
Niagara Falls Boulevard			
Northbound			
Left Turns	B (14)	C (22)	B (18)
Throughs	A (7)	A (7)	A (6)
Southbound			
Through + Right Turns	A (9)	A (6)	A (7)
Intersection Overall	**B (12)**	**B (10)**	**B (10)**

Niagara Falls Boulevard at Wal-Mart Driveway

Approach	AM Peak	PM Peak	SAT Peak
Wal-Mart Driveway			
Eastbound			
Left Turns	E (62)	E (62)	E (63)
Right Turns	B (17)	B (10)	A (10)
Niagara Falls Boulevard			
Northbound			
Left Turns	B (14)	A (10)	C (28)
Throughs	A (1)	A (2)	A (8)
Southbound			
Throughs	A (7)	B (10)	B (17)
Right Turns	A (1)	A (2)	A (3)
Intersection Overall	A (7)	A (10)	B (17)

Wurlitzer Drive at Wal-Mart Driveway

Approach	AM Peak	PM Peak	SAT Peak
Wurlitzer Drive			
Eastbound			
Left Turns	A (9)	A (9)	B (10)
Throughs	D (27)	C (17)	C (21)
Westbound			
Throughs	B (12)	C (23)	C (22)
Right Turns	B (11)	B (13)	C (22)
Wal-Mart Driveway			
Southbound			
Left Turns	C (16)	C (21)	E (45)
Right Turns	A (8)	A (8)	A (9)
Intersection Overall	**C (18)**	**C (18)**	**D (28)**

Erie Avenue at Wurlitzer Drive

Approach	AM Peak	PM Peak	SAT Peak
Wurlitzer Drive			
Eastbound			
Left Turns + Throughs	D (53)	D (55)	D (48)
Right Turns	A (8)	B (10)	A (7)
Westbound			
Left + Thru + Rights	B (18)	C (23)	B (19)
Erie Avenue			
Northbound			
Left Turns	C (21)	C (33)	C (23)
Through + Right Turns	B (12)	B (12)	B (13)
Southbound			
Left Turns + Through	C (26)	C (26)	C (29)
Right Turns	A (3)	A (3)	A (5)
Intersection Overall	**C (21)**	**C (21)**	**C (20)**

Niagara Falls Boulevard at Erie Avenue/Shawnee Road

Approach	AM Peak	PM Peak	SAT Peak
Niagara Falls Boulevard			
Eastbound			
Left Turns	C (23)	F (132)	C (32)
Throughs	F (89)	D (43)	D (37)
Right Turns	B (14)	B (18)	A (8)
Westbound			
Left Turns	F (104)	F (86)	E (60)
Throughs	D (37)	E (69)	D (35)
Right Turns	B (18)	C (21)	B (15)
Erie Avenue			
Northbound			
Left Turns	C (26)	C (24)	C (28)
Throughs	F (122)	F (102)	E (73)
Right Turns	D (37)	C (21)	C (28)
Shawnee Road			
Southbound			
Left Turns	F (132)	F (100)	E (68)
Throughs	D (40)	C (34)	D (41)
Right Turns	B (10)	A (6)	A (8)
Intersection Overall	**E (68)**	**E (57)**	**D (38)**

Niagara Falls Boulevard at Melody Lane

Approach	AM Peak	PM Peak	SAT Peak
Melody Lane			
Eastbound			
Left Turns	C (21)	C (16)	C (22)
Right Turns	B (12)	B (11)	B (11)
Niagara Falls Blvd.			
Northbound			
Left Turns	B (12)	B (10)	B (12)

Erie Avenue at Martinsville Neighborhood side streets

Approach	AM Peak	PM Peak	SAT Peak
Strad Avenue			
Westbound			
Left + Right Turns	C (20)	C (19)	C (16)
Lyric Avenue			
Eastbound			
Left + Thru + Right	D (34)	D (26)	C (19)
Ellwood Avenue			
Westbound			
Left + Thru + Right	C (24)	F (127)	F (50)
Linden Avenue			
Westbound			
Left + Right Turns	F (51)	F (57)	D (28)
Eddy Drive			
Westbound			
Left + Right Turns	F (61)	F (108)	E (38)
Leah Drive			
Westbound			
Left + Right Turns	E (47)	F (65)	D (27)
D'Angelo Drive			
Westbound			
Left + Right Turns	E (43)	F (116)	E (47)

Niagara Falls Boulevard at Ohio Street

Approach	AM Peak	PM Peak	SAT Peak
Ohio Street			
Eastbound			
Left + Right Turns	B (13)	B (13)	B (14)
Niagara Falls Blvd.			
Northbound			
Left Turns	B (11)	B (10)	B (11)

Erie Avenue at Walck Road

Approach	AM Peak	PM Peak	SAT Peak
Walck Road			
Eastbound			
Left + Thru + Right	E (70)	F (92)	D (41)
Westbound			
Left + Thru + Right	B (13)	B (19)	B (15)
Erie Avenue			
Northbound			
Left Turns	A (7)	A (7)	A (7)
Through + Right Turns	B (13)	C (28)	B (13)
Southbound			
Left Turns	A (8)	B (13)	A (8)
Through + Right Turns	C (35)	C (35)	B (18)
Intersection Overall	**C (35)**	**D (39)**	**B (20)**

Twin Cities Highway & Division Street at Erie Avenue & Wheatfield Street

Approach	AM Peak	PM Peak	SAT Peak
Wheatfield Street			
Eastbound			
Left Turns	D (44)	D (48)	E (56)
Through + Right Turns	D (54)	E (63)	E (78)
Erie Avenue			
Westbound			
Left Turns	F (348)	F (405)	F (938)
Through + Right Turns	D (51)	D (53)	E (57)
Division Street / Twin Cities Highway			
Northbound			
Left Turns	E (71)	F (115)	E (79)
Through + Right Turns	C (23)	C (31)	C (26)
Twin Cities Highway			
Southbound			
Left Turns	D (51)	D (53)	E (56)
Throughs	C (22)	B (20)	B (20)
Right Turns	A (4)	A (5)	A (4)
Intersection Overall	**E (76)**	**E (69)**	**F (139)**

APPENDIX C

CORRESPONDENCE

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
125 MAIN STREET
BUFFALO, NY 14203
WWW.NYSDOT.GOV

ALAN E. TAYLOR, P.E.
REGIONAL DIRECTOR

ASTRID C. GLYNN
COMMISSIONER

RECEIVED
JAN 16 2008

January 9, 2008

Thomas Jaccarino, City Clerk
City of North Tonawanda
216 Payne Avenue
North Tonawanda, New York 14120

RE: SEQR/SITE PLAN REVIEW
Wal-Mart Supercenter
Niagara Falls Boulevard/ Erie Avenue
City of North Tonawanda

Dear Mr. Jaccarino:

This is in response to information regarding the subject project that was submitted by FRA Engineering to this office for review. We reviewed the submissions relative to elements involving the State Highway System and have the following comments:

Traffic Impact Study included in the Draft Environmental Impact Statement

- The table included in the study summarizing the capacity analysis for the intersection of Niagara Falls Boulevard and Ruie Road shows some movements will have a drop in Level of Service (LOS). The study states that "reductions could theoretically be mitigated by adding a green left turn arrow" but that it is not warranted based on projected left turn volumes. This alternative should be analyzed along with any other improvements that may eliminate the LOS drops at this intersection.

- We were advised that CSX will not allow a crossing necessary for Wal-Mart to have access on Erie Avenue. Without the Erie Avenue access, projected traffic at the intersections along Niagara Falls Boulevard will change except at Ruie Road. Therefore, the conclusions of the study in the DEIS are not valid for the affected intersections.

Supplemental Traffic Analysis for Proposed Wal-Mart Project (No CSX/Erie Ave. entrance driveway)

- At the intersection of Niagara Falls Boulevard and the proposed Access Road, we concur with the recommendation in the study to install a traffic signal, converting the two-way center turn lane on Niagara Falls Boulevard into an exclusive northbound left turn lane and constructing an exclusive southbound right turn lane on Niagara Falls Boulevard.

- This Supplemental Traffic Analysis recommends coordinating the proposed signal on Niagara Falls Boulevard at the Proposed Access Road with the existing signals at Ruie Road and at Erie Avenue/Shawnee Road. However, this supplemental did not include a LOS analysis or summary associated with the proposal to coordinate the signals.

- The supplemental states that there are LOS drops at the intersection of Niagara Falls Boulevard with Shawnee Road and Erie Avenue. It also states that geometric improvements are not practical due to Right-of-Way constraints, close proximity of the CSX Railroad and Sawyer Creek. While we agree that geometric improvements are not practical, the analysis does not explore other alternatives in an attempt to improve the LOS. For example, an option to consider is converting the through lane on Erie Avenue and/or Shawnee Road into a shared through/left lane and split the signal phasing.

- We identified some errors for values entered in the Synchro capacity model. The eastbound Niagara Falls Boulevard left turn storage length is 70 feet not 125, the northbound Erie Avenue right turn storage length is 75 feet not 0 and the southbound Shawnee Road right turn lane storage length is 100 feet not 200.

Supplemental Traffic Analysis for Proposed Wal-Mart Project , Niagara Falls Blvd Entrance Only access

- We concur with this supplemental's statements that providing dual left turn lanes on Erie Avenue at Niagara Falls Boulevard would improve the left turn lane delay and understand that it would not be practical to construct due to constraints at this intersection. However, without the dual left turn lanes, the analysis shows an excessive queue length during the Saturday peak hour that would be greater than 300 feet for vehicles turning left from Erie Avenue.

  The Synchro analysis shows that the queue length for vehicles turning left from Niagara Falls Boulevard to the Proposed Access Driveway would be in excess of 500 feet. Dual left turn lanes would be required on Niagara Falls Boulevard to mitigate this impact. Due to Right-of-Way constraints, this mitigation does not appear to be practical either.

  We do not support this option to have only one access to Wal-Mart since it does not appear feasible to mitigate the traffic impacts.

A NYSDOT Highway Work Permit will be required for any work within the State Highway Right-of-Way. Additional site engineering review will be done as part of the Highway Work Permit process. This letter does not constitute approval for the purposes of a Highway Work Permit.

If you have any questions or comments, please contact me at 847-3575.

Very truly yours,

Original Signed by
E. S. Rutkowski

EDWARD S. RUTKOWSKI, P.E.
SEQR/Site Plan Review Coordinator

ESR/HAL/lk

cc: Wendel Duchscherer
FRA Engineering

WENDEL DUCHSCHERER
ARCHITECTS & ENGINEERS
140 John James Audubon Parkway, Suite 201, Amherst, New York 14228
P 716.688.0766 F 716.625.6825

MEMORANDUM

TO: **Timothy C. Gawenus, PE, FRA Engineering**

CC: **Marc A. Romanowski, Esq., Harter, Secrest & Emery LLP**

FROM: **Frederick A. Frank**

DATE: **January 23, 2008**

SUBJECT: **Wal-Mart Supercenter Traffic Impact Study Amendment**

DRAFT

Wendel Duchscherer Architects & Engineers (WD) met with Dale Marshall, the City of North Tonawanda Engineer, and Gary Franklin, City of North Tonawanda Highway Superintendent, on January 18, 2008 regarding the traffic impact study (TIS) for the proposed Wal-Mart Supercenter. At that meeting, Mr. Marshall and Mr. Franklin outlined their outstanding traffic concerns of the project and requested that FRA Engineering revise the TIS to address the following items.

Site Access

The City would like the Bluebird Drive access to be a full access with Wurlitzer Drive, siting that the low traffic volume predicted for westbound Wurlitzer Drive does not warrant the unusual geometry of a right-in, left-out access, and would put further undo traffic volumes onto non-collector streets such as Ohio Street. This access would include:

- Restriping of the Bluebird Drive access to include two outbound lanes – a right turn lane and a left turn lane, and one inbound lane;
- Restriping of westbound Wurlitzer Drive to include a thru lane and a right turn lane into the Bluebird Drive access; and,
- Restriping of eastbound Wurlitzer Drive to include a thru lane and a left turn lane into the Bluebird Drive access.

There is approximately 40 feet of pavement on Wurlitzer Drive and 30 feet of pavement on Bluebird Drive that the City indicated should be sufficient to handle said restripings without pavement widening.

In addition to the intersection configuration, the City would like FRA to conduct a LOS analysis **without** a stop control on Wurlitzer Drive and only a stop control on the outbound Bluebird Drive access. The City does not want to worsen the LOS on Wurlitzer Drive.

Wurlitzer Drive/ Erie Avenue

The City would like FRA to provide a diagram of the Wurlitzer Drive/ Erie Avenue intersection showing the following:

- The extension of Wurlitzer Drive, to consist of a 4-legged intersection, with one westbound lane and one eastbound lane;
- The existing right turn lane on southbound Erie Avenue to Wurlitzer Drive should be lengthened to accommodate the additional traffic queues and for the anticipated railroad pre-emption **(This has already been addressed in the FEIS,**

DRAFT

which states that the current right turn lane for the southbound Erie Avenue approach to Wurlitzer Drive is a 110 foot storage lane with a 110 foot bay taper. Based on the latest Synchro analysis, the 95% queue length for the PM peak hour traffic is 57 feet, therefore, no additional widening is proposed.);

- The existing left turn lane on northbound Erie Avenue to Wurlitzer Drive should be lengthened to accommodate the additional traffic queues and anticipated train pre-emption. In addition, this turn lane will require a dedicated left turn arrow. **(This has already been addressed in the FEIS, which states that Wal-Mart is proposing an exclusive left turn phase for the traffic signal. Based on the Synchro analysis, the 95% queue length for the left turn approach in the critical peak hour (PM Peak) is 360 feet. The current left turn storage is 270 feet, therefore, the left turn lane will be extended 90 feet to accommodate the 95% queue.)**;
- Restriping of eastbound Wurlitzer Drive to include a shared left and thru lane and a right turn lane onto southbound Erie Avenue, with a right turn arrow phase; and,
- Revised LOS analysis for the Erie Avenue/ Wurlitzer Drive intersection.

General

In addition to the above items, the City has requested the following of FRA:

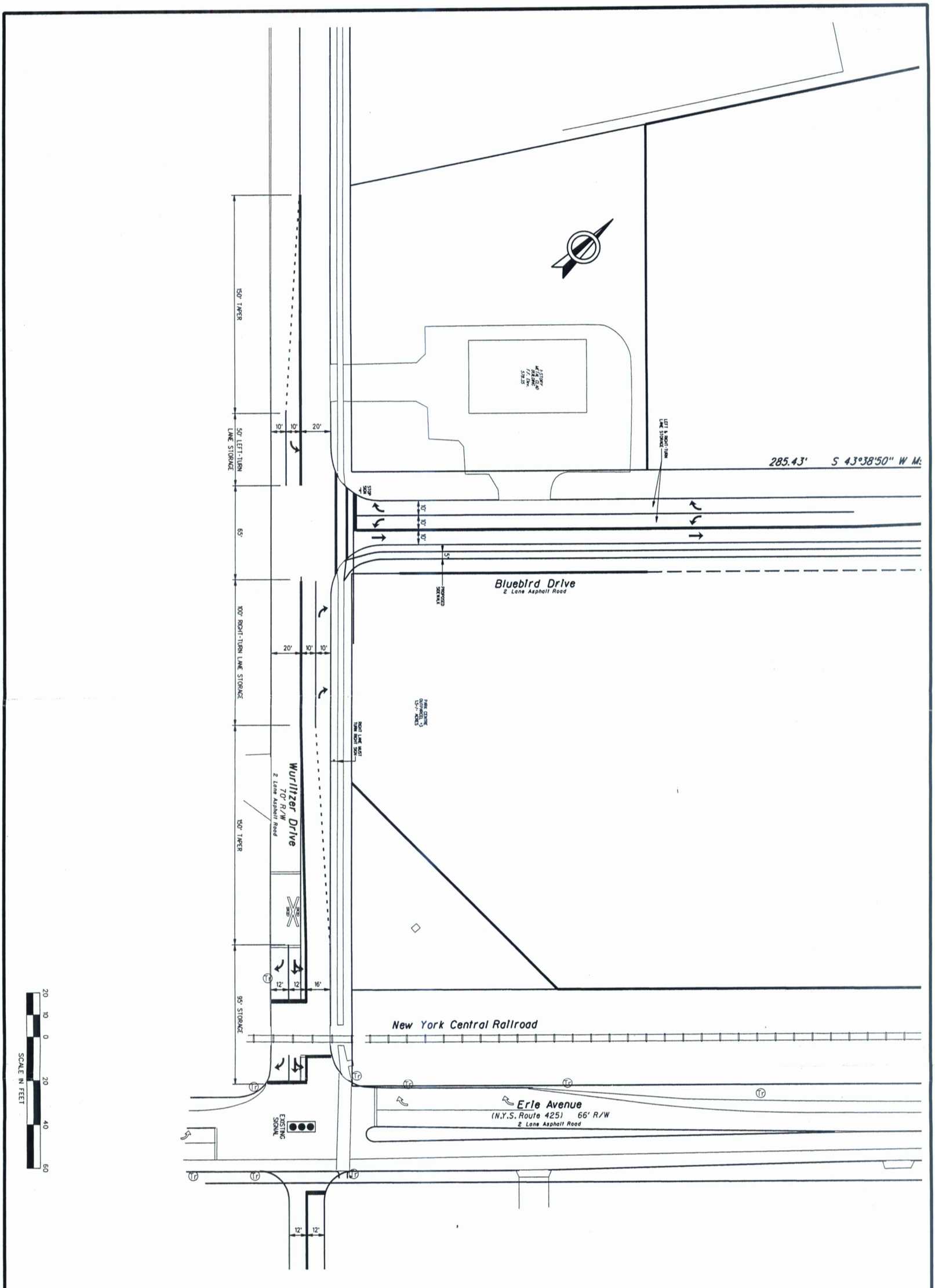
- With the reconfiguration of the intersections, as requested by the City, FRA should show a revised traffic distribution;
- Address why there is a 220 second delay proposed for the outbound Bluebird Drive access to Wurlitzer Drive during the Saturday PM peak under the scenario of no stop controls on Wurlitzer Drive and no westbound right turn lane on Wurlitzer Drive; and,
- Provide WD with the Synchro files.

The City is insistent that Wal-Mart carry on with their plans to build the extension of Wurlitzer Drive, as proposed under previous scenarios.

It would be desirable that FRA complete the revisions requested by the City simultaneously with the revisions required by NYSDOT so that one final TIS amendment can be incorporated into the FEIS. Please contact me if you have any questions.

APPENDIX D

WURLITZER/BLUEBIRD DETAIL



SHEET NO.	1 of 1
DRAWING NO.	RP-2
SCALE:	1"=30'
CHKD. BY:	TCG
DATE:	1/31/08
DRWN. BY:	NEB
PROJECT NO.	06-4159
PROJ. MGR.	TCG

DRAWING TITLE:
ROADWAY PLAN - 2

PROJECT NAME:
WAL-MART SUPERCENTER #4597-00
NIAGARA FALLS BOULEVARD & ERIE AVENUE NORTH TONAWANDA, NY

CLIENT:
WAL-MART STORES, INC.
2001 S.E. 10th STREET, BENTONVILLE, ARKANSAS 72716-0550

F|R|A
Planning | Designing | Building
530 SUMMIT POINT DR. HENRIETTA, NY 14467 (585)359-0280

DATE

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209

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REVISIONS