Traffic Study Area

Location North of Windermere Boulevard
South of Anthony Henday
West of Terwillegar Drive
East of North Saskatchewan River

Key Traffic Areas
1 Whitelaw Drive - north route Road designed and build for 1000 trips per day.
2 Windermere Road - traffic past schools
3 Windermere Road - north link at Windermere Boulevard
4 Total location traffic - north and west links at Windermeren Boulevard

Traffic identified is:		Trips per Day
1 Whitelaw Drive - north route		TPD
Currently Developed:		
Windermere North Community	1275	
West Pointe of Windermere	444	
Not Developed:		
Land designated RA7	581	
Land under rezoning application	1017	
Total Trips per Day		3317
2 Windermere Road - traffic past schools		
Currently Developed:		
Windermere North Community	4966	
West Pointe of Windermere	1276	
One at Windermere	966	
Original Acreages	158	
Windermere Schools	2114	
Not Developed:		
Land designated RA7	726	
Land under rezoning application	1017	
Total Trips per Day		11223
3 Total TrafficTrips (Windermere Road north of Windermere Boulvard.		
Traffic past schools is:		11223
Add traffic generated by:		
Windermere MFD	2257	
Windermere Plaza	3130	
Total Trips per Day		16610
4 Other traffic notes		
Generated in location area but not on Windermere Road		
West Pointe of Windermere	94	
One at Windermere	2796	
Original Acreages	317	
Estates of Windermere	681	
Windermere MFD	119	
Windermere Plaza	348	
Total Trips per Day		4355
Total Study Area Traffic in Trips Per Day (TPD) is.		20965

Traffic Generation Areas

Windermere North Current Development

The Windermere North community contains both Single Family Dwellings (SFD) and Multiple Family Dwellings (MFD). There are 161 Condominium units plus 128 apartment units located in Windermere Village. In total there are 415 SFD and 289 MFD units.

The total traffic generated by these units is:
1 3287 trips per day for SFD.
2 1679 trips per day for MFD.

All the traffic in Windermere North is directed on to Windermere Road directly or via Whitelaw Gate or Whitelaw Lane.

By studing the design of the community, consultation with community members and by observation of traffic it can be determine with a fair degree of confidence that the traffic will be distributed as:

69 SFD have initial access directly to Windermere Road.
46 SFD and 289 MFD have shortest access to Whitelaw Lane.
Of these is is estimated that 85% will go directly to Windermere Road.
The remaining 20% will take Whitelaw Drive to Whitelaw Gate to take advantage of a left turn at a four way stop.
139 SFD along Whitelaw Drive will take Whitelaw Gate to Windermere Road.
This includes units at Whitelaw Way and Whitelaw Close along Whitelaw Drive and units at Whitelaw Bay.
161 SFD in the community will use the north route of Whitelaw Drive as the entrance/exit. This include West Place, West Court, West Landing, and Whispering River Drive. Traffic from these areas avoid the south route of Whitelaw Drive as the route is limited to one lane due to vehicle parking.

The resulting traffic is:			TPD
Trips per day directly on to Windermere Road.			
69 SFD	7.92	TPD/unit	546
Trips per day on to Windermere Road via Whitelaw Lane or Whitelaw Drive.			
46 SFD	7.92	TPD/unit	364
289 MFD	5.81	TPD/unit	1679
Trips per day on to Windermere Road via Whitelaw Gate.			
139 SFD	7.92	TPD/unit	1101
Trips per day on Whitelaw Drive - north route			
161 SFD	7.92	TPD/unit	1275
Total Trips per Day			4966

	TPD
The total traffic generated in the community is:	4966
The total traffic on Whitelaw Drive - north route is:	1275
The total traffic past the schools is:	4966

Traffic Generation Areas

Windermere North Undeveloped

In addition to the traffic generated in the Windermere North community there are two parcels of land that are undeveloped. Both these parcels would be in a position the generate traffic that would be routed entirely through the Windermere North community.

1 The first of these parcels is 3.67 acres (1.49 hectares) of land that is zoned RA7. At this site it is expected that a multi family development of 125 units would be built.

The total traffic generated by this development would be 726 Trips per day.
The entrance/exit point for all this traffic would be directed to the south intersection of Whitelaw Drive and Whispering River Drive.
It would be expected that due to the parking along the south route of Whitelaw Drive only 20% of the traffic would take that option. 80% of the traffic would go on Whisper River Drive then on to the north route of Whitelaw Drive to get on to Whitelaw Gate and Windermere Road. The reverse would occur for entrance to the RA7 site location.

The resulting traffic is:
145 trips per day on Whitelaw Drive south, and
581 trips per day on Whitelaw Drive north.

	TPD
The total traffic generated in the community is:	726
The total traffic on Whitelaw Drive - north route is:	581
The total traffic past the schools is:	726

2 The other parcel of land is 5.39 acres (2.18 hectares) currently zoned AG. There is an application to have this rezoned to DC1. A rezoning would result in a population density of 81 units per hectare for a total of 175 multi family units.
The total traffic generated by this development would be 1017 Trips per day.
The entrance/exit point for all this traffic would be directed on 16 Avenue on to Whispering River Drive. It is expected that all this traffic will enter and leave the community via the north route of Whitelaw Drive using Whitelaw Gate for access on Windermere Road.

The resulting traffic is:
1017 trips per day on Whitelaw Drive north.

	TPD
The total traffic generated in the community is:	1017
The total traffic on Whitelaw Drive - north route is:	1017
The total traffic past the schools is:	1017

Traffic Generation Areas

Original Acreages of Windermere

The old acreages of Windermere consist of two sets of developments:
1 20 acreages in Windermere Crescent
2 40 acreages along Windermere Drive

By studing the design of the community, consultation with community members and by observation of traffic it can be determine with a fair degree of accuracy that the traffic will be distributed as:
20 SFD on to 170 Street on to Windermere Road.
40 SFD on Windermere Drive then east on Windermere Boulevard.

The traffic on Windermere Road is 158 trips per day.
The traffic on Windermere Drive is 317 trips per day.

	TPD
The total traffic generated in the community is:	475
The total traffic on Whitelaw Drive - north route is:	0
The total traffic past the schools is:	158
Total traffic not on Windermere Road is:	317

Estates of Windermere

The Estates of Windermere (or new acreages of Windermere) consist of a new development of 60 SFD, also included in this are 26 SFD that are part of One at Windermere but the entrance/exit route for these is on Windermere Drive.

By studing the design of the community it can be determine with a fair degree of accuracy that the traffic will be:
86 SFD on Windermere Drive then east on Windermere Boulevard.

The traffic on Windermere Drive is 681 trips per day.

	TPD
The total traffic generated in the community is:	681
The total traffic on Whitelaw Drive - north route is:	0
The total traffic past the schools is:	0
Total traffic not on Windermere Road is:	681

Windermere Playgrounds

In the study location area there are four play parks:
1 James McCrie Douglas Park - these are sports grounds near the schools
2 James McCrie Douglas Playground - this is near the schools and for ages 3 to 12 years.
3 Westpointe of Windermere Playground - in a residential area for preschool age.
4 One at Windermere Playground - in a residential area for younger kids.

Traffic Generation Areas

Windermere Multi Family Dwellings
North west corner of Windermere Road and Windermere Boulvard.
North and west of Windermere Plaza

Building	Units	TPD/unit	TPD
340 Windermere Road			
101 - 109, 111 - 117	16		
201 - 217	17		
301 - 317	17		
401 - 417	17		
	67	5.81	389
344 Windermere Road			
118 - 126, 128 - 137	19		
218 - 237	20		
318 - 337	20		
418 - 437	20		
	79	5.81	459
348 Windermere Road			
138 - 148	11		
238 - 248	11		
338 - 348	11		
438 - 448	11		
	44	5.81	256
386 Windermere Road			
101 - 116	16		
201 - 216	16		
301 - 316	16		
401 - 416	16		
	64	5.81	372
390 Windermere Road			
121 - 126, 128 - 139	18		
221 - 239	19		
321 - 339	19		
421 - 439	19		
	75	5.81	436
394 Windermere Road			
101 - 120	20		
201 - 220	20		
301 - 320	20		
401 - 420	20		
	80	5.81	465
Total Trips per Day			2376

It is expected that 95% of this traffic with enter/exit via the drive way on to Windermere Road,
The remaining 5% with enter/exit via Windermere Plaza on to Windermere Boulevard.

	TPD
The total traffic generated in the community is:	2376
The traffic on to Windermere Road is:	2257
The traffic on to Windermere Boulevard is:	119

In the three Commercial Plaza buildings there are various business types
Office, Education, Store, Fast Food, Service and Medical
each having there own traffic generating parameters

Commercial Plaza Building 1

Business Type	Number of Businesses	Workers Personnel	Service Personnel	Clients Volume	Trip Volume	Total Dail Trips
Office	38	2	2	6	10	380
Education	3	2	2	20	24	72
Store	1	2	2	40	44	44
Fast Food	2	4	2	50	56	112
Service	1	2	2	20	24	24
Medical	0	2	1	30		0
				Total Trips per Day		632

Commercial Plaza Building 2

Business Type	Number of Businesses	Workers Personnel	Service Personnel	Clients Volume	Trip Volume	Total Dail Trips
Office	22	2	2	6	10	220
Education	3	2	2	20	24	72
Store	4	2	2	40	44	176
Fast Food	1	4	2	50	56	56
Service	5	2	2	20	24	120
Medical	9	2	1	30	33	297
				Total Trips per Day		941

Commercial Plaza Building 3

Business Type	Number of Businesses	Workers Personnel	Service Personnel	Clients Volume	Trip Volume	Total Dail Trips
Office	66	2	2	6	10	660
Education	6	2	2	20	24	144
Store	7	2	2	40	44	308
Fast Food	5	4	2	50	56	280
Service	9	2	2	20	24	216
Medical	9	2	1	30	33	297
				Total Trips per Day		1905

It is expected that 90% of this traffic with enter/exit via the drive way on to Windermere Ro
The remaining 10% with enter/exit via Windermere Plaza on to Windermere Boulevard.

	TPD
The total traffic generated in the community is:	3478
The traffic on to Windermere Road is:	3130
The traffic on to Windermere Boulevard is:	348

Traffic Generation Areas

	Units	Trips per day per unit	Trips per day	Total Trips per Day
Windermere North				
Currently Developed				
SFD	415	7.92	3287	
Condos	161	5.81	935	
Apartments	128	5.81	744	4966
Not Developed				
AG land	175	5.81	1017	
RA7 land	125	5.81	726	1743
West Pointe of Windermere				
SFDs	173	7.92		1370
One at Windermere				
SFD	501			
(less 26 on Windermere Drive)	475	7.92		3762
Original Acreages				
SFD	60	7.92		475
Estates at Windermere				
SFDs	60	7.92	475	
(plus 26 from One at Windermere)	26	7.92	206	681
Windermere Schools				
St.John XXIII, 365 Windermere Road				
Buses	12	4	48	
Personal vehicles	306	4	1224	
Staff vehicles	74	2	148	
Total Trips per Day				1420
Constable Daniel Woodall, 315 Windermere Road				
Buses	6	4	24	
Personal vehicles	147	4	588	
Staff vehicles	41	2	82	
Total Trips per Day				694
Windermere Plaza Commercial Area				
Building 1			632	
Building 2			941	
Building 3			1905	
Total Trips per Day				3478
Windermere Plaza Multi Family Dwellings				
Building 1 Condominium 340			389	
Building 2 Condominium 344			459	
Building 3 Condominium 348			256	
Building 4 Condominium 386			372	
Building 5 Condominium 390			436	
Building 6 Condominium 394			465	
Total Trips per Day				2377
Total Trips per Day				20965.0

Traffic Generation Areas

Windermere Village

The multi-family dwelling (MFD) buildings are four story building that are either sold as condominium units or rented as apartment units.

	Units	TPD/unit	TPD
Windermere Village Apartments, 3707 Whitelaw Lane			
101 - 112	12		
201 - 212	12		
301 - 312	12		
401 - 412	12	48 5.81	279
Windermere Village Apartments, 3711 Whitelaw Lane			
101 - 120	20		
201 - 220	20		
301 - 320	20		
401 - 420	20		
		80 5.81	465
Windermere Village Condos, 3715 Whitelaw Lane			
101 - 120	20		
201 - 2210	21		
301 - 321	21		
401 - 421	21		
		83 5.81	482
Windermere Village Condos, 3719 Whitelaw Lane			
101 - 118	18		
201 - 220	20		
301 - 320	20		
401 - 420	20		
		78 5.81	453
Total Apartment Units	128		
Total Condominium Units	161	289 5.81	1679
		Total Trips per Day	1679

	TPD
The total traffic generated in the community is:	1679
The total traffic on Whitelaw Drive - north route is:	0
The total traffic past the schools is:	1679

These are included in the Windermere North listing.

Traffic Generation Areas

West Pointe of Windermere

West Pointe consists of 173 SFD.
West Pointe has two entrance/exit points:
1 Woolsey Link on to 170 Street/Windermere Road
2 Whispering River Drive on to Whitelaw Drive then to Windermere Road

By studing the design of the community, consultation with community members and by observation of traffic it can be determine with a fair degree of confidence that the traffic will be distributed as:
117 SFD to Woolsey Link
56 SFD to Whispering River Drive

The traffic on Woolsey Link amounts to 926 trips per day.
90% of this traffic will continue from 170 Street on to Windermere Road.
This amounts to 832 trips per day.
The estimate of 10% of the traffic will turn on to Windermere Drive in order to avoid the traffic congestion going south to the intersection of Windermere Road and Windermere Boulevard.
This is about 95 trips per day on Windermere Drive and east on Windermere Boulevard

	TPD
The total traffic generated in the community is:	1370
The total traffic on Whitelaw Drive - north route is:	444
The total traffic past the schools is:	1276
Total traffic not on Windermere Road is:	94

One at Windermere

By removing 26 SFD from One at Windermere and placing them in the Estates of Windermere the are still 475 SFD traffic units to consider.

The majority of the traffic from One at Windermere has a choice of two entrance/exit routes, Windermere Wynd and Ware Gate on to Windermere Road.

By studing the design of the community, consultation with community members and by observation of traffic it can be determine with a fair degree of confidence that the traffic will be distributed as:
43 SFD from Wood Place on to Windermere Boulevard going east.
310 SFD from Windermere Wynd on to Windermere Boulevard.
122 SFD from Ware Gate on to Windermere Road.

	TPD
The total traffic generated in the community is:	3762
The total traffic on Whitelaw Drive - north route is:	0
The total traffic past the schools is:	966
Total traffic not on Windermere Road is:	2796

Traffic Generation Areas

Windermere Schools

There are both a public and a separate school located side-by-side in Windermere.
Students in these schools come from the south west communities, however; most of the students do not come from inside the study area.

St John XXIII, 365 Windermere Road
Current enrollment about 930 students.
About 15% or 140 students walk to school.
The remaining 790 students are either bused or are driven to school.
There are about 12 buses that deliver about 30 students each:
therefore it is estimated that 360 students are bused and 480 are driven by personal vehicleat a rate of 1.5 students per vehicle for a trip total of 12 bused and 306 personal vehicles.
Next year enrollment expected to be 970 students, an increase of about 5%.

Constable Daniel Woodall, 315 Windermere Road
Current enrollment 517 students.
It is estimated that 400 of the students are bused or driven to school.
The remaining 117 students walk to school.
There are about 6 buses that deliver about 30 students each:
therefore it is estimated that 180 students are bused and 220 are driven by personal vehicle for a total of 6 buses and 147 personal vehicles.
Next year enrollment expected to be 600 students, an increase of about 16%.

With the above information there are about 18 in/out bus trips twice a school day.
There are also about 453 in/out personal vehicle trips per school day.

	Vehicles	TPD/Unit	TPD
Constable Daniel Woodall School	153	4	612
St.John XXIII School	318	4	1272

The total student school traffic is 471 in/out trips twice per day for a total of: 1884

There are - administrators, teachers, teacher assistants, maintenance and service staff that must be includedin the traffic count. It is estimated that there is one of these support staff for every 12.5 student count.

St.John XXIII
The student support staff would be: 930 students / 12.5 = 74
Each suppport staff would make one in/out trip per day.

Constable Daniel Woodall, 315 Windermere Road
The student support staff would be: 517 students / 12.5 = 41
Each suppport staff would make one in/out trip per day.

	TPD
The total staff school traffic is 115 in/out trips twice per day for a total of:	230
The total school traffic would be:	2114

Traffic Generation Areas

	Business Type
Commercial Plaza Building 1	
316 Windermere Road (Building Entrance)	
201 - 212, 214 12 Office	Office
208 - 316 Out of School Care	Education
301 - 312, 314 13	Office
401 - 412, 414 13	Office
318 Windermere Road Windermere Music Academy	Education
320 Windermere Road Trail Blazer (Health)	Store
322 Windermere Road Windermere Out of School Care	Education
324 Windermere Road Best Bite	Fast Food
326 Windermere Road Wok Box	Fast Food
328 Windermere Road Navina Yoga	Service
Commercial Plaza Building 2	
304 Windermere Road Remax Real Estate	Service
5540 Windermere Boule Windermere Plaza (Building Entrance)	
110 1 Windermere Day Care	Education
201 - 222 22	Office
Upper Floor Windermere Plaza Medical Center	
211 Reverra Skin Care Centre	Medical
212 Windermere Plaza Medical Clinic	Medical
213 Modify Body	Medical
215 Kumon Math Learning	Education
218 Flossophy Dental	Medical
219 Caliber Insurance Brokers	Service
221 Leading Edge Physiotherapy	Medical
5544 Windermere Boule Windermere Pharmacy	Store
5548 Windermere Boule Current Medical Clinic (3 cosmedic doctors)	
Windermere Acne Clinic	Medical
Cool Sculpting	Medical
Serene Radiance	Medical
5552 Windermere Boulevard	Service
5556 Windermere Boule The Co-operatives MacKenzie Insurance	Service
5560 Windermere Boule Maxwell Progressive	Service
5564 Windermere Boule Forever Young	Medical
5568 Windermere Boule Mathansium The Math Learning Center	Education
5572 Windermere Boule Pizza City Donair & Broast (Halal)	Fast Food
5576 Windermere Boule River City Vapes	Store
5580 Windermere Boulevard	Store
5584 Windermere Boulevard	Store
Commercial Plaza Building 3	
5588 Windermere Boulevard	
101 The Local Spot	Store
201 - 206	Office
5588 Windermere Boule Sweet Basil Vietnamese Kitchen	Fast Food
5590 Windermere Boule City Barber	Service
5592 Windermere Boule Khasma Indian Express N Pizza	Fast Food
5594 Windermere Boule Primecare Pharmacy	Store
5596 Windermere Boule Oh My Dog	Service
5598 Windermere Boule Vacant	Service

NOTES - Traffic Study Information

1 Study parameters used for the vehicle road way traffic in vehicles per day and for trips per day per dwelling unit are in line with the figures used by the City of Edmonton.

2 For the purpose of this study Trips Per Day (TPD) were used, this should equate to Vehicles Per Day (VPD) that the City of Edmonton uses. Assume that the same vehicle can make more that one trip per day.
Vehicle trips per day for a Single Family Dwelling (SFD) is estimated at 7.92 VPD/unit.
Vehicle trips per day for a Multi Family Dwelling (MFD) is estimated at 5.81 VPD/unit.
Many jurisdictions use 10 TPD per dwelling. This has been a normally used parameter for years, using the above parameters results in traffic being on the conservative side be at least 20% for SFD and at least 40% for MFD.

3 It should be pointed out that the traffic parameter of 10 trips per household generated daily has been used by the majority of municipalities for some period. Some jurisdictions have reduced this number in order to justify limited infrastructure. However; with people having more selection to where children are schooled, more choices for on-line shopping and new services such as 'skip the dishes' there is actually more traffic generated per household. As residents get more free time for themselves they entertain themselves more out of their home community.

4 Whitelaw Drive is road 9 meters wide designed for 1000 vehicles per day (VPD).

5 Windermere Road past the schools was designed as a four lane collector road with mitigation. With parking on one side and school pylons on the other side this becomes a two lane collector ro designed for 10,000 VPD. However; the K-6 school and the K-9 school with a playground should not be located on a high traffic road.

6 Student bus traffic is estimated at 30 students per bus.
Student personal vehicle traffic is estimated at 1.5 students per vehicle..
School traffic estimates were provide by school personel and are current enrollment numbers.
The school personal vehicle traffic will go past the schools, most use the same road for return but may not use the same road in/out. Most turn around by U-turn or follow exiating road ways to turn around.

7 Many personal vehicles park in the community of One at Windermere and use the walkways as parking around the schools is very limited.

8 The single-family detacted and the single-family semi-detacted units are grouped together as Single Family Dwellings (SFD) for the traffic study.

9 In the commercial area for each of these business types we will assume daily travel trips are made by: workers, servicing personnel and clients. Vacant units are treated as next door neighbour business type. This is a conservative estimate as many residents in the area can This is a conservative estimate as many residents in the area can walk to the business location. Building 6, Condominium 386 is planned to built in 2021.

10 West Pointe currently 36% developed but is progressing toward completion.