MetroCount[®]

Traffic Gap Acceptance

Many traffic manoeuvres require the road user (e.g. driver, rider or pedestrian) to select a break in the traffic stream that will enable them to move safely. Some examples include pedestrians crossing a street or drivers entering a priority road from a side road. This behaviour is known as "gap acceptance".

Analytical methods are available to model gap acceptance with assumed distributions of traffic gaps and human behaviour. The models predict the likelihood of delay and probable duration. They typically define gaps of various duration for different manoeuvres. Accordingly, they establish the "critical gap" (ta) as the minimum space required for the road user to make his/her move. Pedestrians do not usually join a queue to cross a road. As soon as an acceptable gap (or critical gap) occurs, all pedestrians are able to cross together. On the other hand, vehicles have to queue at a stop line and take their turn to move. In traffic analysis, this car sequence is measured by the parameter "follow up headway" (tf). If we assume that the queue of minor stream vehicles is not exhausted, in practice this implies that:

- Gaps less than ta will not be used
- Gaps between **ta** and **ta** + **tf** will be used by one minor stream vehicle
- Gaps between ta and ta + 2tf will be used by two minor stream vehicles, and so on.

MetroCount Gap Analysis

MetroCount users are able to directly measure the gaps, no modelling required. This is due to the particular way that we store traffic data. By time-stamping every axle event, MetroCount tube or piezo counters provide information on the exact position of each axle on the road and thus, easily depict traffic gaps.

Event Count Reports

Along with its host of speed and class reports, the MetroCount Traffic Executive[®] software provides "event counts", tallied from only one sensor. Your time-stamped axle data and the MTE functionalities make it easy to use typical gap

parameters and count the number of gaps.

Table: Critical acceptance gaps and follow-upheadways at unsignalised intersections

	Critical Acceptance	Follow-up Headway (tf)
Consistent and an and a subsection	Gap (ta)	
Crossing manoeuvres		
Two-directional stream		
2 lanes	5	3
4 lanes	8	5
One-directional stream		
2 lanes	4	2
3 lanes	6	3
4 lanes	8	4
(i.e. left turn - Europe, USA Across single lane flow	; right turn- Au	istralia, UK)
Good turning conditions	4	2
Difficult turning conditions	5	3
Across 2 lane flow	5	3
Across 3 lane flow	6	4
Note: The listed values for ta and tf assi grades. Allowance should be made for Values required for turns into the near-s assumed that through traffic is not impe such gaps. Judgement needs to be exe for turns into the near-side for	ume good sight distan extraordinary conditio ide flow become very ded, and most drivers roised to select appro	ices and reasonable ns. large if it is would not wait for spriate gap criteria

Adapted from NAASRA 1988 Guide to Traffic Engineering Practice Part 1 and Part 5.

MetroCount[®]

Gap Analysis Examples

100 000	M										
-											
-	-	Charles and		TABLE IN COLUMN	19.1						
				Weekh	Event	Court	£				
-	6.11.										
		100910-00									
as times		1200 804	stay, 30 Sa	and the second second	OF 19137	DENK NO	a. 17 faunt	mbas 100	8		
terres (Court inco	arrents of 2	CM inits a	for A SH on	ee.				Avte X	
a.		Capitorite	The clear							Barry Area Santa Sala Millio Area Man Areasa Alan	
	1022		1100	1.00	1000	11122	1.0	125.0	1507	Desisters Desisters hereits	
	21 Mag	10.04	21.540	11 54	11.540		- 12	1 - 0	8 - 8	A DT 20 Call (2004 + a) The advances on more in Auffrank hal exactly interprine and	
t	100								tant a	A Druk	
6-80.04		1784	5488	3400	1400	1744	1912	1474.4	1728.4	C frequency (sec.).	
0-0388		1114	2445	185	1400	1000	1885-1	1766.4	1785.0	S TOTAL THE S.	
6-8436	- 18	9494	2948	2159	3404	1996	2047 1	1915-8	1041.8	A DATE	
		10447	111	1740	1000	100	1000	1001-0	1015.4	Count of The	
-		1400	1975	LATS	1475	1014	1007	1478-4	1014-1	A nata Beneri Peset Dean.	
1000		1347	1386	1366	1004	1304	LINE I	1048-3	1477-8	A STRONG Restantiation	
0-0908	10	1244	1378	1249	1204	1411	1045.1	1033.8	1369.2	Charles Continuent of March & Effort	
0-12076		1.018	1100	2380	1280	1210	1000	1001.1	1225.8	A large MX+ Red as both Table as her?	
6-1946		1.000	1000	1418	1.540	1,045	1008	101.1	1014-0	A fault Adlash -	
0-1.69		1.048	2471	1245	1870	1298	1048-1	179.4	1009.8	A part of the second se	
0.1404	1014	1000	1475	1.000	1.000	1004	IDM I	100.4	URAL R.	A least fill	
E-14/20	1019	1082	1118	1114	1214	1400	1207	1208-1	1214.4	States and a	
6-4198	1234	1040	1444	1216	1140	1340	1294	1004.3	1044,0	- A Buescath -	
0-LNDF	10110	1470	1218	1146	11.09	2404	2421	1011-4	1014.9		
	2461	1000	1144	1100	1290	1007	1401	1000.00	1044.1	Support for additional of theme	
6-1504	5488	1975	3428	11/1	15-04	1497	5445-1	14983-8	1477.8	2 VOL-	
9-0209	1414	1410	1547	1178	1/30	100	1218.1	1007-1	31036-0	La Calenda, educara	
6-2268	1.111	1718	3474	1450	1479	- MER	1000.1	1043.8	1465.7	Cit. Count	
				1.94					1000.0		
				15.141.4							
1001-0	e	10708	1000	199422	19604	1001	18048-1	10101-8	1/0823-1		
-2018	- 3	10113	20145	22428	31190	22812	12945	11404.4	PU0011.9		
_				25225	anal a	10011	atting a	STATUS A	And a second sec		

RU AL	•	144.7	autor	Contraction of the local distance of the loc	-	No.	1.010/00/	-			criteria
											CITCEITA
-											
				Weekty	Event	Count					
Washingtown	- 10	10110-0.01									
Description		CRIT.MONT	ICAN INN	Y BOUTH	WEST:	SHAR RD	-Mashr				
filler liefen		13.00 Morel	leg, 20 Se	glander 1	1910 - le 14	38 Monda	p. 37 Septe	ender 133	0		
a start		Court Prove	Carlos (P.)	0.00 846/6.0	Aur 10 (2)	Seco.				14 M	
										Auto X	
										Tareed Lond Hade Line 1999 (and New Season Adul	
	12.74	11.74	11 14	11.74	24 344			1 - 1	1.1.1	Des afters des afters des afters	
Rose .										A DE 201 way 1000 + + The share a way and a to Aparticle for solution emotions and	
1000-0580	12	1947	914	384	145	\$100	100 1	545-0	548-5	S orige Brocks	
1000-0000	- 22	244	301	112	107	500	1000	100.0	111.5	A Contraction of the Contraction	
1000-0400		100	410	201	417	364	100	ML4	186.4	2 manufa	
	100	100			1.00	104		491.0	246.2	24.007	
100-0407		208	. 201	345	249	295	200.1	241.8	311.2	X 06.9 0	
6406-6160		408	- 201	286	247	20%	248.1	2010.4	326.0	A Dealer MVVD - Sector Date	
1000-0800	- 10	100	100	247	144		100	141.0	140.0	C MILLION CONTRACTOR OF CONTRA	
1000-1208		104	100	100	147	179	174.1	URLT.	171.8	Sciami Institution	
1000-1200	1.8	1/10	5/81	178	346	144	188.0	141.8	141.7	Sectore Sectores of Hillers de Hillers	
1890-1399		179	171	188	148	109	187.1	101-1	188.5	Sange With Stat particul Salar particul	
1998-2548		148		144	174	3,98	100	25.5	194.3	A Deck Addison - 10 10	
1400.0588	150	100	- 14	187	145	1/10	174.1	101.4	146.0	2 544.0.	
2000-2402	104	101	111	1426	148	104	1.10-1	101-1	121.9	A farge FME	
1440-1700	132	3.00	5.84	1.22	118	647	148.1	127.4	182.9	2 theats	
1700-1000	115	104	524	134	104.	1.90	100.1	100.4	249.3	N Devisit.	
1 Mill-3444	247	100	141	110	140	140	200	113.4	114.2		
2000-2286	218	200		345	112	100	178.0	200.0	341.4	Aggregate the oriented dates advance	
1108-1210	274	2*6	114	344	196	2008	100.1	178.8	216.7	Sector Se	
1000-2300	318	100	248	.071		204	1.811.7	241.4	316.4	- Children	
1000-2400	147	144			147	1.00		100.0	545.5	The second se	
water .											
tion and	1-12	Same /	1000	in the second	and the second	1	in and	Const. In	1000		
and other	- 2	1000	1010	100	4100	11.04	1000	2700.1	2725.0		
0400-0000	1.00	3978	being.	1249	Mar.	\$100	Might a	1403.1	8434.5		
1010 0010		14/01	1004	6414	1427	8404	1921.1	1044.1	8499.7		

Available gaps for vehicles crossing a two-lane, two directional stream, based on an assumed 10-second critical acceptance gap

Australia

+61 8 9430 6164 sales@metrocount.com

United Kingdom

+44 208 782 8999 uksales@metrocount.com

United States

+1 301 497 6101

usasales@metrocount.com

Netherlands

+31 10 268 01 84 nlsales@metrocount.com