

EVA STREET

RESIDENTIAL DEVELOPMENT

DORCHESTER, ON

TRAFFIC IMPACT BRIEF

Prepared by:



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Consulting Engineers

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EVA STREET RESIDENTIAL DEVELOPMENT, DORCHESTER, ON
TRAFFIC IMPACT BRIEF (NOVEMBER 2022)

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INTRODUCTION AND BACKGROUND

D. Charabin Holdings has initiated plans to construct a townhome development on the west side of Clara Street, accessed by extensions of Eva Street and Ida Street, in the north end of Dorchester, Ontario. The area plan is illustrated on Figure 1. Ida Street and Eva Street are local residential streets that begin at Clara Street and end as cul-de-sacs at the west. Clara Street is a local residential street that connects Marion Street at the north to Minnie Street at the south.

The proposed site plan is illustrated on Figure 2 and consists of 71 townhome units. To facilitate access to and from the development, the proposed north / south Private Road A will join the extensions of Ida Street and Eva Street, with proposed Private Road B providing internal connection from Ida Street to Private Road A.

The purpose of this traffic impact brief is to examine the proposed development's effect on area traffic operations, particularly on Clara Street.

TRAFFIC DATA COLLECTION

As provided in Appendix A, turning movement counts were obtained by Pyramid Traffic Inc. on 2 November 2022 for the intersections of Ida Street and Eva Street at Clara Street.

METHODOLOGY

The collected turning movements counts provided the basis for industry-standard traffic operations analysis; the software package utilized for the analysis (Synchro 11) calculates various parameters of intersection performance, such as level of service (LOS), intersection capacity utilization (ICU), control delay, and queue lengths on individual approaches.

Unsignalized level of service results are reported based on the Highway Capacity Manual (6th Ed.):

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

TRIP GENERATION AND DISTRIBUTION

A review of trips generated by the proposed development was undertaken in accordance with the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). ITE Land Use Code 215, Single Family Attached Housing is the most appropriate code for the proposed land use. As detailed in Appendix B, this land use code provides average trip generation rates of 0.48 trips per unit in the AM peak hour, with 31% entering and 69% exiting, and 0.57 trips per unit in the PM peak hour, with 57% entering and 43% exiting. Applying these rates to the development results in a total of 34 trips (11 entering and 23 exiting) in the AM peak hour and a total of 40 trips (23 entering and 17 exiting) in the PM peak hour. Site generated traffic was distributed to and from the proposed residential development based on the proximity of the lots to the Eva Street and Ida Street extensions (based on the “path of least resistance”). Furthermore, the traffic was distributed to and from Clara Street based on current directional splits at each subject intersection, as observed from the collected turning movement counts.

CAPACITY AND LEVEL OF SERVICE ANALYSIS

Figure 3 illustrates the site generated, existing, and existing + site generated traffic for the respective AM and PM peak hours. Detailed Synchro 11 analysis was carried out with respect to the “Existing Traffic” and “Existing + Site Generated Traffic” scenarios. The resulting Synchro 11 simulation reports are provided in Appendix C. The intersection’s levels of service results are summarized in the following sections:

Ida Street at Clara Street

The tee intersection of Ida Street at Clara Street is currently stop-controlled on the eastbound approach. Ida Street is currently a cul-de-sac with 10 single-family dwellings; it is to be extended to accommodate the proposed residential development. Both Ida Street and Clara Street are two-lane roadways with no dedicated turning lanes. The results of the analyses indicate that, with the addition of site generated traffic, the intersection will perform satisfactorily in both AM and PM peak hours. Based on these observations, it is the engineers’ opinion that the proposed development will have a nominal impact on area traffic operations.

Table 1: Level of Service by Approach – Ida Street at Clara Street

Scenario	Ida Street at Clara Street							
	AM Peak Hour				PM Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	A	-	A	A	A	-	A	A
Existing + Site Generated Traffic	A	-	A	A	A	-	A	A

Eva Street at Clara Street

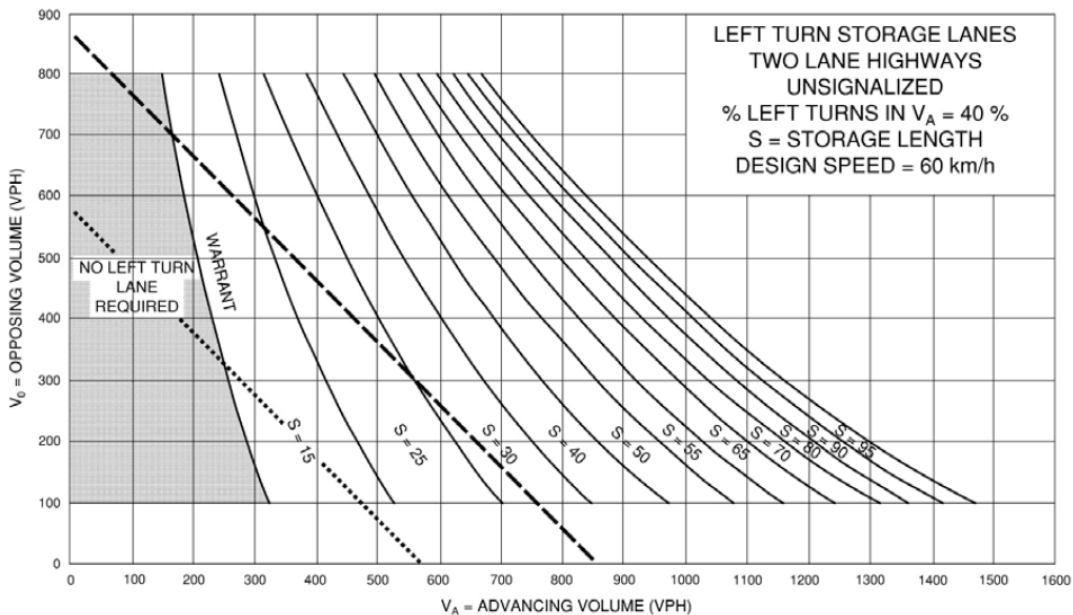
The tee intersection of Eva Street at Clara Street is currently stop-controlled on the eastbound approach. Eva Street is currently a cul-de-sac with 22 single-family dwellings; it is to be extended to accommodate the proposed residential development. Both Eva Street and Clara Street are two-lane roadways with no dedicated turning lanes. The results of the analyses indicate that the intersection will perform satisfactorily in both AM and PM peak hours with the addition of site generated traffic. Based on these observations, it is the engineers’ opinion that the proposed development will have a nominal impact on area traffic operations.

Table 2: Level of Service by Approach – Eva Street at Clara Street

Scenario	Eva Street at Clara Street							
	AM Peak Hour				PM Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	A	-	A	A	A	-	A	A
Existing + Site Generated Traffic	A	-	A	A	A	-	A	A

POTENTIAL GEOMETRIC IMPROVEMENTS

Although the traffic volumes are low, the below Exhibit 9A-7 from the MTO Supplement to the TAC Geometric Design Guide for Canadian Roads was referenced in evaluating the left turn lane warrant at the intersections of Ida Street and Eva Street at Clara Street. Assuming a design speed of 60 km/h on Clara Street, in both AM and PM peak hours, the advancing and opposing traffic volumes fall significantly below the warrant threshold for implementation of a dedicated northbound left turn lane; geometric improvements are not warranted.



SIGHT LINE ANALYSIS

The proposed site plan provides site access via extensions of Ida Street and Eva Street; accordingly, there are no sight lines to evaluate. Private Road A joins the extensions of Ida Street and Eva Street, and Private Road B is a private road within the proposed subdivision.

CONCLUSIONS AND RECOMMENDATIONS

D. Charabin Holdings has initiated plans to construct a townhome development on the west side of Clara Street, accessed by extensions of Eva Street and Ida Street, in the north end of Dorchester, ON. The proposed site plan consists of 71 townhome units. To facilitate site access, the proposed north / south Private Road A will join the extensions of Ida Street and Eva Street, with proposed Private Road B providing internal connection from Ida Street to Private Road A.

The Synchro analyses indicate that, even with the addition of site generated traffic, Clara Street will continue to operate very well; no geometric improvements are warranted within the study area. The proposed site accesses (extensions of Ida Street and Eva Street) are safe for egress; no undue hazard to traffic operations is expected at these locations. Therefore, it is the engineers' opinion that the proposed development will not adversely impact area traffic operations.

All of which is respectfully submitted,

RC Spencer Associates Inc.

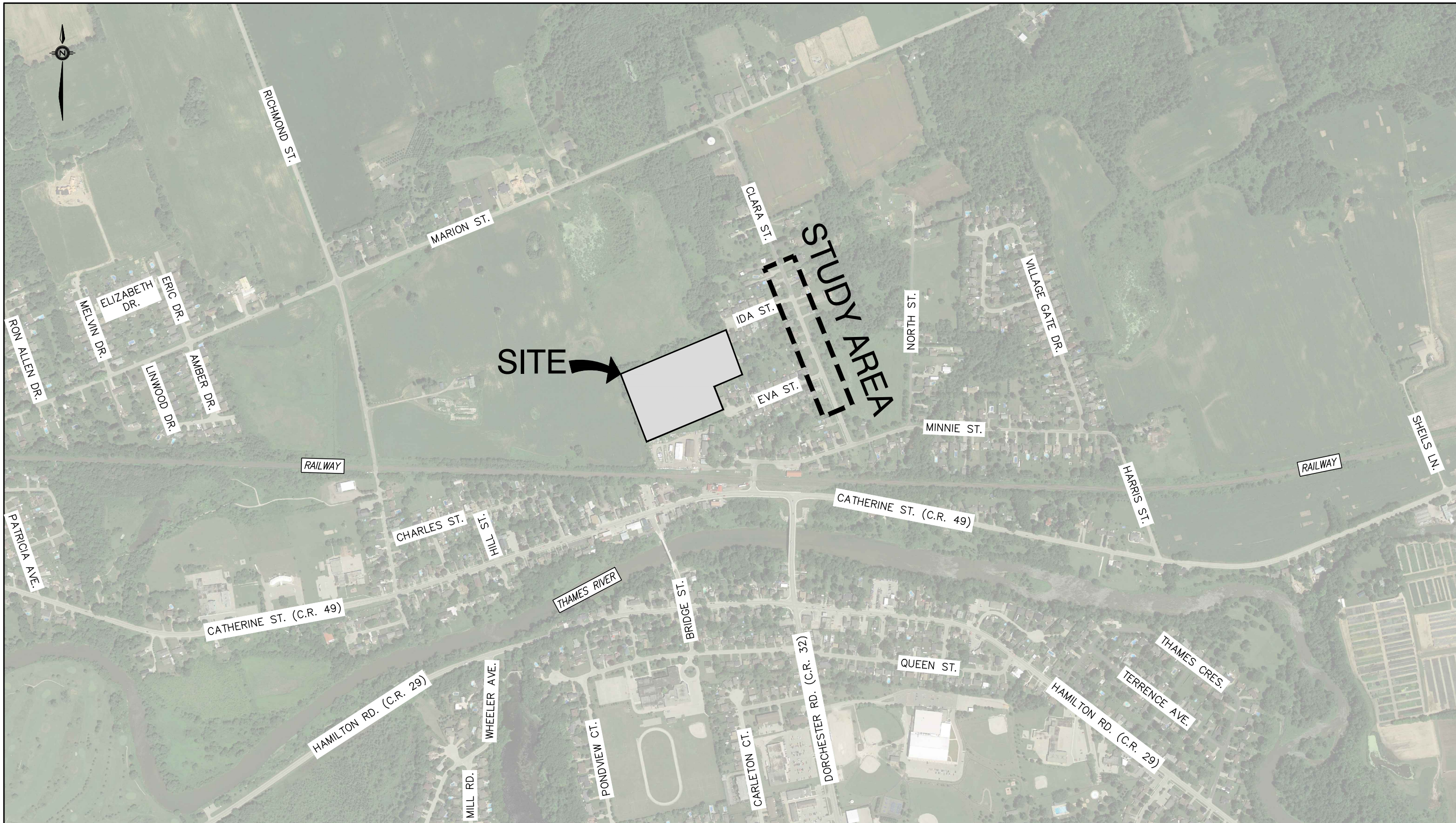


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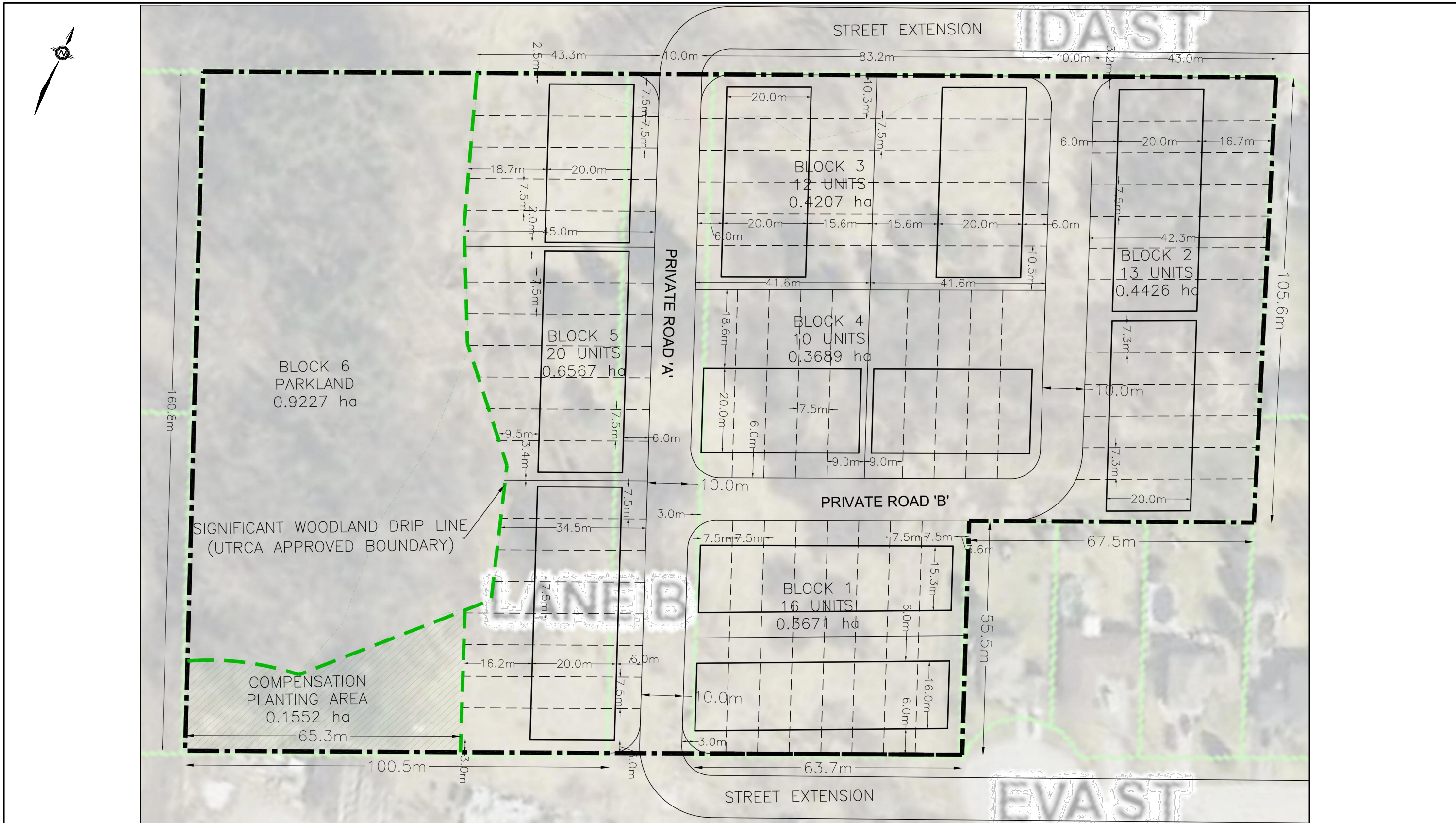
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						CHECKED A.D.B.					
		1. COMPLETED REPORT FIGURES		31 OCT 2022		A.L.D. A.D.B.					
NO.		REVISION		DATE		BY		APP		SCALE N.T.S.	



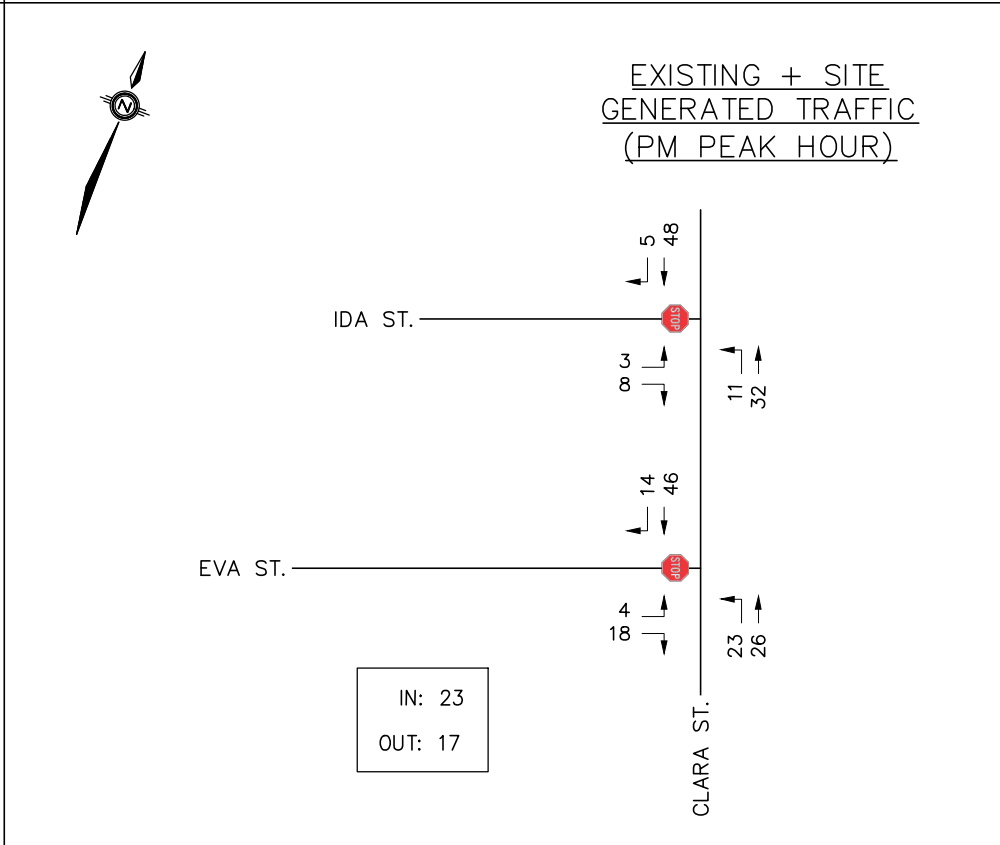
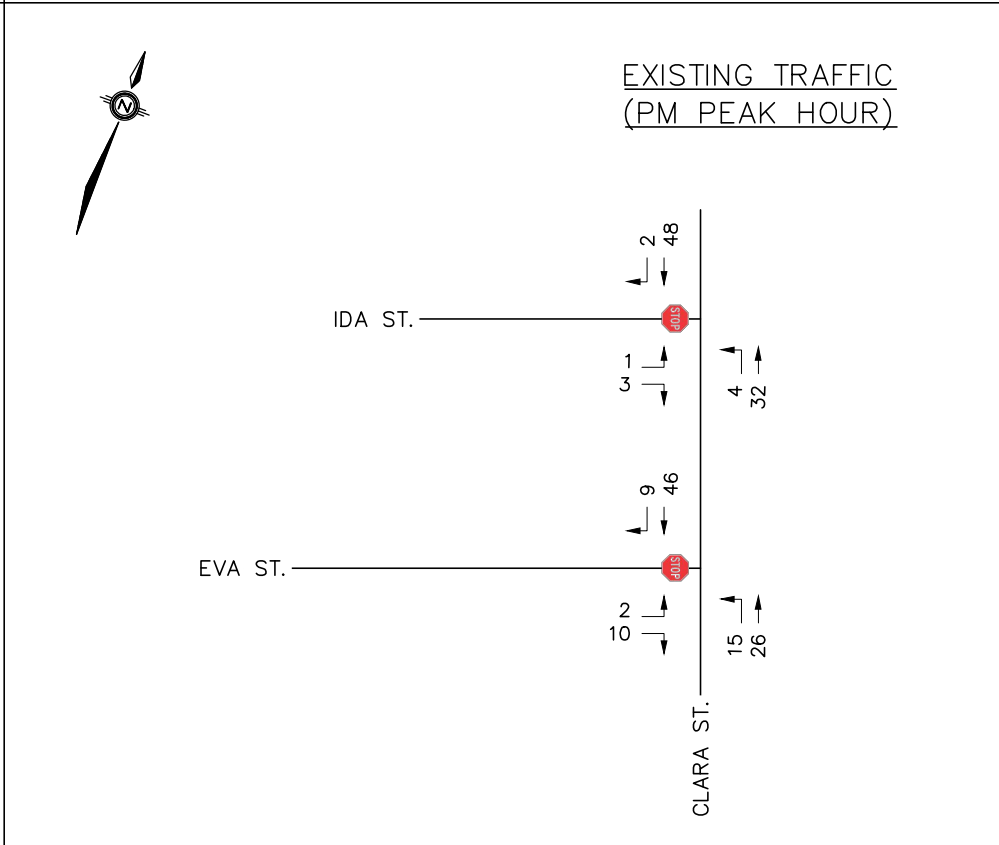
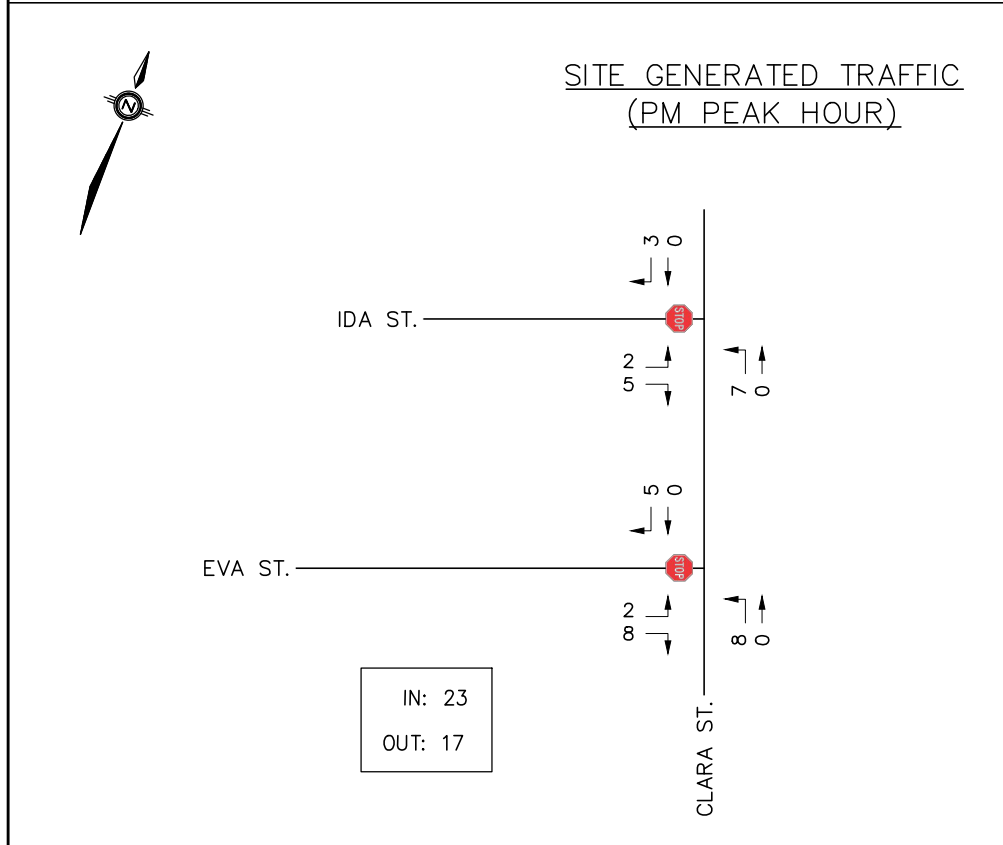
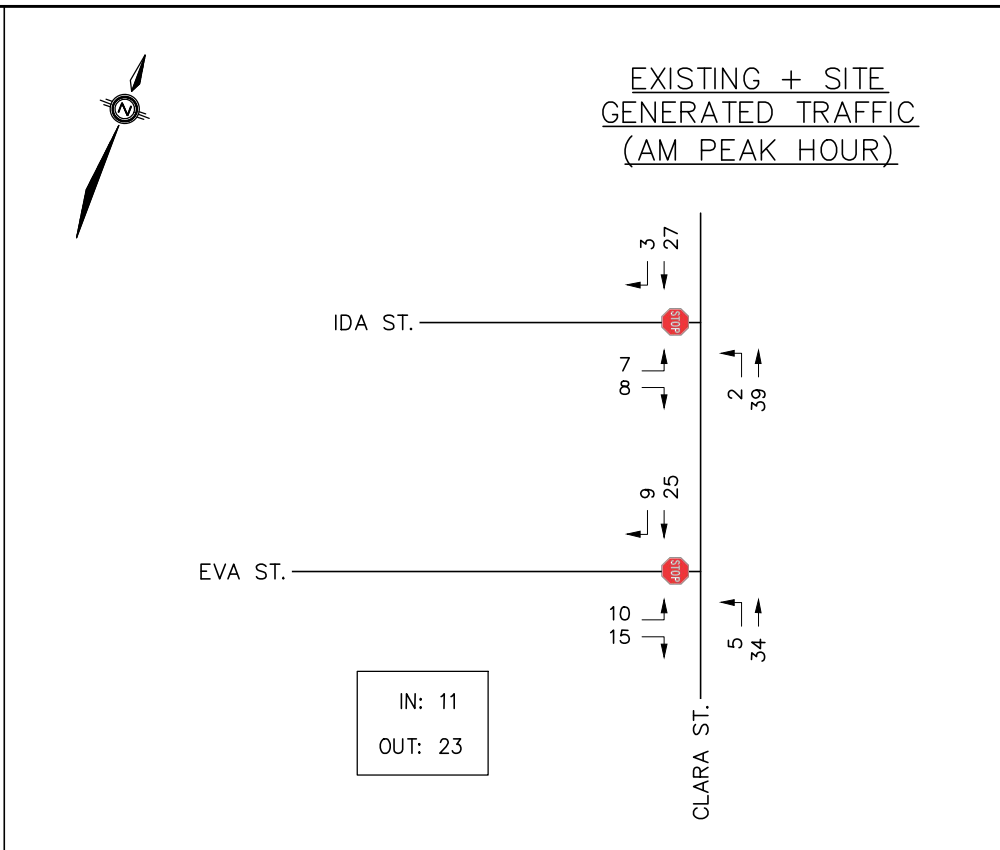
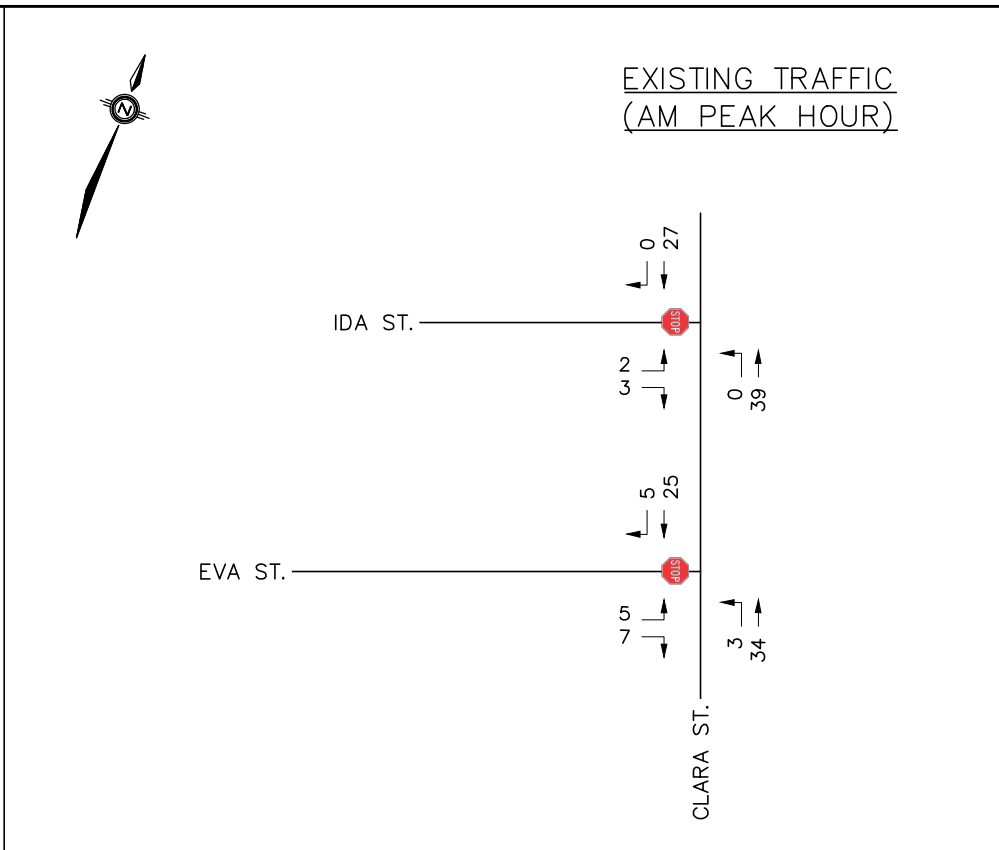
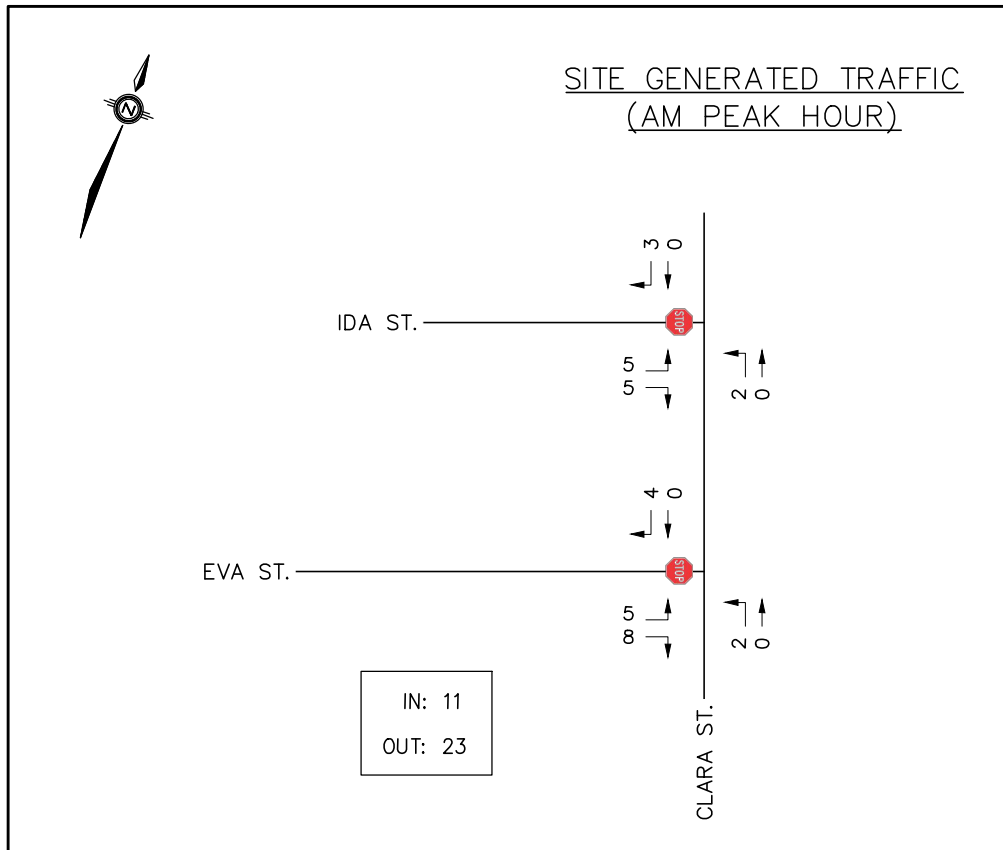
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		CHECKED	A.D.B.			FIGURE NO.	2										
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NO.	REVISION	DATE	BY	APP
1.	COMPLETED REPORT FIGURES	31 OCT 2022	A.L.D.	A.D.B.

DESIGN	A.D.B.
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DATE	OCT 2022
SCALE	N.T.S.

EVA ST. RESIDENTIAL, DORCHESTER – TIS

SITE TURNING MOVEMENT (AM/PM PEAK HOUR)

PROJECT NO. 22-1348
FIGURE NO. 3
OF 3

Appendix A

TRAFFIC DATA COLLECTION

Ida Street at Clara Street

Eva Street at Clara Street

Clara St @ Ida St

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:30:00

To: 8:30:00

Municipality: Dorchester
Site #: 000000001
Intersection: Clara St & Ida St
TFR File #: 1
Count date: 2-Nov-2022

Weather conditions:
Clear/Dry
Person(s) who counted:
Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 68
 North Entering: 27
 North Peds: 0
 Peds Cross: ∇

Heavys	0	2	2
Trucks	0	0	0
Cars	0	25	25
Totals	0	27	



Heavys	1
Trucks	0
Cars	40
Totals	41

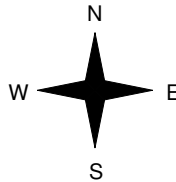
Heavys	Trucks	Cars	Totals
0	0	0	0



Clara St



Ida St



Heavys	Trucks	Cars	Totals
0	0	2	2
0	0	3	3
0	0	5	



Clara St

Peds Cross: ∇
 West Peds: 3
 West Entering: 5
 West Leg Total: 5

Cars	28
Trucks	0
Heavys	2
Totals	30



Cars	0	38	38
Trucks	0	0	0
Heavys	0	1	1
Totals	0	39	

Peds Cross: ∇
 South Peds: 0
 South Entering: 39
 South Leg Total: 69

Comments

Clara St @ Ida St

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Dorchester
Site #: 000000001
Intersection: Clara St & Ida St
TFR File #: 1
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 42
 North Entering: 20
 North Peds: 0
 Peds Cross: \bowtie

Heavys	0	0	0
Trucks	0	1	1
Cars	0	19	19
Totals	0	20	



Heavys	0
Trucks	1
Cars	21
Totals	22

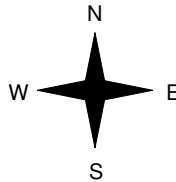
Heavys	Trucks	Cars	Totals
0	0	2	2



Clara St



Ida St



Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	2	2
0	0	2	



Clara St



Peds Cross: \bowtie
 West Peds: 0
 West Entering: 2
 West Leg Total: 4

Cars	21
Trucks	1
Heavys	0
Totals	22



Cars	2	21	23
Trucks	0	1	1
Heavys	0	0	0
Totals	2	22	

Peds Cross: \bowtie
 South Peds: 0
 South Entering: 24
 South Leg Total: 46

Comments

Clara St @ Ida St

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:00:00

To: 17:00:00

Municipality: Dorchester
Site #: 000000001
Intersection: Clara St & Ida St
TFR File #: 1
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 83
 North Entering: 50
 North Peds: 5
 Peds Cross: \bowtie

Heavys	0	0	0
Trucks	0	0	0
Cars	2	48	50
Totals	2	48	



Heavys	1
Trucks	0
Cars	32
Totals	33

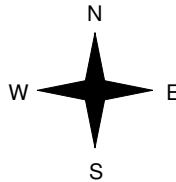
Heavys	Trucks	Cars	Totals
0	0	6	6



Clara St



Ida St



Heavys	Trucks	Cars	Totals
0	0	1	1
0	0	3	3
0	0	4	



Clara St



Peds Cross: \bowtie
 West Peds: 3
 West Entering: 4
 West Leg Total: 10

Cars	51
Trucks	0
Heavys	0
Totals	51



Cars	4	31	35
Trucks	0	0	0
Heavys	0	1	1
Totals	4	32	

Peds Cross: \bowtie
 South Peds: 0
 South Entering: 36
 South Leg Total: 87

Comments

Clara St @ Ida St

Total Count Diagram

Municipality: Dorchester
Site #: 000000001
Intersection: Clara St & Ida St
TFR File #: 1
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 400
 North Entering: 221
 North Peds: 8
 Peds Cross: \bowtie

Heavys	0	10	10
Trucks	1	4	5
Cars	9	197	206
Totals	10	211	221



Heavys	9
Trucks	2
Cars	168
Totals	179

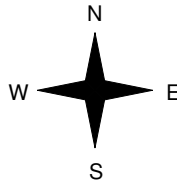
Heavys	0	Trucks	1	Cars	48	Totals	49
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Clara St



Ida St



Heavys	0	Trucks	0	Cars	6	Totals	6
0	1	21	22				
0	1	27					



Clara St

Peds Cross: \bowtie
 West Peds: 15
 West Entering: 28
 West Leg Total: 77

Cars	218
Trucks	5
Heavys	10
Totals	233



Cars	39	162	201
Trucks	0	2	2
Heavys	0	9	9
Totals	39	173	212

Peds Cross: \bowtie
 South Peds: 1
 South Entering: 212
 South Leg Total: 445

Comments

Clara St @ Eva St

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:30:00

To: 8:30:00

Municipality: Dorchester
Site #: 0000000002
Intersection: Clara St & Eva St
TFR File #: 2
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 69

North Entering: 30

North Peds: 0

Peds Cross: \times

Heavys	0	2	2
Trucks	0	0	0
Cars	5	23	28
Totals	5	25	28



Heavys	1
Trucks	0
Cars	38
Totals	39

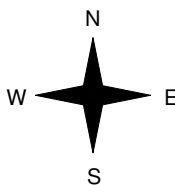
Heavys	Trucks	Cars	Totals
0	0	8	8



Clara St



Eva St



Heavys	Trucks	Cars	Totals
0	0	5	5
0	0	7	7
0	0	12	



Clara St



Peds Cross: \times

West Peds: 4

West Entering: 12

West Leg Total: 20

Cars	30	3	33	36
Trucks	0	0	0	0
Heavys	2	0	1	1
Totals	32	3	34	36



Peds Cross: \times

South Peds: 0

South Entering: 37

South Leg Total: 69

Comments

Clara St @ Eva St

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Dorchester
Site #: 0000000002
Intersection: Clara St & Eva St
TFR File #: 2
Count date: 2-Nov-2022

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Clara St runs N/S

North Leg Total: 46

North Entering: 22

North Peds: 0

Peds Cross: \times

Heavys	0	1	1	1
Trucks	1	0	1	1
Cars	2	18	20	20
Totals	3	19		



Heavys	1
Trucks	1
Cars	22
Totals	24

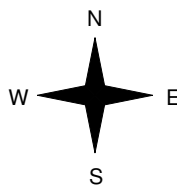
Heavys	0	1	4	Totals
Trucks				
Cars				
Totals				5



Clara St



Eva St



Heavys	0	0	1	Totals
Trucks				
Cars				
Totals				1
Heavys	0	1	5	Totals
Trucks				
Cars				
Totals				6
Heavys	0	1	6	Totals
Trucks				
Cars				
Totals				6



Clara St



Peds Cross: \times

West Peds: 1

West Entering: 7

West Leg Total: 12

Cars	23
Trucks	1
Heavys	1
Totals	25



Cars	2	21	23
Trucks	0	1	1
Heavys	0	1	1
Totals	2	23	

Peds Cross: \times

South Peds: 0

South Entering: 25

South Leg Total: 50

Comments

Clara St @ Eva St

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Dorchester
Site #: 0000000002
Intersection: Clara St & Eva St
TFR File #: 2
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 83
 North Entering: 55
 North Peds: 0
 Peds Cross: \bowtie

Heavys	0	0	0
Trucks	0	1	1
Cars	9	45	54
Totals	9	46	



Heavys	0
Trucks	0
Cars	28
Totals	28

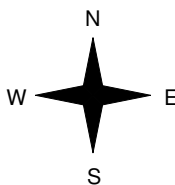
Heavys	Trucks	Cars	Totals
0	0	24	24



Clara St



Eva St



Heavys	Trucks	Cars	Totals
0	0	2	2
0	0	10	10
0	0	12	



Clara St



Peds Cross: \bowtie
 West Peds: 2
 West Entering: 12
 West Leg Total: 36

Cars	55
Trucks	1
Heavys	0
Totals	56



Cars	15	26	41
Trucks	0	0	0
Heavys	0	0	0
Totals	15	26	

Peds Cross: \bowtie
 South Peds: 0
 South Entering: 41
 South Leg Total: 97

Comments

Clara St @ Eva St

Total Count Diagram

Municipality: Dorchester
Site #: 0000000002
Intersection: Clara St & Eva St
TFR File #: 2
Count date: 2-Nov-2022

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Clara St runs N/S

North Leg Total: 446
 North Entering: 235
 North Peds: 0
 Peds Cross: ∇

Heavys	0	10	10
Trucks	1	5	6
Cars	20	199	219
Totals	21	214	

Heavys	9
Trucks	2
Cars	200
Totals	211



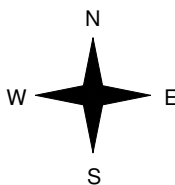
Heavys	Trucks	Cars	Totals
1	1	57	59



Clara St



Eva St



Heavys	Trucks	Cars	Totals
0	0	19	19
0	1	39	40
0	1	58	



Clara St

Peds Cross: ∇
 West Peds: 14
 West Entering: 59
 West Leg Total: 118

Cars	238
Trucks	6
Heavys	10
Totals	254



Cars	37	181	218
Trucks	0	2	2
Heavys	1	9	10
Totals	38	192	

Peds Cross: ∇
 South Peds: 1
 South Entering: 230
 South Leg Total: 484

Comments

Appendix B

ITE TRIP GENERATION MANUAL – 11TH EDITION REFERENCES

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 46

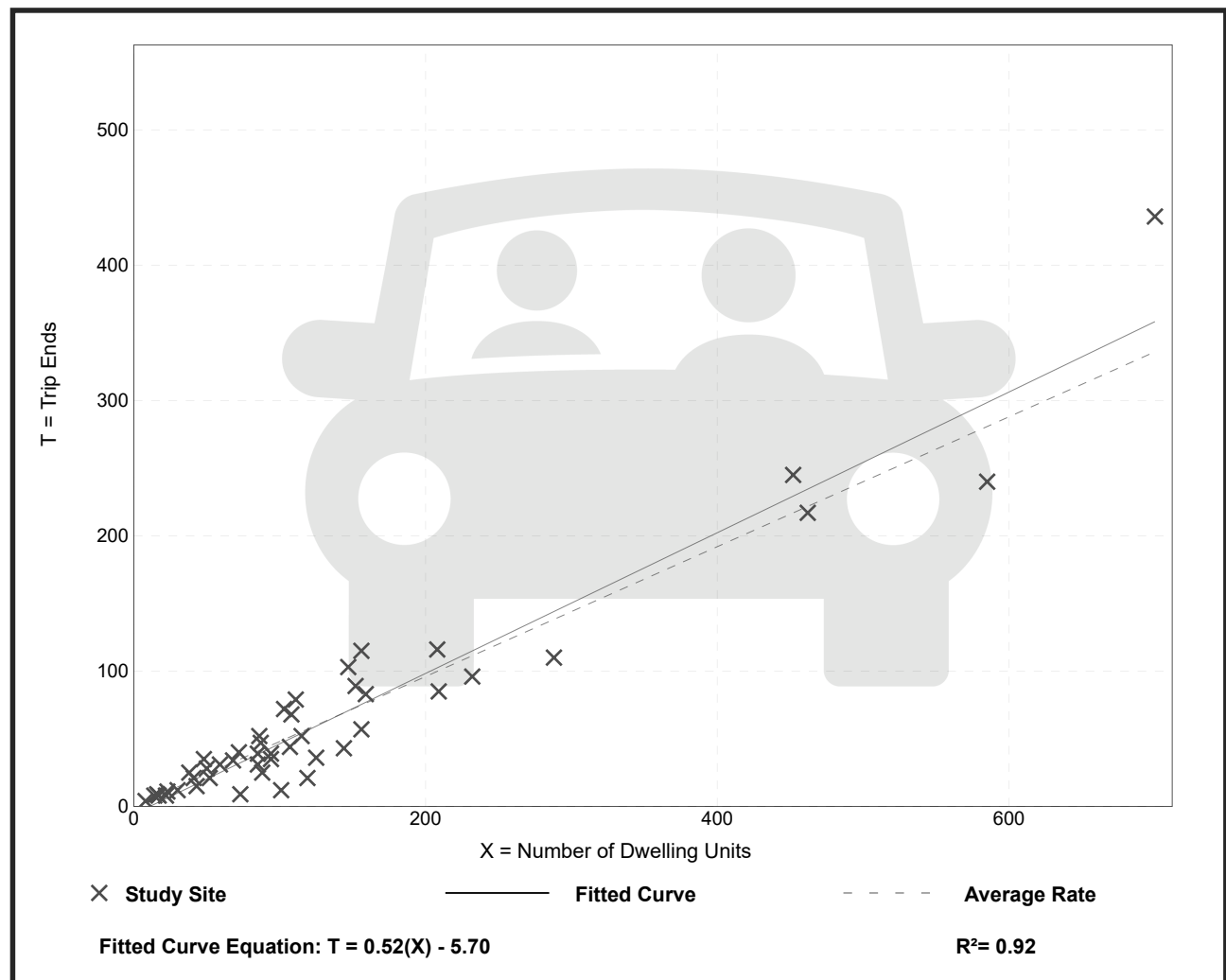
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

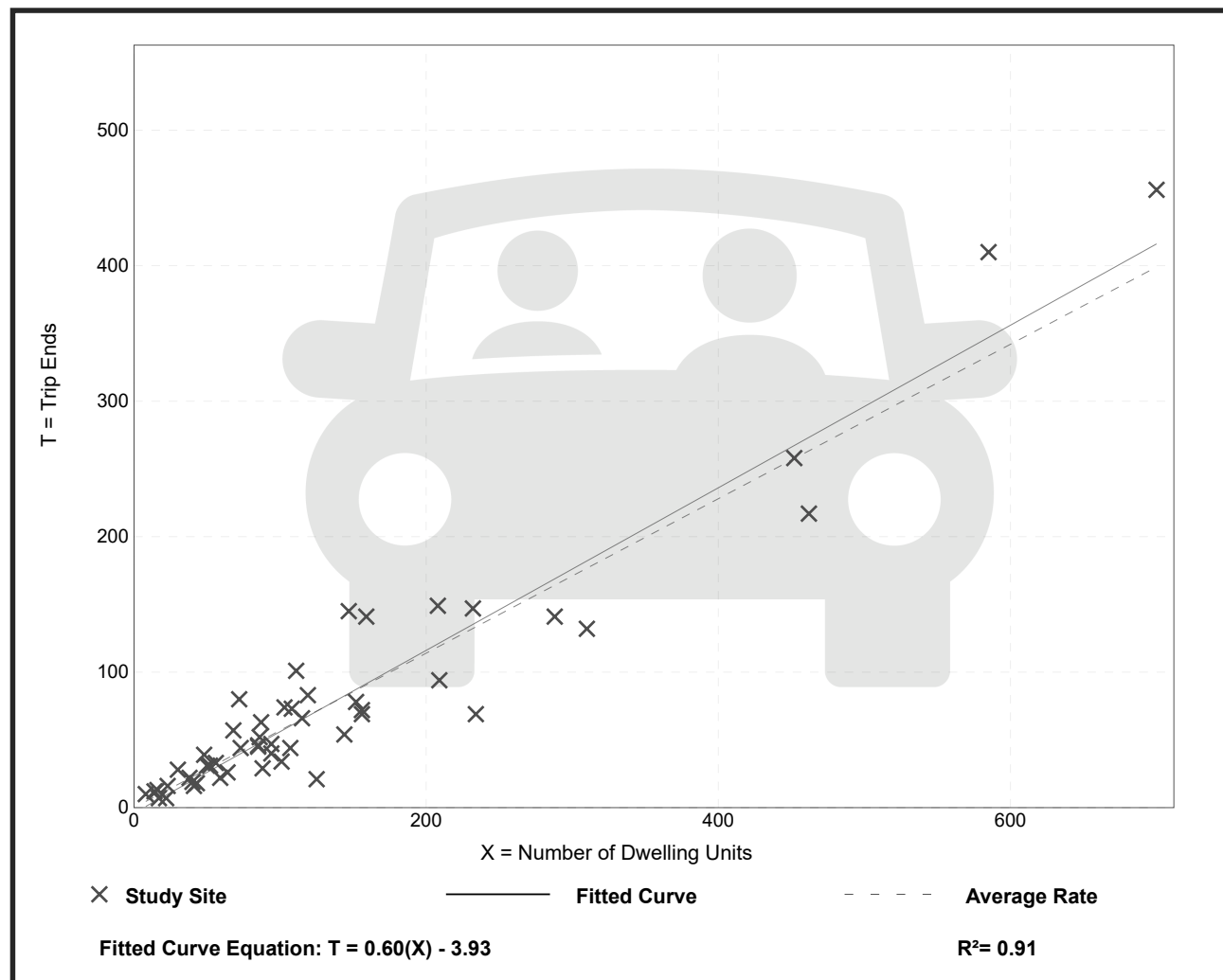
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



Proposed Site Development Trip Generation and Distribution

Project: Eva Street Residential Development

Site: Eva Street, Dorchester, Ontario

Assumed Land Use (1): Single-Family Attached Housing- ITE No. 215

Average Vehicle Trip Ends vs.: Dwelling Units

ITE Trip Generation Data collected on a: Weekday

AM Peak Hour: = Average Rate

31	% Entering
69	% Exiting

PM Peak Hour: = Average Rate

57	% Entering
43	% Exiting

Assumed Land Use (1): Single-Family Attached Housing- ITE No. 215				
	Dwelling Units	Trips Generated	Trips Entering	Trips Exiting
AM Peak	71	34	11	23
PM Peak	71	40	23	17

Total Trips		
	Trips Entering	Trips Exiting
AM Peak	11	23
PM Peak	23	17

Appendix C

DETAILED SYNCHRO RESULTS

Ida Street at Clara Street

Eva Street at Clara Street

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	2	3	0	39	27	0
Future Vol, veh/h	2	3	0	39	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	8	0
Mvmt Flow	2	3	0	42	29	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	71	29	29	0	0
Stage 1	29	-	-	-	-
Stage 2	42	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	938	1052	1597	-	-
Stage 1	999	-	-	-	-
Stage 2	986	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	938	1052	1597	-	-
Mov Cap-2 Maneuver	938	-	-	-	-
Stage 1	999	-	-	-	-
Stage 2	986	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1597	-	1003	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	3	4	32	48	2
Future Vol, veh/h	1	3	4	32	48	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	1	3	4	35	52	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	96	53	54	0	0
Stage 1	53	-	-	-	-
Stage 2	43	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	908	1020	1564	-	-
Stage 1	975	-	-	-	-
Stage 2	985	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	905	1020	1564	-	-
Mov Cap-2 Maneuver	905	-	-	-	-
Stage 1	972	-	-	-	-
Stage 2	985	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	989	-	-
HCM Lane V/C Ratio	0.003	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	2	39	27	3
Future Vol, veh/h	7	8	2	39	27	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	8	0
Mvmt Flow	8	9	2	42	29	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	77	31	32	0	0
Stage 1	31	-	-	-	-
Stage 2	46	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	931	1049	1593	-	-
Stage 1	997	-	-	-	-
Stage 2	982	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	930	1049	1593	-	-
Mov Cap-2 Maneuver	930	-	-	-	-
Stage 1	996	-	-	-	-
Stage 2	982	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	990	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	3	8	11	32	48	5
Future Vol, veh/h	3	8	11	32	48	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	3	9	12	35	52	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	114	55	57	0	0
Stage 1	55	-	-	-	-
Stage 2	59	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	887	1018	1560	-	-
Stage 1	973	-	-	-	-
Stage 2	969	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	880	1018	1560	-	-
Mov Cap-2 Maneuver	880	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	969	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1560	-	976	-	-
HCM Lane V/C Ratio	0.008	-	0.012	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	5	7	3	34	25	5
Future Vol, veh/h	5	7	3	34	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	8	0
Mvmt Flow	5	8	3	37	27	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	73	30	32	0	0
Stage 1	30	-	-	-	-
Stage 2	43	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	936	1050	1593	-	-
Stage 1	998	-	-	-	-
Stage 2	985	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	934	1050	1593	-	-
Mov Cap-2 Maneuver	934	-	-	-	-
Stage 1	996	-	-	-	-
Stage 2	985	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	998	-	-
HCM Lane V/C Ratio	0.002	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	15	26	46	9
Future Vol, veh/h	2	10	15	26	46	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	0
Mvmt Flow	2	11	16	28	50	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	115	55	60	0	0
Stage 1	55	-	-	-	-
Stage 2	60	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	886	1018	1556	-	-
Stage 1	973	-	-	-	-
Stage 2	968	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	877	1018	1556	-	-
Mov Cap-2 Maneuver	877	-	-	-	-
Stage 1	963	-	-	-	-
Stage 2	968	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1556	-	991	-	-
HCM Lane V/C Ratio	0.01	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	15	5	34	25	9
Future Vol, veh/h	10	15	5	34	25	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	8	0
Mvmt Flow	11	16	5	37	27	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	79	32	37	0	0
Stage 1	32	-	-	-	-
Stage 2	47	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	929	1048	1587	-	-
Stage 1	996	-	-	-	-
Stage 2	981	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	926	1048	1587	-	-
Mov Cap-2 Maneuver	926	-	-	-	-
Stage 1	993	-	-	-	-
Stage 2	981	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	996	-	-
HCM Lane V/C Ratio	0.003	-	0.027	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	18	23	26	46	14
Future Vol, veh/h	4	18	23	26	46	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	0
Mvmt Flow	4	20	25	28	50	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	136	58	65	0	0
Stage 1	58	-	-	-	-
Stage 2	78	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	862	1014	1550	-	-
Stage 1	970	-	-	-	-
Stage 2	950	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	848	1014	1550	-	-
Mov Cap-2 Maneuver	848	-	-	-	-
Stage 1	954	-	-	-	-
Stage 2	950	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	3.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1550	-	979	-	-
HCM Lane V/C Ratio	0.016	-	0.024	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-