LOAN COPY VOL 2 of 2

TECHNICAL APPENDICES

SUTTER DAVIS HOSPITAL / HEAD PROPERTIES

Environmental Impact Report

EIR #1-91, PROJECT #900072
State Clearinghouse No. 91073090

October 1, 1992

Planning Copy #2

ESA

TECHNICAL APPENDICES

SUTTER DAVIS HOSPITAL / HEAD PROPERTIES Environmental Impact Report

EIR #1-91, PROJECT #900072
State Clearinghouse No. 91073090

October 1, 1992

Prepared for:
City of Davis
Community Development Department

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ESA

C.1 TRAFFIC STUDY

CALCULATIONS INCLUDED IN THIS APPENDIX

Level of Service Analysis Technical Description

Existing Average Daily Count Data

Existing With/Without Project - AM Peak and PM Peak

Year 2010 With/Without Project - AM Peak and PM Peak
Alternative 1, Alternative 2, Alternative 7 - Without Mitigation

Year 2010 With/Without Project - AM Peak and PM Peak
Alternative 1, Alternative 2, Alternative 7 - With Mitigation

LEVEL OF SERVICE ANALYSIS - Technical Description

Korve Engineering, Inc. uses level of service estimates based on the "Critical Movement Analysis-Planning Method" described in Transportation Research Circular No. 212 (Transportation Research Board, 1980). It is a general statement of intersection operations that is used to approximate the overall level of service at a signalized intersection. The Planning Method calculates a "sum of critical volumes" for the critical phases of an intersection, and a corresponding level of service.

Output for Intersection Level of Service

The intersection level of service is calculated by a computerized modelling package called Impax 2.20 produced by PRC Voorhees. On the top of the page of the level of service output, the intersection lane configuration and turning movement volumes (as inputed) are printed. The guidelines used to identify level of service and volume/capacity ratio based on the sum of critical volumes are shown in Table 1.

Table 1
GUIDELINES FOR CRITICAL VOLUMES, V/C RATIOS AND DELAYS
BY LEVEL OF SERVICE

	MAXIMUM SUM OF CRITICAL VOLUMES			
Level of Service	Two Phase	Three Phase	Four or more Phases	Typical V/C ratio
A	900	855	825	0.00 - 0.60
B	1050	1000	965	0.61 - 0.70
C	1200	1140	1100	0.71 - 0.80
D	1350	1275	1225	0.81 - 0.90
E	1500	1425	1375	0.91 - 1.00
F	———(not applicable)——			varies

Below the geometry/volume input information is a table showing the critical movement calculations. This table provides the following information for both critical and non-critical movements:

- lane group
- number of lanes
- per-lane volume

The table then lists the per lane volume for the critical lane groups as selected by the program.

A "lane group" is one or more lanes which are grouped together to be discretely analyzed. A combination of information is used in establishing lane groups including lane configuration, and signal phasing.

Generally, when there is an exclusive left-turn lane(s), without an adjacent shared left and through-lane, it is designated as a separate lane group and labeled "EXL". This also applies to an exclusive right-turn lane(s), labeled "EXR". When an approach with both a shared left/through lane and a shared right/through lane receives a left-turn arrow and a through green at the same time (a phase type 2 or "split phase"), all the lanes on the approach are combined into one lane group and labeled "LTR".

If an approach does not have an exclusive left-turn lane and has permissive or protected/permissive phasing (phase type 1, 3, 7, and 8) the left turn volumes are used in the calculation of the critical volumes. Even though the left-turns are not made from a separate lane, a special lane group is identified by the program and labeled "L" (vs. an "EXL" for an exclusive left-turn lane).

The detailed output also provides the user with the following information on the intersection as a whole:

- Critical volume
- Number of critical phases
- Level of service
- Volume/Capacity

A table of maximum total critical volumes for each level of service (A-F) and number of critical phases (2, 3, 4 or more) is also provided on each detailed output sheet. The source of this table is the Transportation Research Circular No. 212.

Finally, the detailed output sheet provides the user with the phasing diagram. The diagram is separated into north-south and east-west phasing. If a phase "overlap" exists (phase type 6), the two possible overlapping phases are shown with an "or" between them. The number of possible phases (vs. critical phases) is also provided.

Example Level of Service Output

The use of the level of service output can be illustrated through the following example, which shows the outputs for the "low" and "high" critical volume estimates for the intersection of Main Street and "A" Street. This type of range is provided when a single lane approach with a single phase is used (as in the east-west approaches of this example). A range is calculated due to the inherent difficulties of calculating level of service for this type of intersection configuration.

As the lane configuration diagram shows, the northbound and southbound approaches contain exclusive left-turn lanes. The northbound approach also contains a separate

right-turn lane. The eastbound and westbound approaches are both single lane approaches.

The phasing diagram on the bottom of the page shows that there is a 5 phase signal operation, with overlapping left-turn phases in the north/south direction (phase type 6) and a single phase in the east-west direction (phase type 1).

Low Estimate of Range

For both ends of the range, the northbound approach is divided into 3 lane groups since there is both an exclusive left-turn and right-turn lane. The southbound approach is divided into two lane groups: one for the exclusive left-turn lane (EXL) and one for the through, and through/right-turn lanes (designated TR for through and right).

For the low volume estimated, the eastbound and westbound single-lane approaches are given two lane groups: a special lane group for left-turns and one for through and right-turns. As shown on the output page, the left-turn lane group is labeled "L" (vs "EXL" if an exclusive left-turn lane existed) and has a zero under the number of lanes. This designation allows the user to see which left-turn and opposing through/right volumes are used in the low estimate of the critical volume.

High Estimate of Range

The high volume estimate page differs from the low volume estimate page in the way it calculates the critical volumes for the single lane approaches in the east/west direction. The high volume estimate is based on both a single lane group for each approach (labeled "LTR" for left/through/right) and "split" phasing. Consequently, the entire approach volumes for both approaches are used in the critical volume estimate.

The low estimate of the critical volumes for a single approach is the same as an intersection with a separate left-turn lane and left-turn phasing (a very optimistic calculation). The high estimate is the same as that for a "split" phase (a very pessimistic calculation). The actual critical volume is between these estimates and its determination depends on a more detailed analysis (and professional judgement) by the user than the computer-based planning method will allow.

Source: IMPAX, Traffic Analysis On Microcomputers, User Guide Release 2.2. Appendix C. PRC Voorhees.

LEVEL OF SERVICE EXAMPLE - SHEET 1

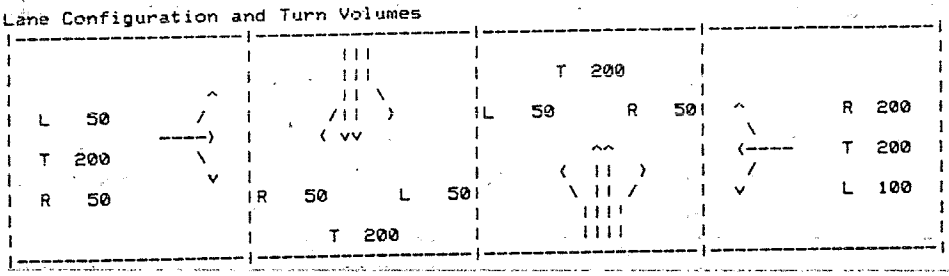
IMPAX 2.21 Traffic Analysis on Microcomputers PRC VOORHEES

EXAMPLE LEVEL OF SERVICE OUTPUT

02/28/83

Intersection: 1 MAIN ST & A ST (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



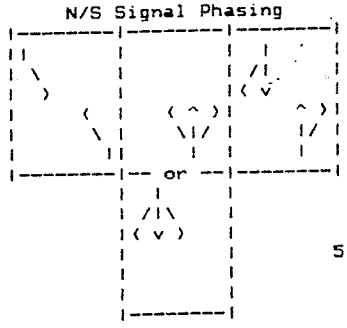
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	50	50
	T	2	100	
	EXR	1	50	
SB	EXL	1	50	
	TR	2	125	125
EB	L	0	50	50
	TR	1	250	
WB	L	0	100	
	TR	1	400	400
Total Critical Volume				625

Maximum Total Critical Volumes

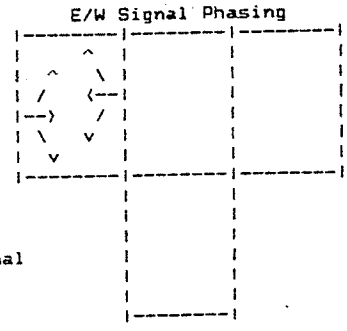
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 625
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.44

N/S Signal Phasing



E/W Signal Phasing



5 Phase Signal

LEVEL OF SERVICE EXAMPLE - SHEET 2

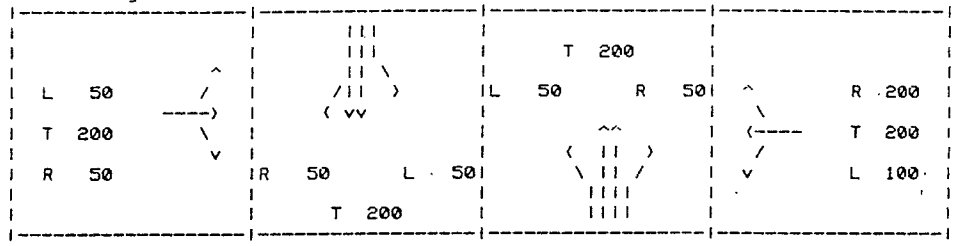
IMPAX 2.21 Traffic Analysis on Microcomputers PRC VOORHEES

EXAMPLE LEVEL OF SERVICE OUTPUT

02/28/83

Intersection: 1 MAIN ST & A ST (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

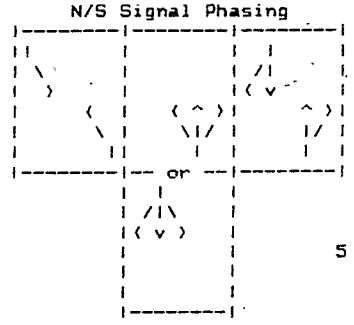


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	50	50
	T	2	100	
	EXR	1	50	
SB	EXL	1	50	
	TR	2	125	125
EB	LTR	1	300	300
WB	LTR	1	500	500
Total Critical Volume				975

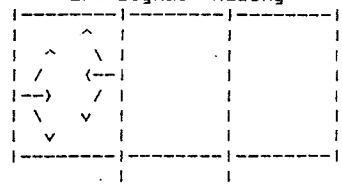
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 975
No of Critical Phases	= 3
Level of Service	= B
Volume/Capacity	= 0.68

N/S Signal Phasing



E/W Signal Phasing



5 Phase Signal

SITE CODE : 00000003
Location : COWELL BL. W/O CO. RD. 99D
City : DAVIS
Operator : JH

TJKM MACHINE COUNT

PAGE: 1
FILE: V186-3

DATE: 5/05/92

TIME	EB 1				WB 2				COMBINED				DAY: TUESDAY
BEGIN	AM		PM		AM		PM		AM		PM		
12:00	*		81		*		107		*		188		
12:15	*		89		*		96		*		185		
12:30	*		107		*		84		*		191		
12:45	*	*	102	379	*	*	83	370	*	*	185	749	
1:00	*		81		*		75		*		156		
1:15	*		79		*		84		*		163		
1:30	*		77		*		99		*		176		
1:45	*	*	108	345	*	*	80	338	*	*	188	683	
2:00	*		89		*		88		*		177		
2:15	*		104		*		102		*		206		
2:30	*		120		*		107		*		227		
2:45	*	*	107	420	*	*	113	410	*	*	220	830	
3:00	*		96		*		112		*		208		
3:15	*		126		*		127		*		252		
3:30	*		124		*		149		*		273		
3:45	*	*	139	484	*	*	123	511	*	*	262	995	
4:00	*		103		*		141		*		244		
4:15	*		111		*		145		*		256		
4:30	*		126		*		119		*		245		
4:45	*	*	143	483	*	*	146	551	*	*	289	1034	
5:00	*		121		*		197		*		318		
5:15	*		138		*		173		*		311		
5:30	*		147		*		184		*		331		
5:45	*	*	136	542	*	*	150	704	*	*	286	1246	
6:00	*		112		*		143		*		255		
6:15	*		110		*		109		*		219		
6:30	*		124		*		103		*		227		
6:45	*	*	112	458	*	*	156	511	*	*	268	969	
7:00	*		109		*		122		*		231		
7:15	*		123		*		131		*		254		
7:30	*		94		*		110		*		204		
7:45	*	*	73	399	*	*	109	472	*	*	182	871	
8:00	*		90		*		101		*		191		
8:15	*		83		*		87		*		170		
8:30	*		90		*		116		*		206		
8:45	*	*	73	336	*	*	101	405	*	*	174	741	
9:00	*		73		*		87		*		160		
9:15	*		67		*		94		*		161		
9:30	*		69		*		65		*		134		
9:45	*	*	53	262	*	*	69	315	*	*	122	577	
10:00	100		59		78		59		178		118		
10:15	88		67		65		55		154		122		
10:30	68		33		88		59		156		92		
10:45	69	325	38	197	63	295	35	208	132	620	73	405	
11:00	66		30		91		40		157		70		
11:15	86		36		69		33		155		69		
11:30	94		19		88		41		182		60		
11:45	103	349	25	110	95	343	40	154	198	692	65	264	
TOTALS	674		4415		638		4949		1312		9364		
DAY TOTALS		5089				5587				10676			
SPLIT %	51.4		47.1		48.6		52.9						
PEAK HOUR	11:00		4:45		11:00		5:00		11:00		4:45		
VOLUME	349		549		343		704		692		1249		
P.H.F.	0.85		0.93		0.90		0.89		0.97		0.94		

SITE CODE : 00000003
Location : COWELL BL. W/O CO. RD. 99D
City : DAVIS
Operator : JM

TJKM MACHINE COUNT

PAGE: 2
FILE: V186-3

DATE: 5/06/92

TIME BEGIN	EB 1 AM		EB 1 PM		WB 2 AM		WB 2 PM		COMBINED AM		COMBINED PM		DAY: WEDNESDAY
12:00	18		*		13		*		31		*		
12:15	13		*		29		*		42		*		
12:30	16		*		20		*		36		*		
12:45	8	55	*	*	14	76	*	*	22	131	*	*	
1:00	8		*		13		*		21		*		
1:15	6		*		17		*		23		*		
1:30	10		*		4		*		14		*		
1:45	7	31	*	*	9	43	*	*	16	74	*	*	
2:00	4		*		2		*		6		*		
2:15	3		*		8		*		11		*		
2:30	0		*		7		*		7		*		
2:45	10	17	*	*	8	25	*	*	18	42	*	*	
3:00	2		*		5		*		7		*		
3:15	4		*		3		*		7		*		
3:30	2		*		7		*		9		*		
3:45	4	12	*	*	4	19	*	*	8	31	*	*	
4:00	5		*		6		*		11		*		
4:15	3		*		1		*		4		*		
4:30	8		*		2		*		10		*		
4:45	4	20	*	*	4	13	*	*	8	33	*	*	
5:00	14		*		3		*		17		*		
5:15	22		*		5		*		27		*		
5:30	26		*		16		*		42		*		
5:45	38	100	*	*	22	46	*	*	60	146	*	*	
6:00	45		*		19		*		64		*		
6:15	66		*		21		*		87		*		
6:30	79		*		39		*		118		*		
6:45	82	272	*	*	68	147	*	*	150	419	*	*	
7:00	87		*		61		*		148		*		
7:15	153		*		61		*		214		*		
7:30	180		*		75		*		255		*		
7:45	238	658	*	*	73	270	*	*	311	928	*	*	
8:00	180		*		74		*		254		*		
8:15	186		*		100		*		286		*		
8:30	144		*		96		*		240		*		
8:45	143	653	*	*	92	362	*	*	235	1015	*	*	
9:00	91		*		95		*		186		*		
9:15	92		*		76		*		168		*		
9:30	92		*		71		*		163		*		
9:45	84	359	*	*	65	307	*	*	149	666	*	*	
10:00	*		*		*		*		*		*		
10:15	*		*		*		*		*		*		
10:30	*		*		*		*		*		*		
10:45	*	*	*	*	*	*	*	*	*	*	*	*	
11:00	*		*		*		*		*		*		
11:15	*		*		*		*		*		*		
11:30	*		*		*		*		*		*		
11:45	*	*	*	*	*	*	*	*	*	*	*	*	
TOTALS	2177		*		1308		*		3485		*		
DAY TOTALS		2177				1308				3485			
SPLIT %	62.5		*		37.5		*						
PEAK HOUR	7:30		*		8:15		*		7:30		*		
VOLUME	784		*		383		*		1106		*		
P.H.F.	0.89		*		0.96		*		0.89		*		

15 MINUTE, 2 CHANNEL VEHICLE COUNT
CORRECTION FACTOR: 1.00

REFERENCE: DAVIS
LOCATION: COVELL BLVD. W/O SYCAMORE RD.
WEATHER: CLEAR
OPERATOR: RM

FILENAME: V70-1
TUESDAY 4 / 28 / 92

HOUR BEGINS	WEST 0	15	30	45	HOUR TOTAL	EAST 0	15	30	45	HOUR TOTAL	COMBINED TOTAL
AM											
12	7	21	11	5	44	20	16	14	9	59	103
1	7	6	7	2	22	10	5	5	5	25	47
2	6	3	8	1	18	7	5	6	5	23	41
3	3	1	4	11	20	5	1	5	6	17	37
4	11	7	23	38	79	3	14	9	24	50	129
5	29	46	66	102	243	26	36	63	82	205	448
6	135	152	186	255	728	67	105	135	218	525	1253
7	206	202	233	208	849	177	220	166	157	720	1569
8	132	120	126	132	510	121	103	103	129	456	966
9	117	123	110	108	458	102	103	105	107	417	875
10	109	110	117	171	507	114	126	126	126	492	999
11	143	134	154	137	568	154	138	138	116	546	1114
PM											
12	150	138	129	149	566	135	117	120	136	508	1074
1	144	124	152	198	618	141	162	144	162	609	1227
2	155	194	195	168	712	181	204	177	188	750	1462
3	187	186	193	211	777	220	170	177	199	766	1543
4	213	246	264	248	971	204	257	259	229	949	1920
5	229	175	168	185	757	215	173	174	217	782	1539
6	179	157	159	191	686	227	187	163	124	701	1387
7	169	175	137	122	601	117	141	147	117	522	1123
8	132	93	103	98	426	147	135	119	100	501	927
9	84	75	64	71	294	98	78	36	64	298	592
10	56	52	35	33	176	55	62	48	60	225	401
11	36	28	21	23	108	46	31	30	17	124	232
TOTALS					10738					10270	21008

AM PEAK HOUR IS 6:45 TO 7:45

VOLUME	WEST : 896	EAST : 781	COMBINED: 1677	
DIRECTIONAL SPLIT	53%	47%		
PEAK HOUR FACTOR	0.88	0.89		0.89

PM PEAK HOUR IS 4:15 TO 5:15

VOLUME	WEST : 987	EAST : 963	COMBINED: 1950	
DIRECTIONAL SPLIT	51%	49%		
PEAK HOUR FACTOR	0.93	0.93		0.93

SITE CODE : 00000002 TJKM MACHINE COUNT PAGE: 1
Location : CO. ROAD 99B N/O COVELL BL. FILE: V189-2
City : DAVIS
Operator : JM DATE: 4/28/92

TIME	NB 1				SB 2				COMBINED				DAY: TUESDAY
BEGIN	AM		PM		AM		PM		AM		PM		
12:00	0		4		0		5		0		9		
12:15	0		5		0		3		0		8		
12:30	0		7		0		5		0		12		
12:45	0	0	2	18	0	0	8	21	0	0	10	39	
1:00	0		4		0		3		0		7		
1:15	0		5		0		4		0		9		
1:30	0		11		0		5		0		16		
1:45	0	0	7	27	0	0	6	18	0	0	13	45	
2:00	0		6		0		8		0		14		
2:15	0		8		0		5		0		13		
2:30	0		7		1		4		1		11		
2:45	0	0	5	26	0	1	5	22	0	1	10	48	
3:00	0		14		0		4		0		18		
3:15	1		8		0		3		1		11		
3:30	0		6		0		5		0		11		
3:45	0	1	3	31	0	0	5	17	0	1	8	48	
4:00	0		7		0		10		0		17		
4:15	0		8		0		4		0		12		
4:30	0		13		0		6		0		19		
4:45	3	3	10	38	0	0	8	28	3	3	18	66	
5:00	1		5		0		3		1		8		
5:15	1		7		1		4		2		11		
5:30	4		7		2		3		6		10		
5:45	4	10	2	21	3	6	5	15	7	16	7	36	
6:00	1		2		2		3		3		5		
6:15	3		3		6		4		9		7		
6:30	5		7		11		1		16		8		
6:45	2	11	6	18	13	32	5	13	15	43	11	31	
7:00	3		5		16		3		19		8		
7:15	3		1		17		3		20		4		
7:30	5		4		7		8		12		12		
7:45	4	15	4	14	6	46	2	16	10	61	6	30	
8:00	8		7		7		1		15		8		
8:15	2		7		3		2		5		9		
8:30	2		0		4		0		6		0		
8:45	2	14	3	17	2	16	2	5	4	30	5	22	
9:00	4		2		2		3		6		5		
9:15	4		2		6		2		10		4		
9:30	4		3		3		2		9		5		
9:45	3	15	3	10	1	14	0	7	4	29	3	17	
10:00	2		0		4		1		6		1		
10:15	6		3		3		0		9		3		
10:30	8		1		1		2		9		3		
10:45	7	23	0	4	7	15	0	3	14	38	0	7	
11:00	5		2		5		0		10		2		
11:15	5		1		2		0		7		1		
11:30	0		0		7		0		7		0		
11:45	1	11	0	3	9	23	0	0	10	34	0	3	
TOTALS	103		227		153		165		256		392		
DAY TOTALS		330				318				648			
SPLIT %	40.2		57.9		59.8		42.1						
PEAK HOUR	10:15		4:00		6:30		4:00		6:30		4:00		
VOLUME	26		38		57		28		70		66		
P.H.F.	0.81		0.73		0.84		0.70		0.88		0.92		

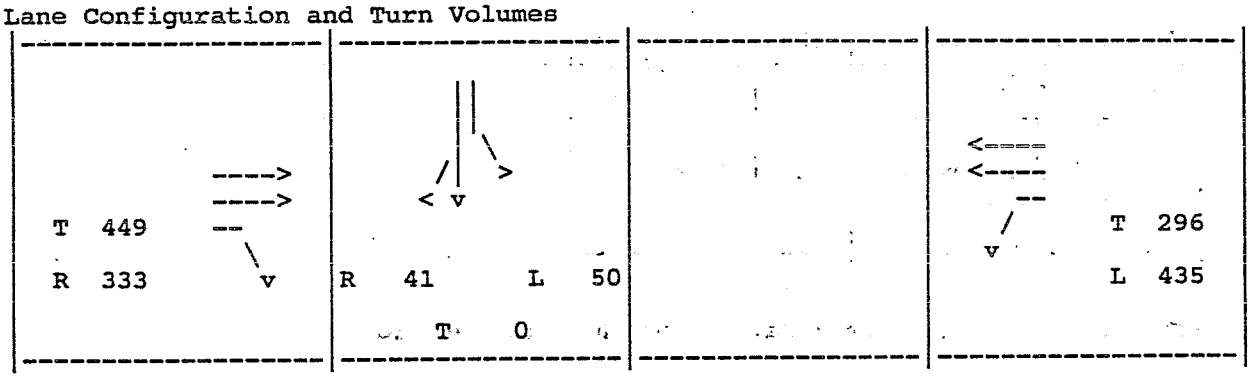
Existing, AM Peak
No Project

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	A	0.47	1
6	NB SR113 ON & COVELL	A	0.34	

Note 1: Left Turn Check Failed for This Intersection

Existing, AM Peak
No Project
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



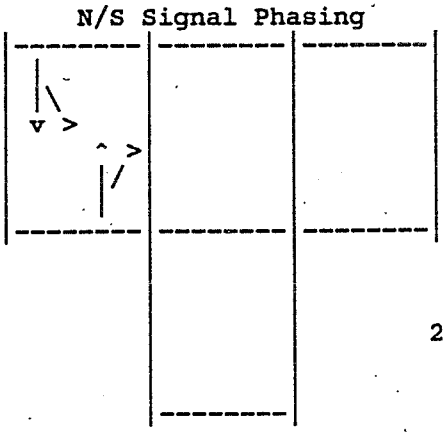
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	50	50
	TR	1	41	
EB	T	2	225	225
	EXR	1	333	
WB	EXL	1	435	435
	T	2	148	
Total Critical Volume				710

Maximum Total Critical Volumes

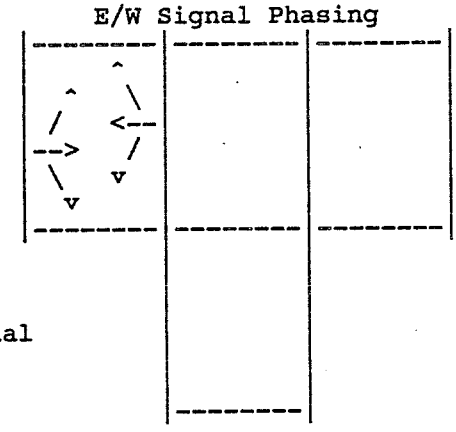
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 710
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.47

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
08-06-1992

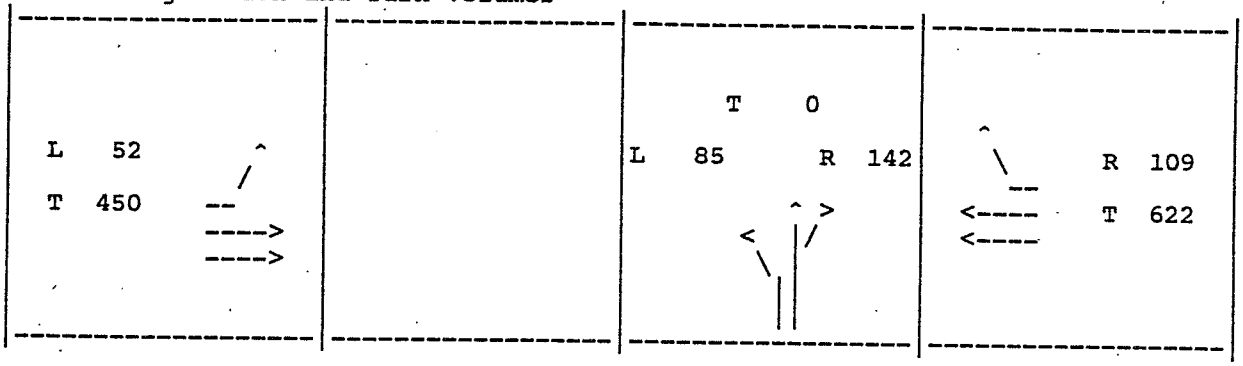
Traffic Analysis on Microcomputers

PRC ENGINEERING
12:59:14

Program Licensed To: Korve Engineering Inc.

Existing, AM Peak
No Project
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



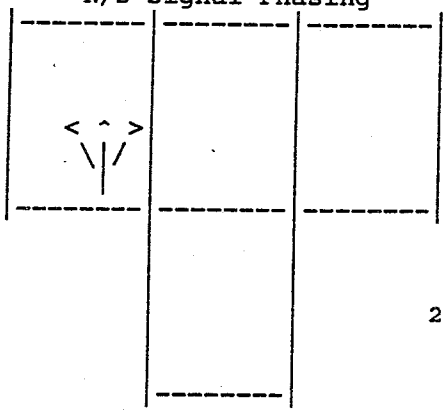
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	85	
	TR	1	142	142
EB	EXL	1	52	52
	T	2	225	
WB	T	2	311	311
	EXR	1	109	
Total Critical Volume				505

Maximum Total Critical Volumes

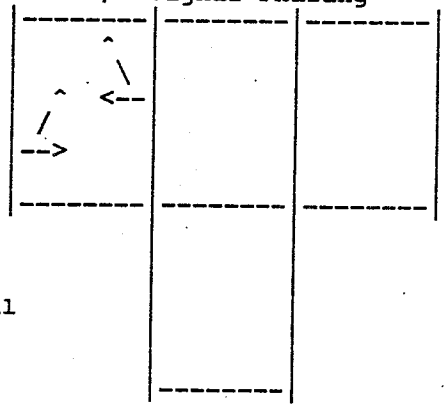
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 505
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.34

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99	A	0.11	
	& CNTY ROAD 29	A	0.11	
2	DENALLI	A	0.41	
	& COVELL			
4	CNTY ROAD 99	A	0.41	
	& COVELL			
5	SB SR113 OFF	A	0.43	
	& COVELL			
6	NB SR113 ON	C	0.71	1
	& COVELL			
7	SYCAMORE	B	0.61	
	& COVELL			
8	DENALLI	A	0.08	
	& SHASTA DRIVE			

Note 1: Left Turn Check Failed for This Intersection

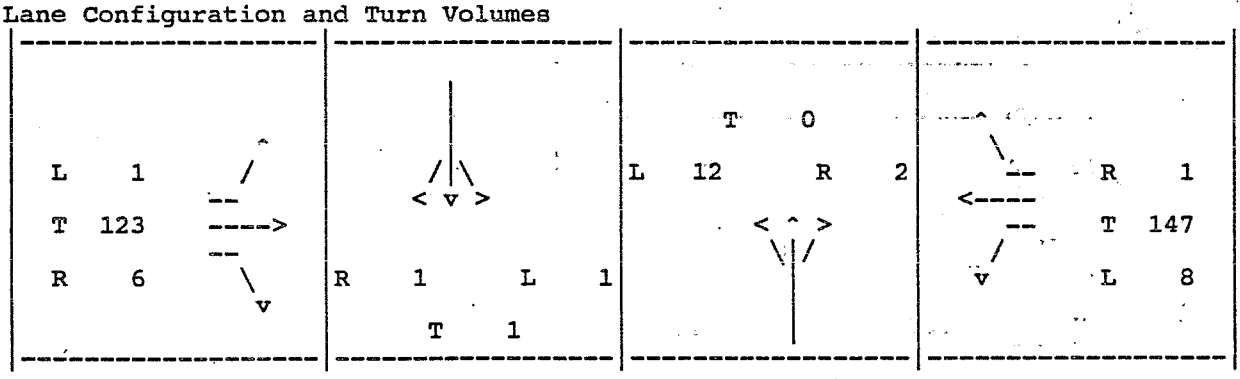
IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
08-05-1992 07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter-Davis EIR

Existing, PM Peak
No Project
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



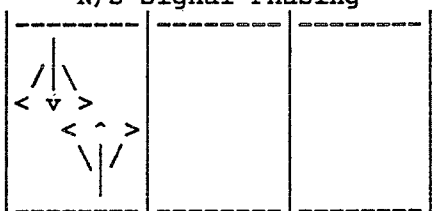
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	12	12
	TR	1	2	
SB	L	0	1	
	TR	1	2	2
EB	EXL	1	1	1
	T	1	123	
	EXR	1	6	
WB	EXL	1	8	
	T	1	147	147
	EXR	1	1	
Total Critical Volume				162

Maximum Total Critical Volumes

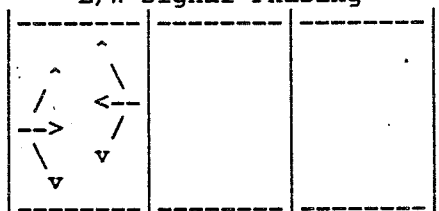
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 162
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.11

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
08-05-1992

Traffic Analysis on Microcomputers

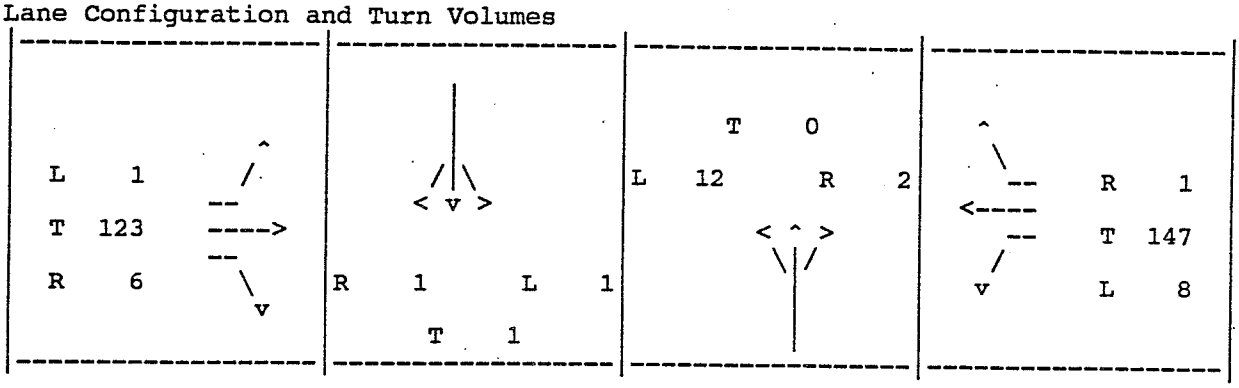
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

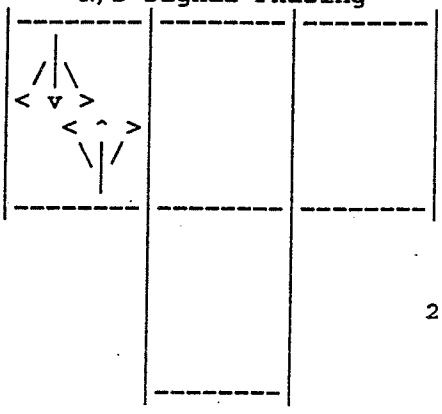


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	14	14
SB	LTR	1	3	3
EB	EXL	1	1	1
	T	1	123	
	EXR	1	6	
WB	EXL	1	8	
	T	1	147	147
	EXR	1	1	
Total Critical Volume				165

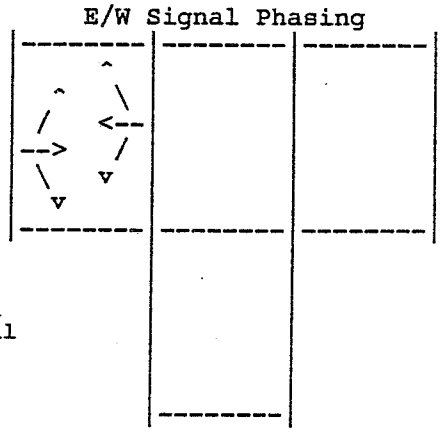
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 165
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.11

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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08-05-1992

Traffic Analysis on Microcomputers

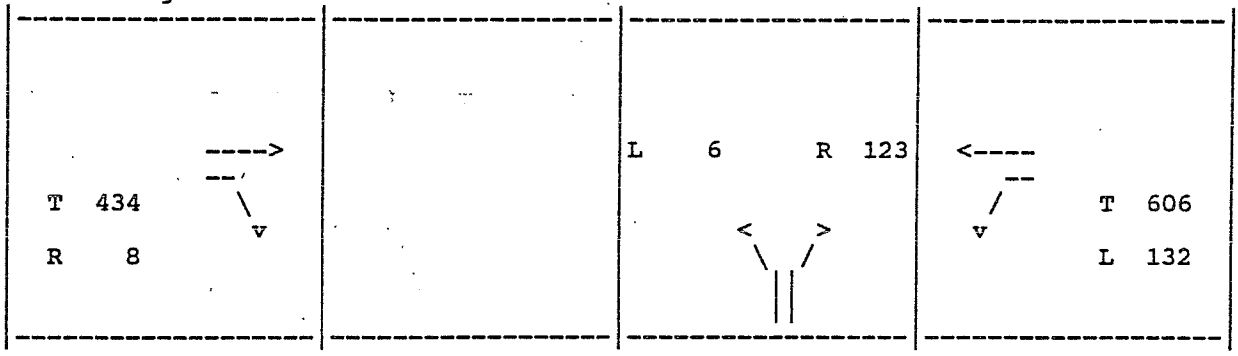
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes



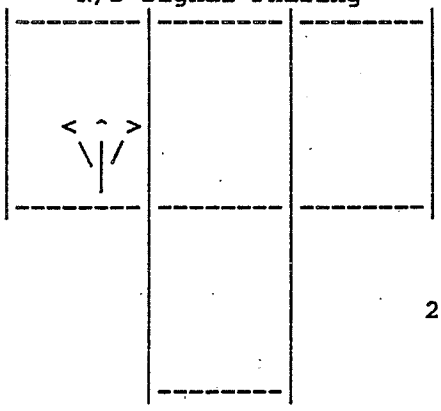
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	6	6
	EXR	1	123	
EB	T	1	434	
	EXR	1	8	
WB	EXL	1	132	
	T	1	606	606
	Total Critical Volume			612

Maximum Total Critical Volumes

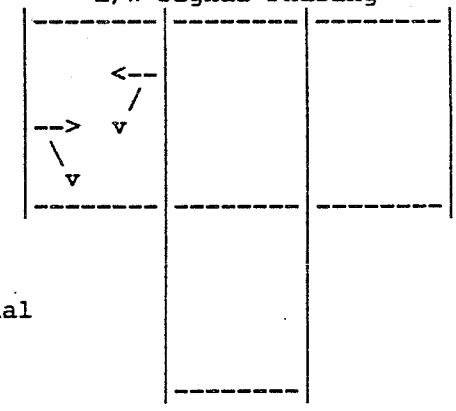
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 612
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.41

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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08-05-1992

Traffic Analysis on Microcomputers

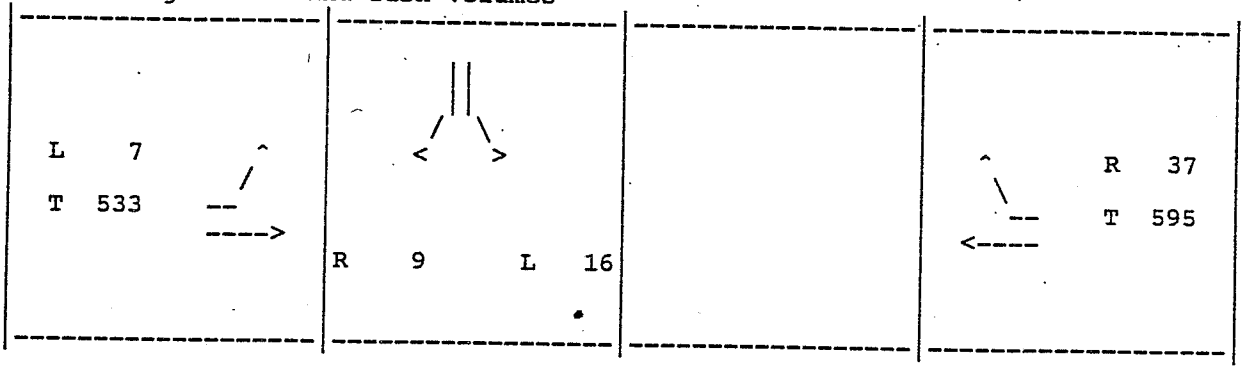
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes

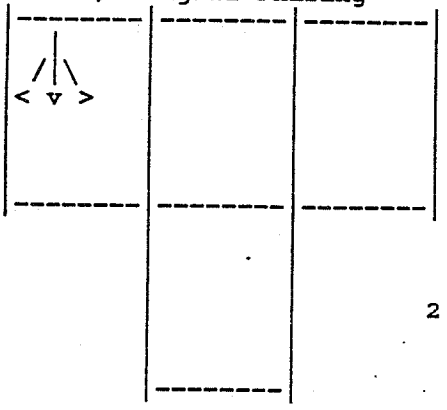


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	16	16
	EXR	1	9	
EB	EXL	1	7	7
	T	1	533	
WB	T	1	595	595
	EXR	1	37	
Total Critical Volume				618

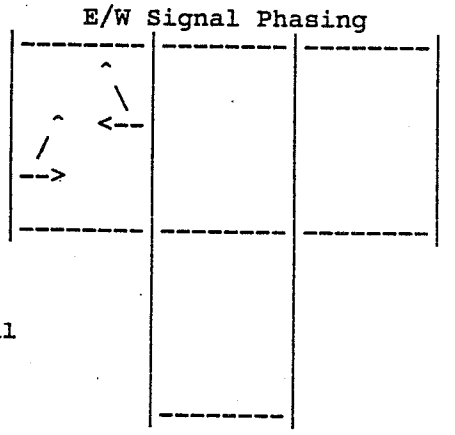
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 618
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.41

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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08-05-1992

Traffic Analysis on Microcomputers

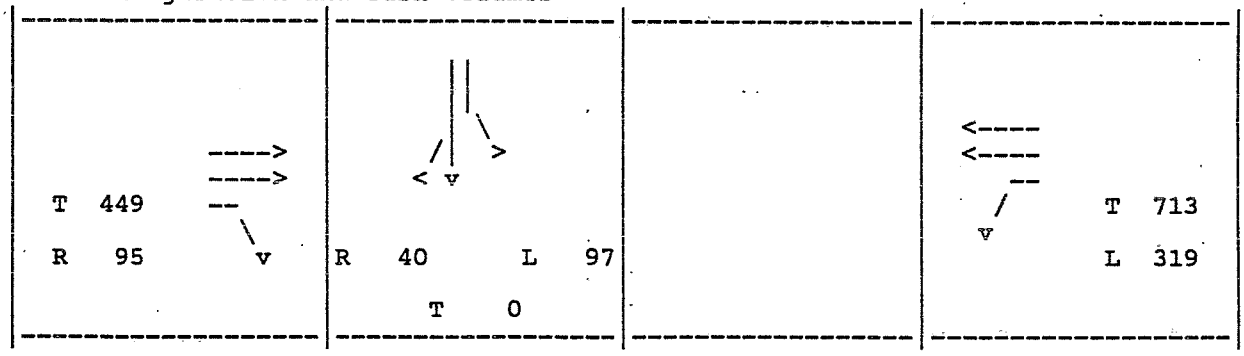
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



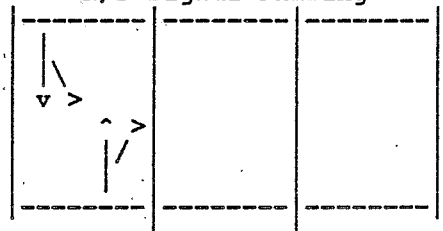
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	97	97
	TR	1	40	
EB	T	2	225	225
	EXR	1	95	
WB	EXL	1	319	319
	T	2	357	
Total Critical Volume				641

Maximum Total Critical Volumes

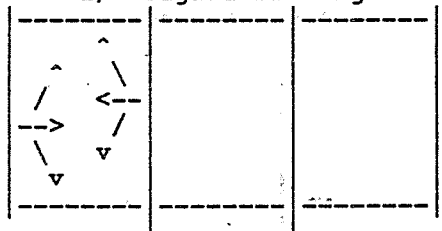
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 641
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.43

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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08-05-1992

Traffic Analysis on Microcomputers

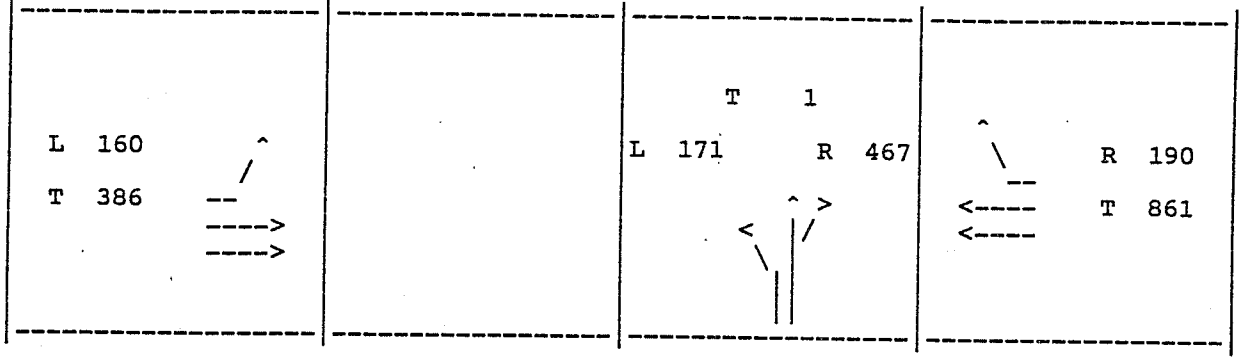
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



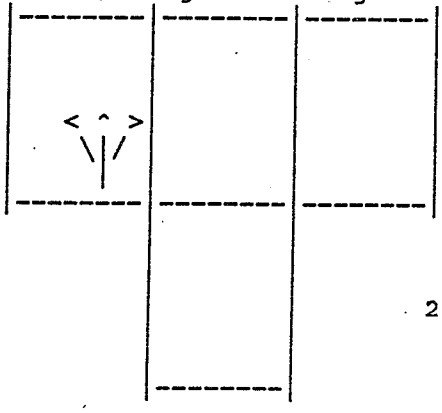
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	171	
	TR	1	468	468
EB	EXL	1	160	160
	T	2	193	
WB	T	2	431	431
	EXR	1	190	
	Total Critical Volume			1059

Maximum Total Critical Volumes

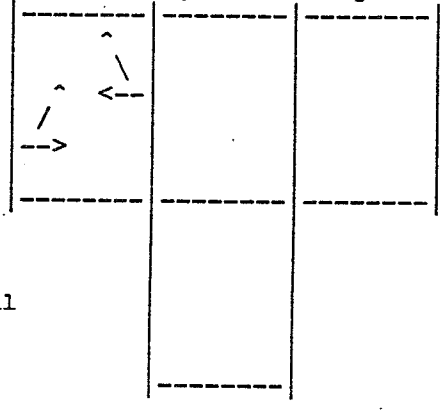
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1059
No of Critical Phases = 2
Level of Service = C
Volume/Capacity = 0.71

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
08-05-1992

Traffic Analysis on Microcomputers

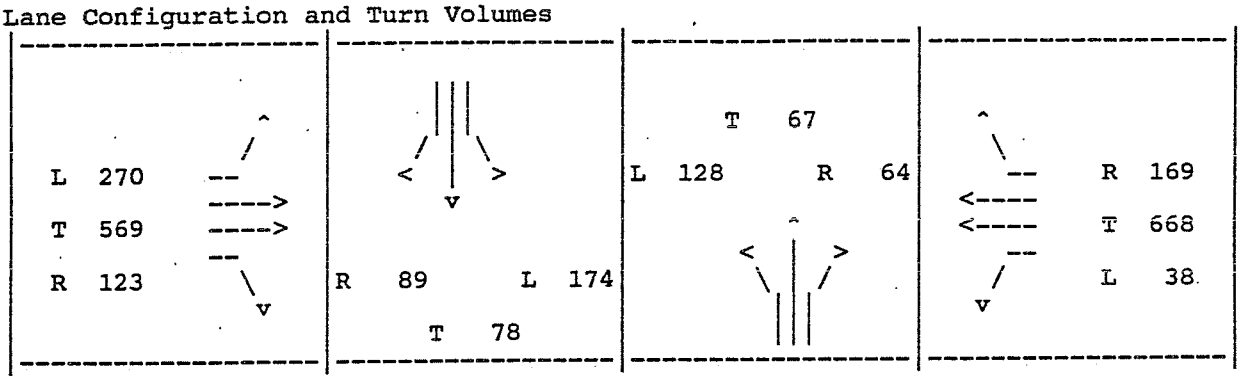
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

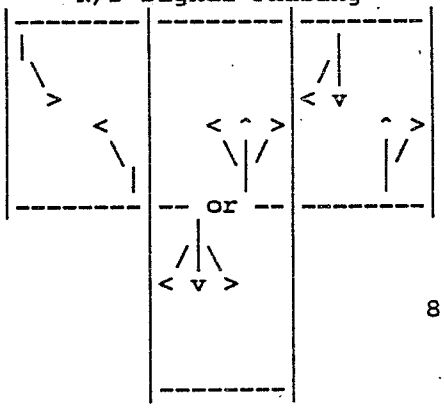


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	128	
	T	1	67	67
	EXR	1	64	
SB	EXL	1	174	174
	T	1	78	
	EXR	1	89	
EB	EXL	1	270	270
	T	2	285	
	EXR	1	123	
WB	EXL	1	38	
	T	2	334	334
	EXR	1	169	
	Total Critical Volume			845

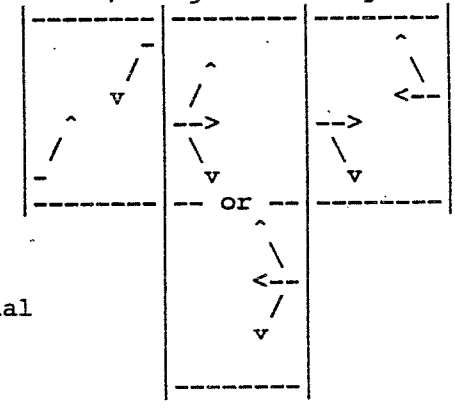
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 845
No of Critical Phases	= 4
Level of Service	= B
Volume/Capacity	= 0.61

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

IMPAX 2.22
08-05-1992

Traffic Analysis on Microcomputers

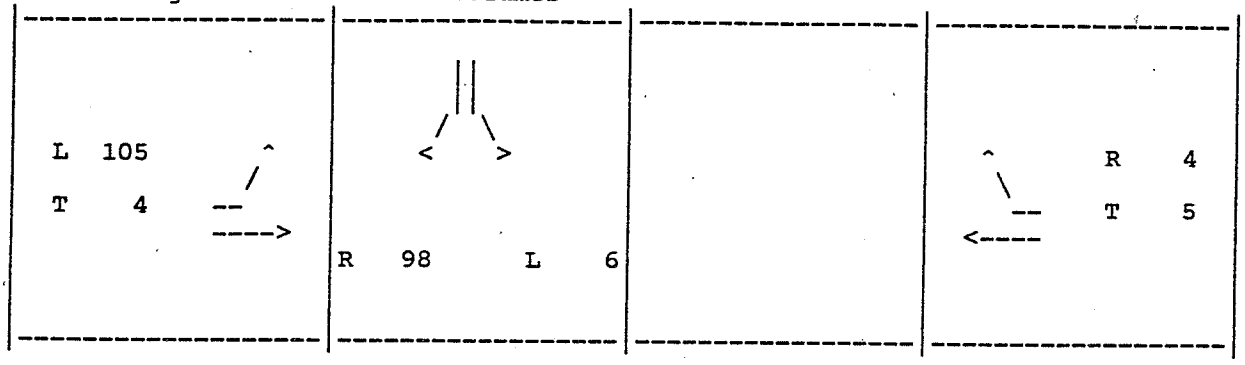
PRC ENGINEERING
07:04:35

Program Licensed To: Korve Engineering Inc.

Sutter Davis EIR

Existing, PM Peak
No Project
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes



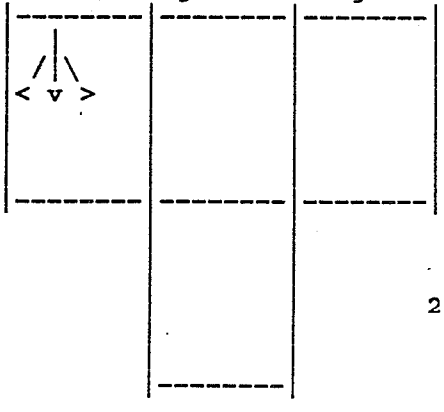
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	6	6
	EXR	1	98	
EB	EXL	1	105	105
	T	1	4	
WB	T	1	5	5
	EXR	1	4	
Total Critical Volume				116

Maximum Total Critical Volumes

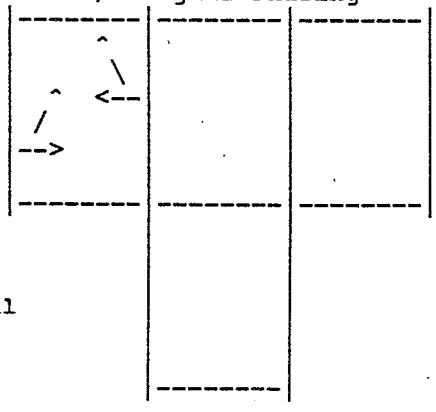
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 116
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.08

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Program Licensed To: Korve Engineering Inc.

Sutter Davis/Head Properties

Existing, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	A	0.57	
6	NB SR113 ON & COVELL	A	0.44	

IMPAX 2.22
09-22-1992

Traffic Analysis on Microcomputers

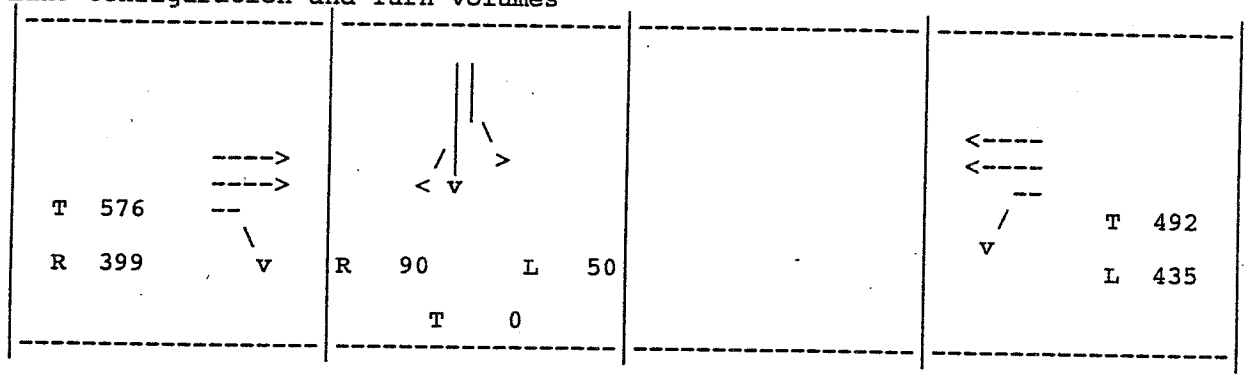
PRC ENGINEERING
07:02:42

Program Licensed To: Korve Engineering Inc.

Sutter Davis/Head Properties

Existing, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



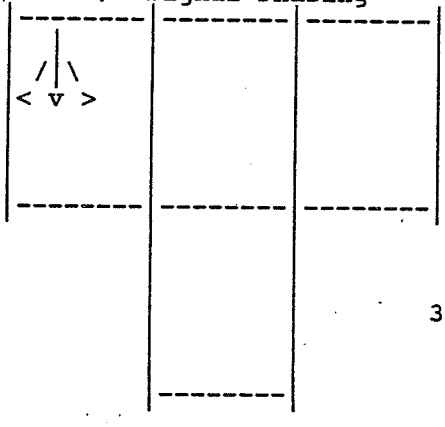
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	50	
	TR	1	90	90
EB	T	2	288	288
	EXR	1	399	
WB	EXL	1	435	435
	T	2	246	
Total Critical Volume				813

Maximum Total Critical Volumes

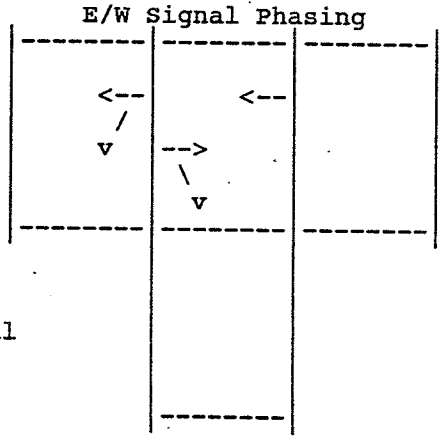
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 813
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.57

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-22-1992

Traffic Analysis on Microcomputers

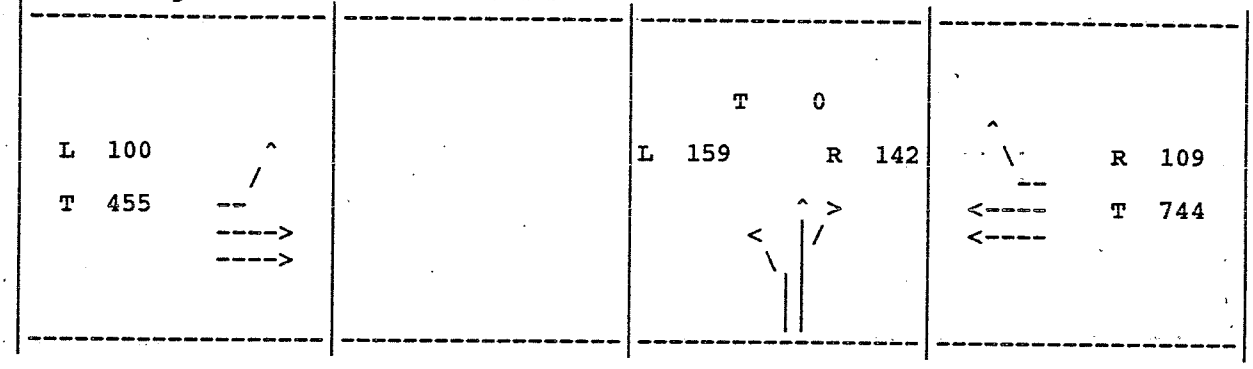
PRC ENGINEERING
07:02:42

Program Licensed To: Korve Engineering Inc.

Sutter Davis/Head Properties

Existing, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

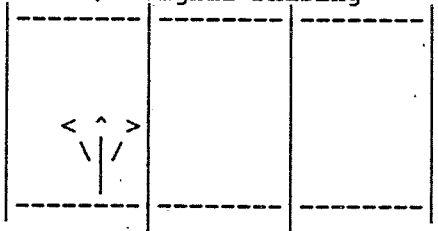


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	159	159
	TR	1	142	
EB	EXL	1	100	100
	T	2	228	
WB	T	2	372	372
	EXR	1	109	
Total Critical Volume				631

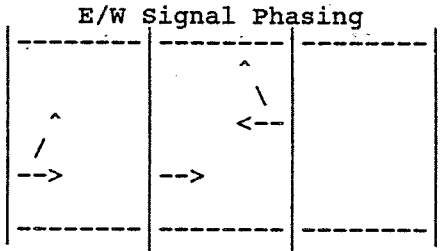
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 631
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.44

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Sutter Davis Head Properities

Existing, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	A A	0.11 0.11	
2	DENALLI & COVELL	A	0.42	
3	VANSELL & COVELL	A	0.31	
4	CNTY ROAD 99 & COVELL	A	0.41	
5	SB SR113 OFF & COVELL	A	0.51	
6	NB SR113 ON & COVELL	C	0.80	
7	SYCAMORE & COVELL	B	0.65	
8	DENALLI & SHASTA DRIVE	A	0.08	
12	CNTY ROAD 99 & Comm. Access	A	0.15	
15	CNTY ROAD 99 & EAST ACCESS	A	0.18	

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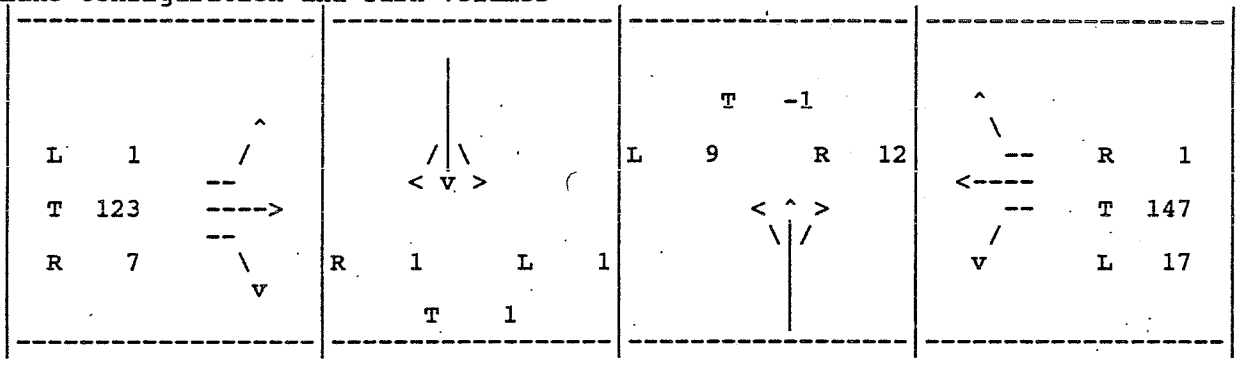
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes

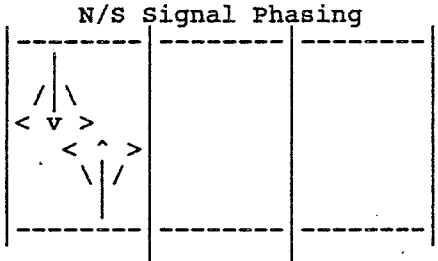


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	9	
	TR	1	11	11
SB	L	0	1	1
	TR	1	2	
EB	EXL	1	1	1
	T	1	123	
	EXR	1	7	
WB	EXL	1	17	
	T	1	147	147
	EXR	1	1	
Total Critical Volume				160

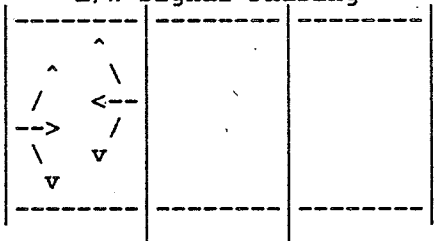
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 160
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.11

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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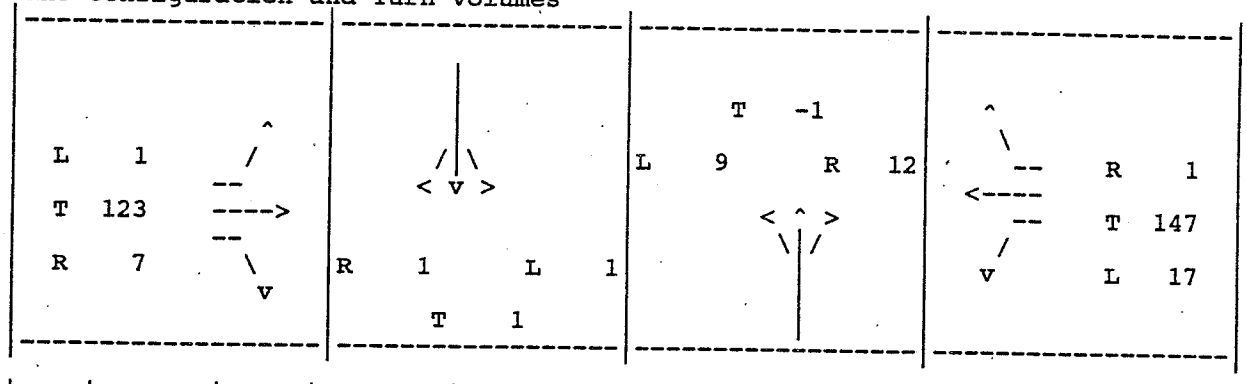
Sutter Davis Head Properities

Existing, With Project
PM Peak

Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

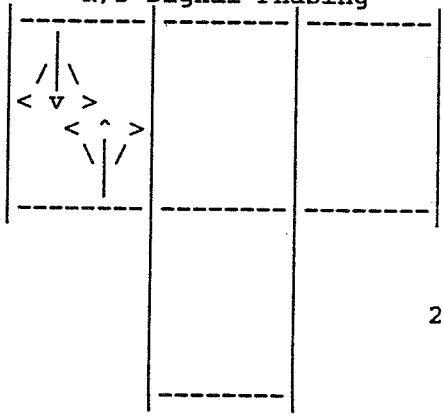


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	20	20
SB	LTR	1	3	3
EB	EXL	1	1	1
	T	1	123	
	EXR	1	7	
WB	EXL	1	17	
	T	1	147	147
	EXR	1	1	
Total Critical Volume				171

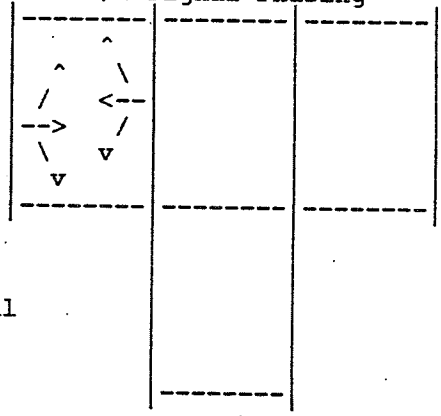
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 171
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.11

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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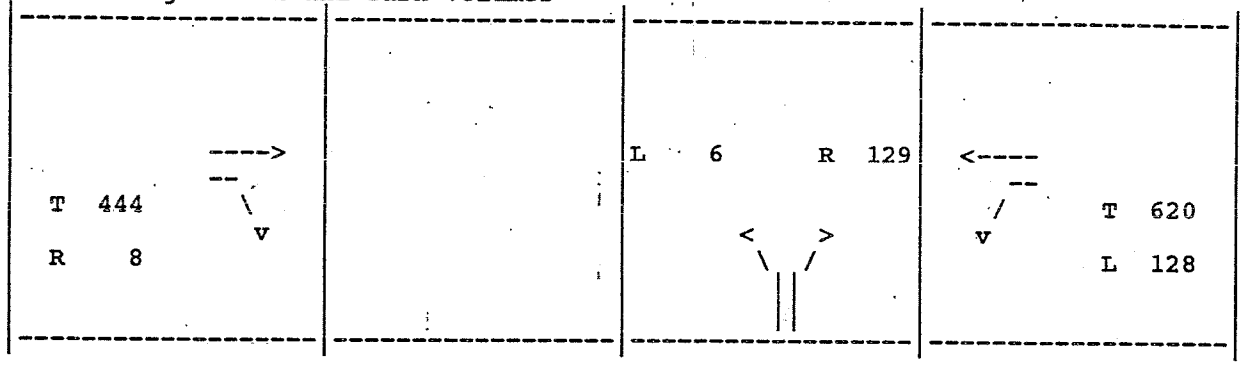
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes

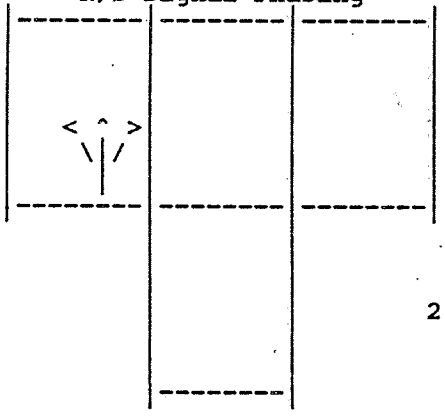


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	6	6
	EXR	1	129	
EB	T	1	444	
	EXR	1	8	
WB	EXL	1	128	
	T	1	620	620
Total Critical Volume				626

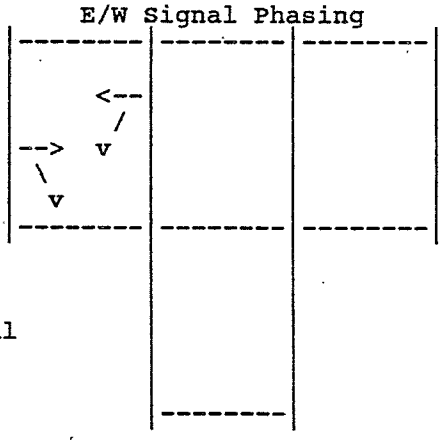
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 626
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.42

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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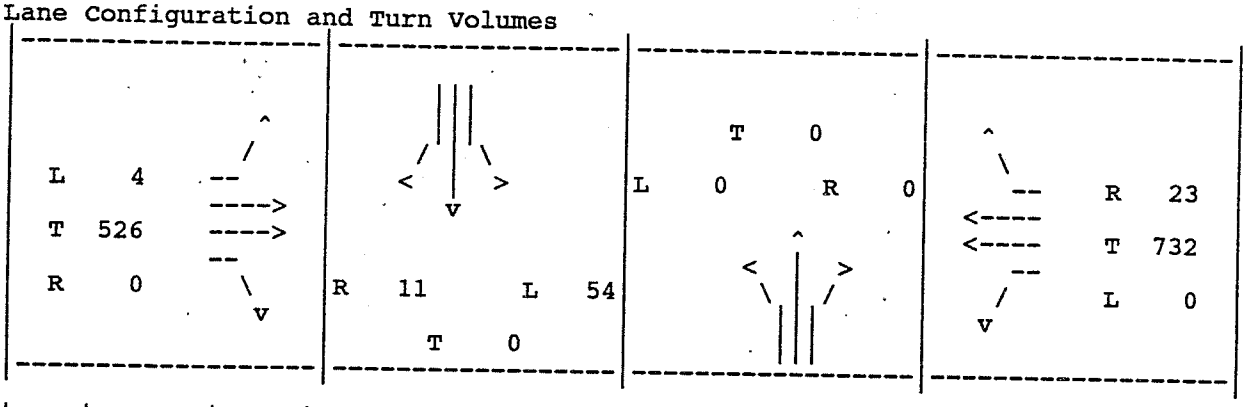
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes



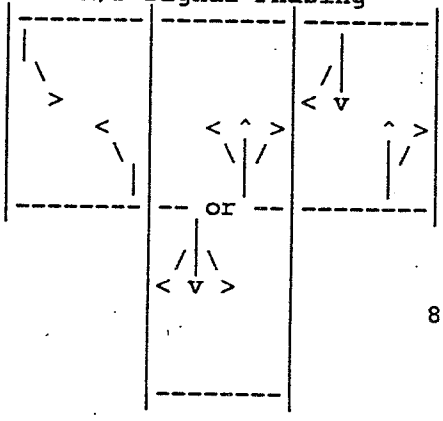
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	0	
	T	1	0	0
	EXR	1	0	
SB	EXL	1	54	54
	T	1	0	
	EXR	1	11	
EB	EXL	1	4	4
	T	2	263	
	EXR	1	0	
WB	EXL	1	0	
	T	2	366	366
	EXR	1	23	
Total Critical Volume				424

Maximum Total Critical Volumes

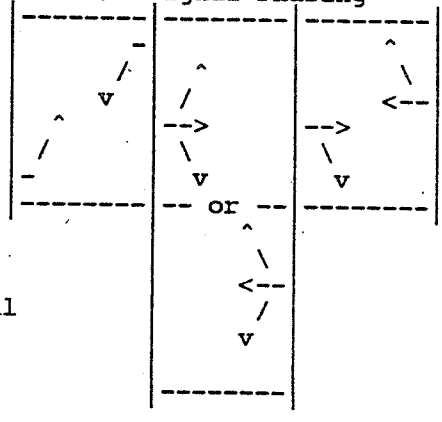
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 424
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.31

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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Traffic Analysis on Microcomputers

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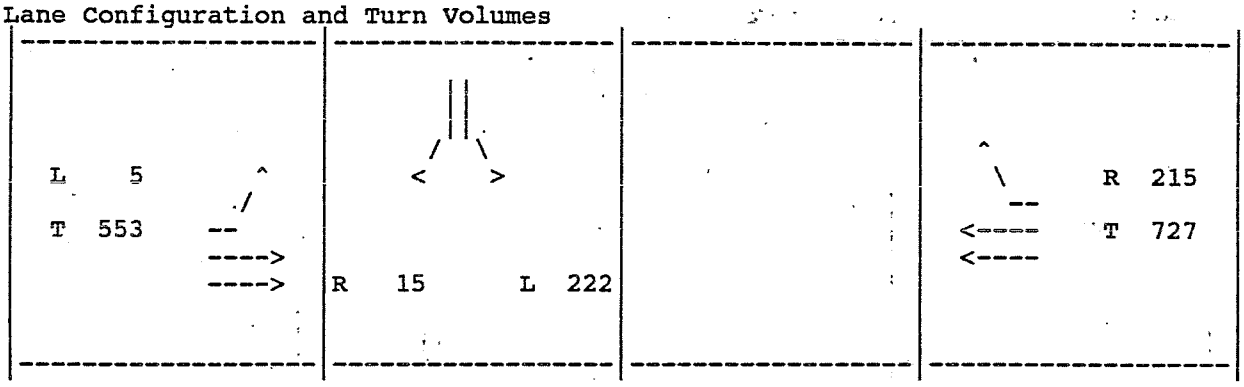
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



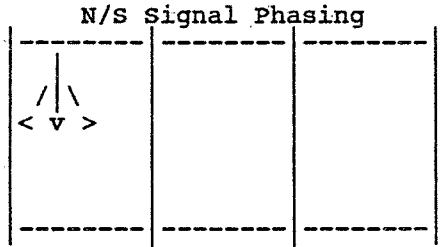
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	222	222
	EXR	1	15	
EB	EXL	1	5	5
	T	2	277	
WB	T	2	364	364
	EXR	1	215	
Total Critical Volume				591

Maximum Total Critical Volumes

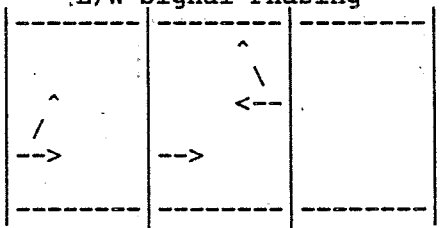
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 591
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.41

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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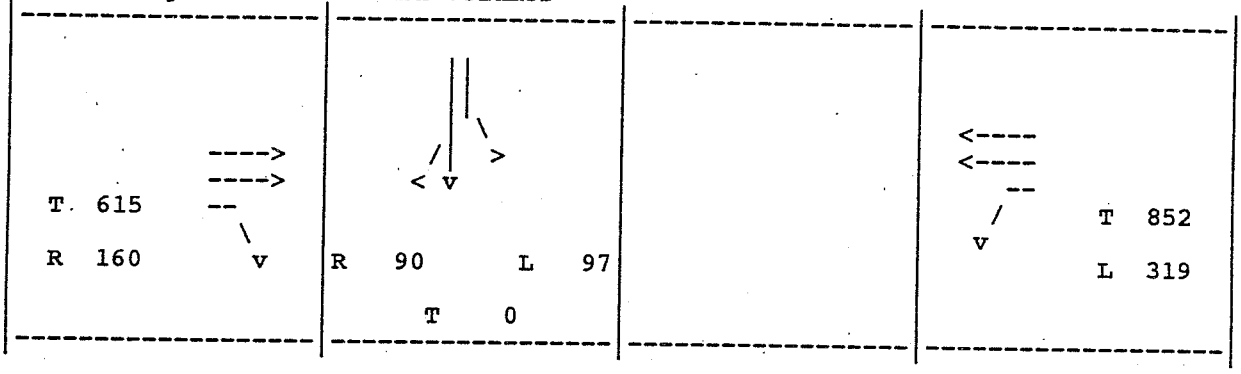
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



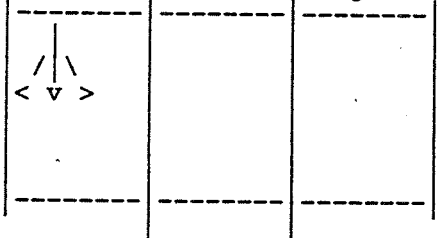
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	97	97
	TR	1	90	
EB	T	2	308	308
	EXR	1	160	
WB	EXL	1	319	319
	T	2	426	
	Total Critical Volume			724

Maximum Total Critical Volumes

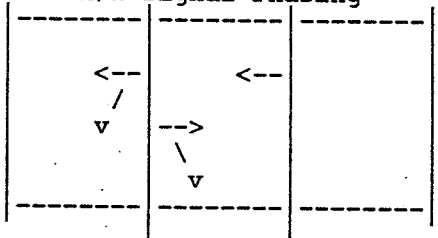
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 724
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.51

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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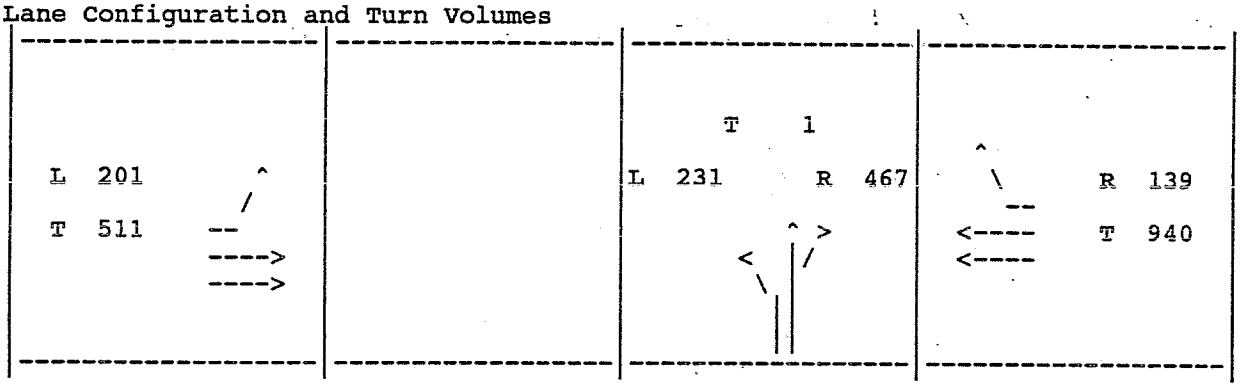
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

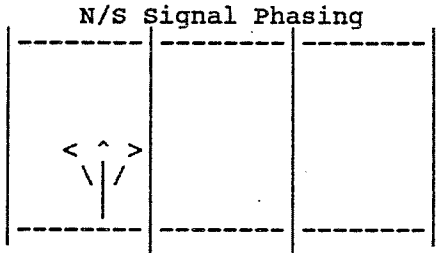


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	231	
	TR	1	468	468
EB	EXL	1	201	201
	T	2	256	
WB	T	2	470	470
	EXR	1	139	
Total Critical Volume				1139

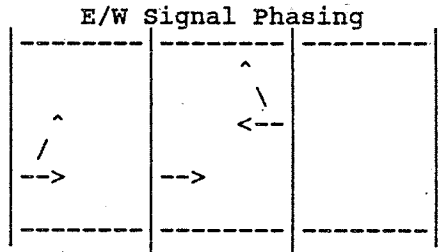
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1139
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.80

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

PRC ENGINEERING
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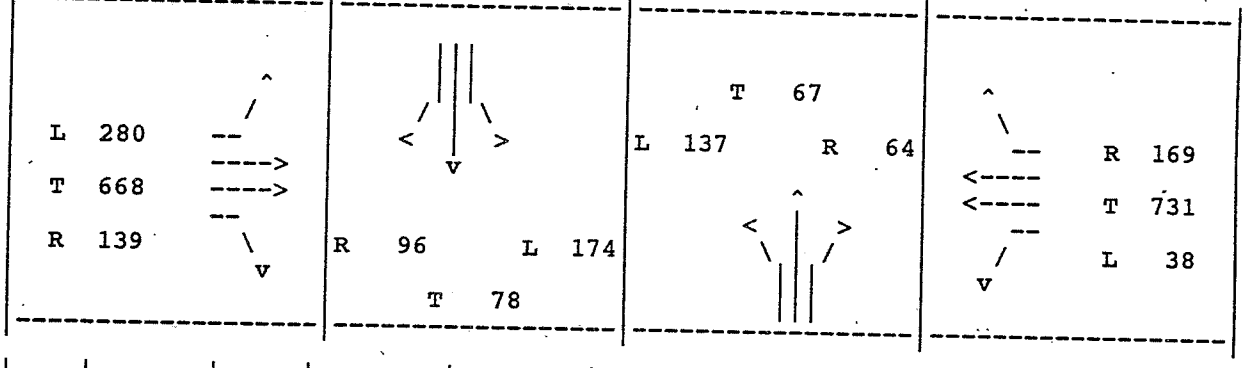
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes



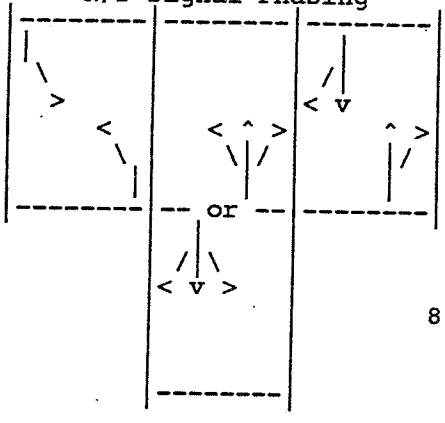
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	137	
	T	1	67	67
	EXR	1	64	
SB	EXL	1	174	174
	T	1	78	
	EXR	1	96	
EB	EXL	1	280	280
	T	2	334	
	EXR	1	139	
WB	EXL	1	38	
	T	2	366	366
	EXR	1	169	
Total Critical Volume				887

Maximum Total Critical Volumes

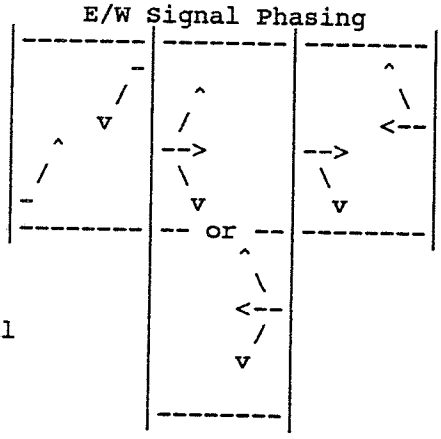
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 887
No of Critical Phases	= 4
Level of Service	= B
Volume/Capacity	= 0.65

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

IMPAX 2.22
09-22-1992

Traffic Analysis on Microcomputers

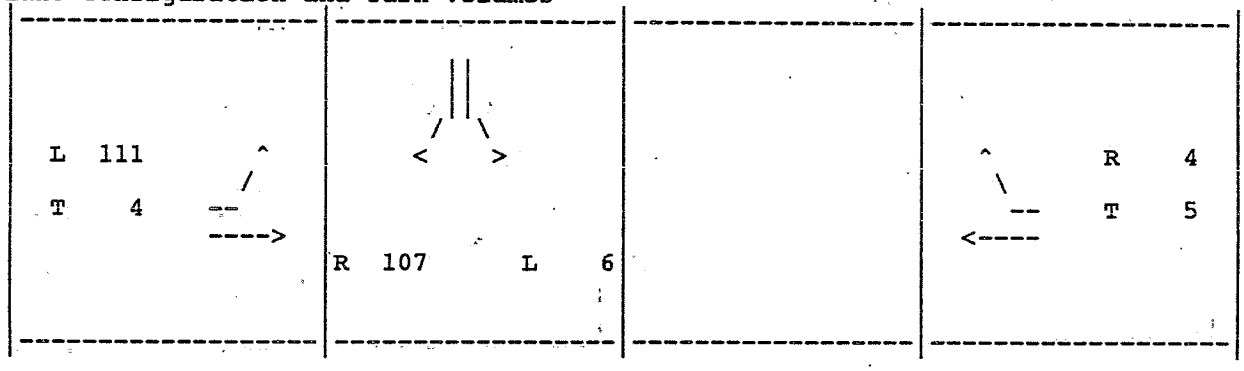
PRC ENGINEERING
07:07:20

Program Licensed To: Korve Engineering Inc.

Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes

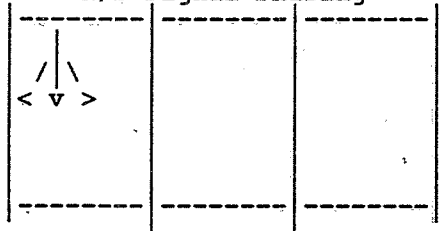


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	6	6
	EXR	1	107	
EB	EXL	1	111	111
	T	1	4	
WB	T	1	5	5
	EXR	1	4	
Total Critical Volume				122

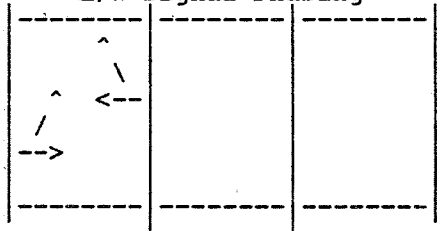
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 122
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.08

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

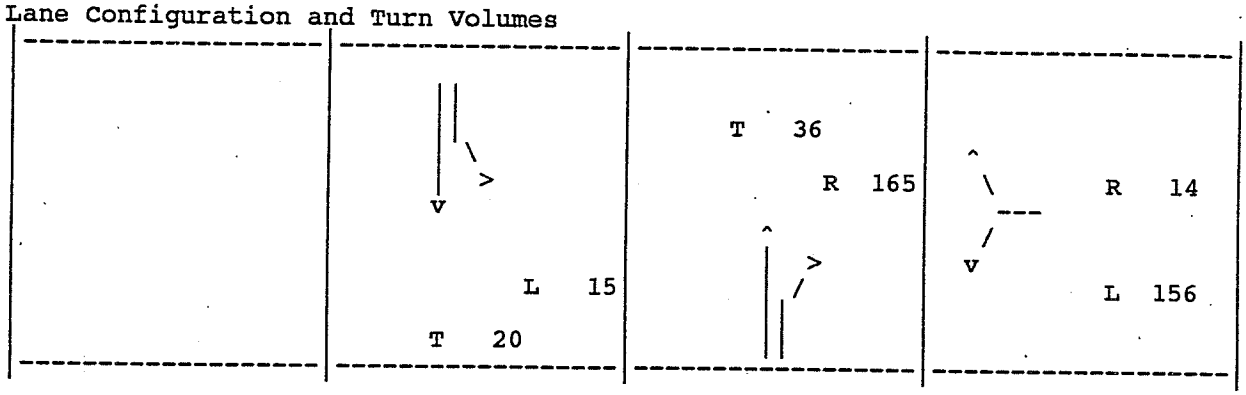
PRC ENGINEERING
07:07:20

Program Licensed To: Korve Engineering Inc.

Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 12 CNTY ROAD 99 & Comm. Access

Lane Configuration and Turn Volumes

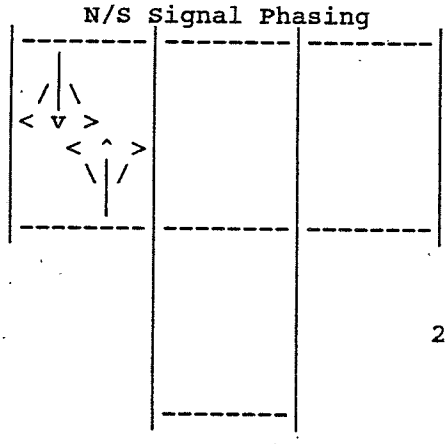


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	T	1	36	36
	EXR	1	165	
SB	EXL	1	15	15
	T	1	20	
WB	LR	1	170	170
	Total Critical Volume			221

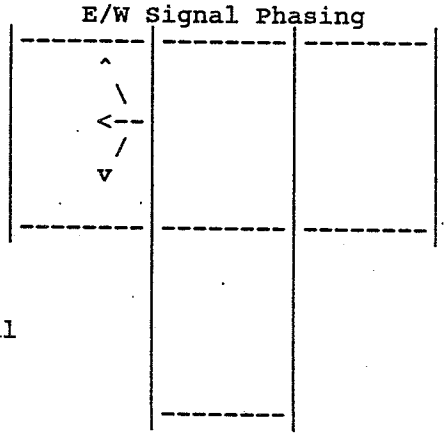
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 221
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.15

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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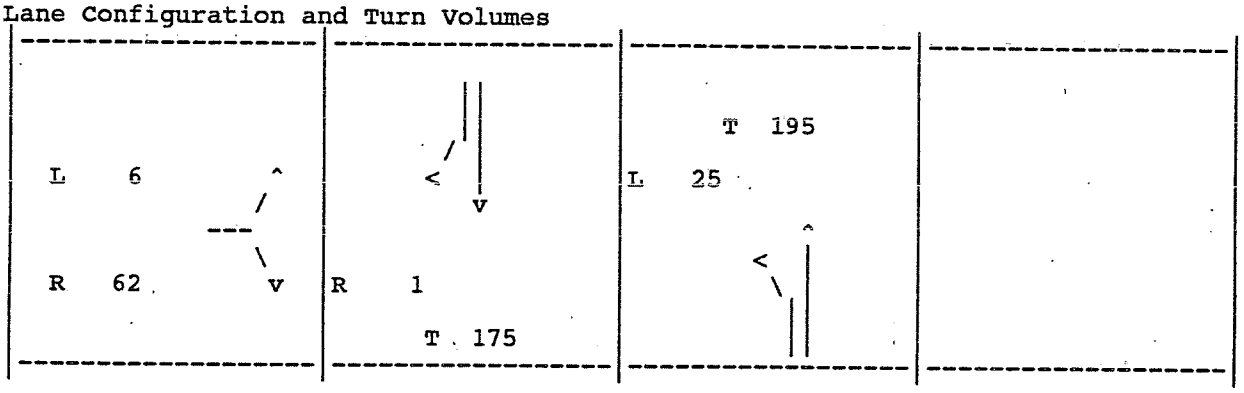
Sutter Davis Head Properities

Existing, With Project
PM Peak
Intersection: 15 CNTY ROAD 99 & EAST ACCESS

Lane Configuration and Turn Volumes



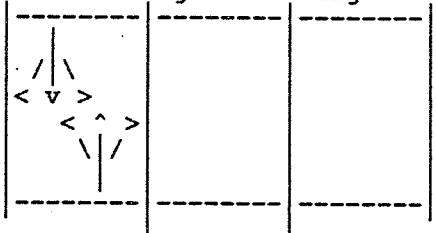
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	25	25
	T	1	195	
SB	T	1	175	175
	EXR	1	1	
EB	LR	1	68	68
Total Critical Volume				268

Maximum Total Critical Volumes

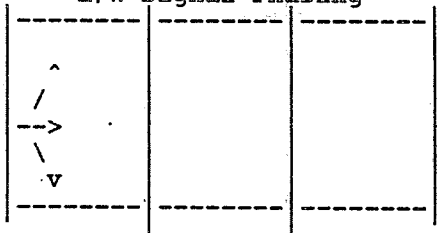
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 268
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.18

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Year 2010, Alt 1, No Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.76	
6	NB SR113 ON & COVELL	A	0.59	

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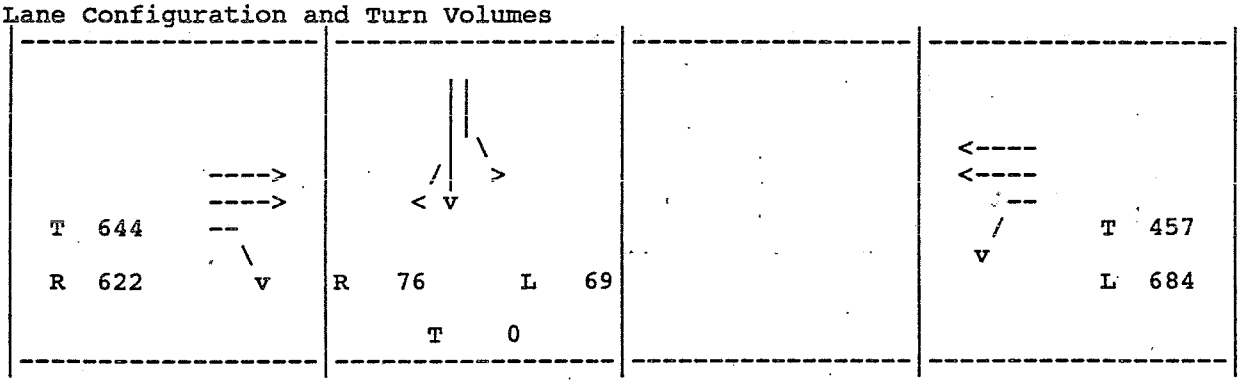
Year 2010, Alt 1, No Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

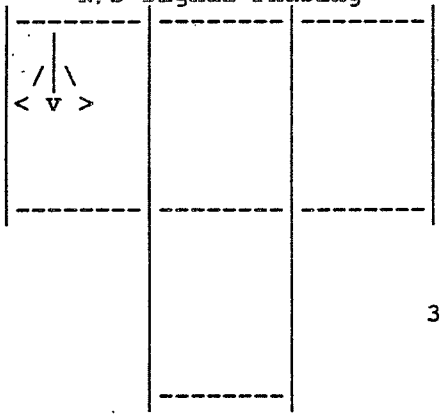


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	69	
	TR	1	76	76
EB	T	2	322	322
	EXR	1	622	
WB	EXL	1	684	684
	T	2	229	
Total Critical Volume				1082

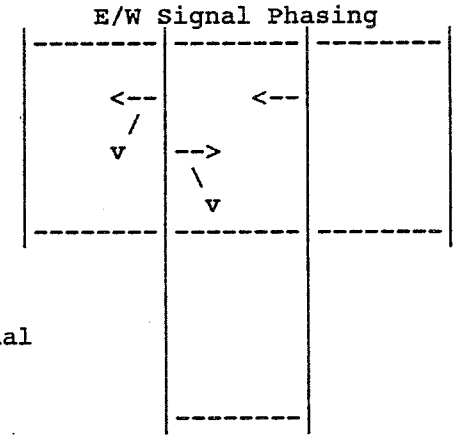
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1082
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.76

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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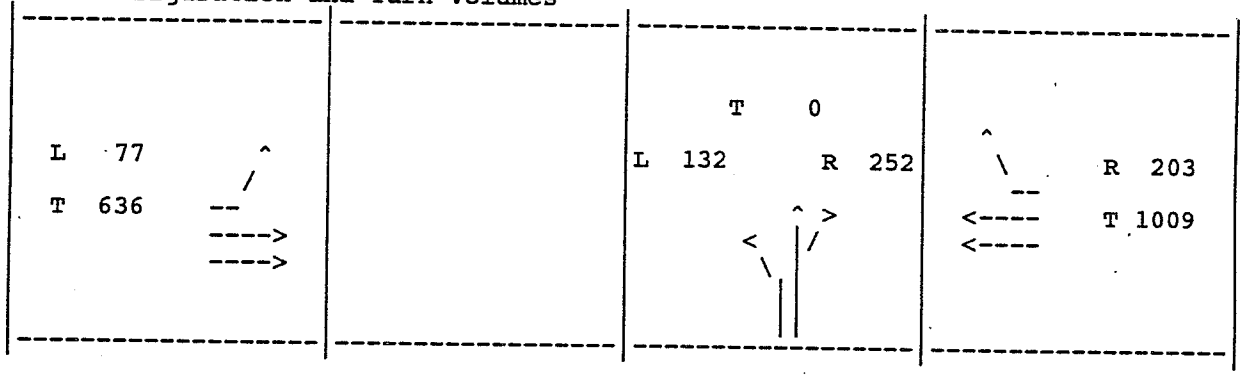
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, No Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

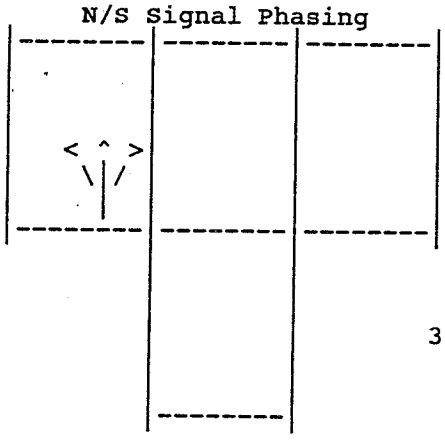


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	132	
	TR	1	252	252
EB	EXL	1	77	77
	T	2	318	
WB	T	2	505	505
	EXR	1	203	
Total Critical Volume				834

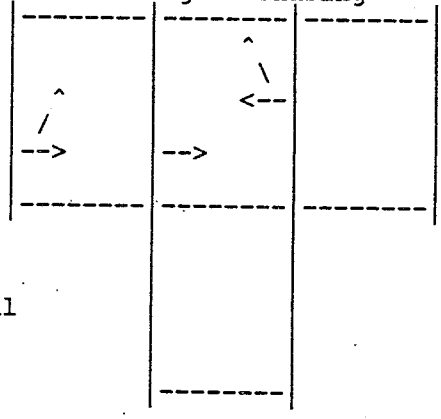
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 834
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.59

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

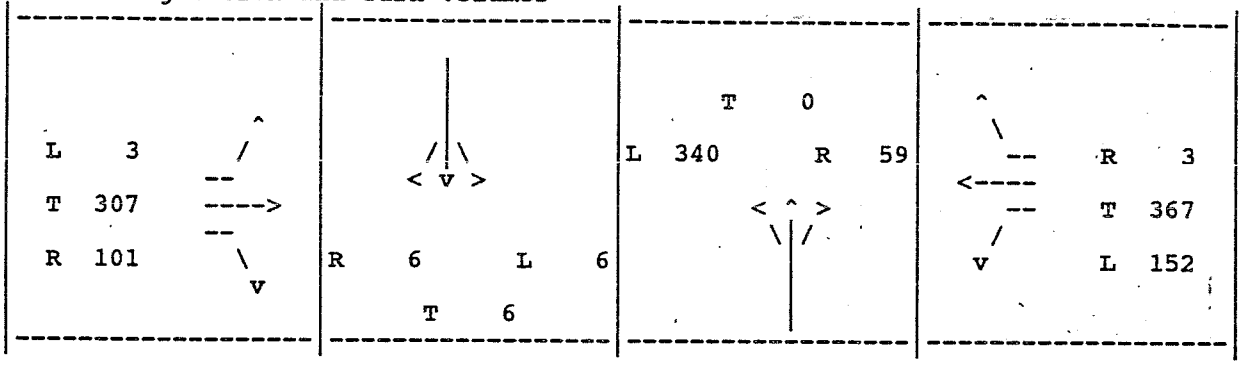
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, No Project
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	A A	0.54 0.58	
2	DENALLI & COVELL	A	0.49	
3	VANSELL & COVELL	A	0.46	
4	CNTY ROAD 99 & COVELL	A	0.47	
5	SB SR113 OFF & COVELL	C	0.80	
6	NB SR113 ON & COVELL	F	1.32	
7	SYCAMORE & COVELL	F	1.12	
8	DENALLI & SHASTA DRIVE	A	0.26	

Year 2010, Alt 1, No Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



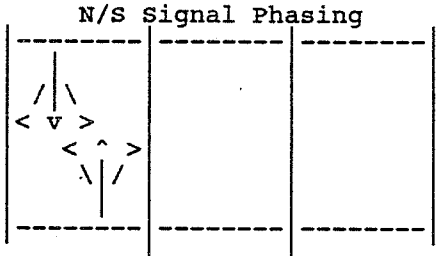
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	340	340
	TR	1	59	
SB	L	0	6	
	TR	1	12	12
EB	EXL	1	3	
	T	1	307	307
	EXR	1	101	
WB	EXL	1	152	152
	T	1	367	
	EXR	1	3	
Total Critical Volume				811

Maximum Total Critical Volumes

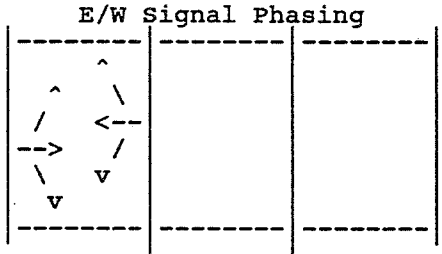
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 811
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.54

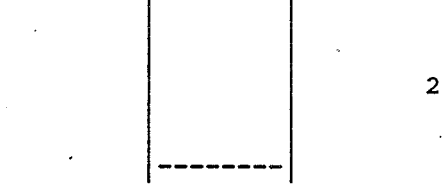
N/S Signal Phasing

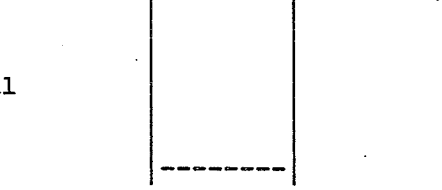


E/W Signal Phasing



2 Phase Signal





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Traffic Analysis on Microcomputers

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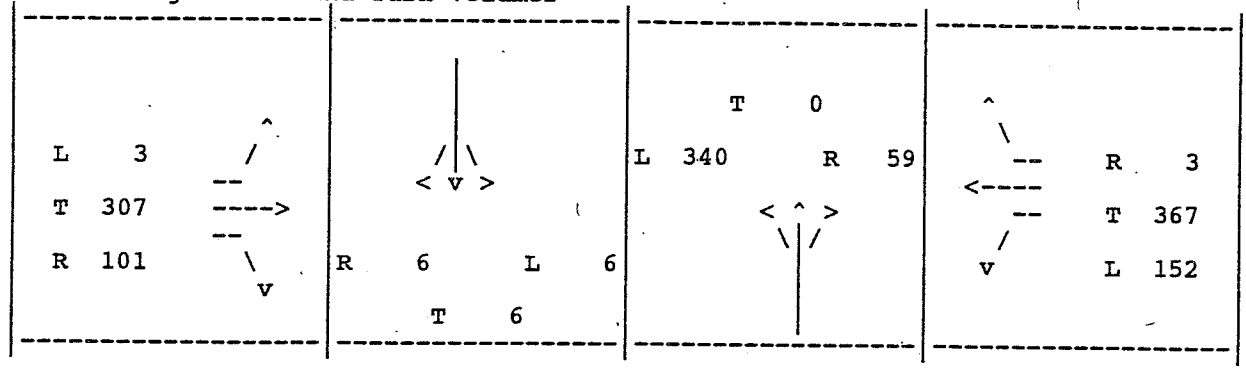
Year 2010, Alt 1, No Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

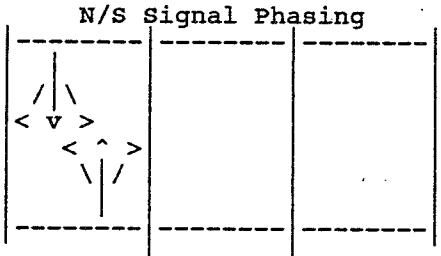


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	399	399
SB	LTR	1	18	18
EB	EXL	1	3	
	T	1	307	307
	EXR	1	101	
WB	EXL	1	152	152
	T	1	367	
	EXR	1	3	
Total Critical Volume				876

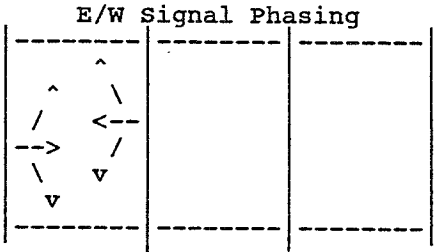
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 876
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.58

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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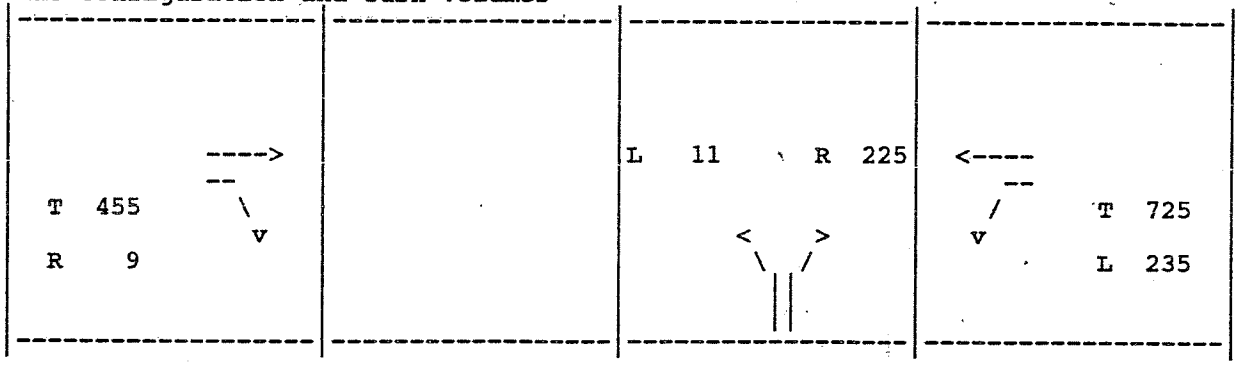
Year 2010, Alt 1, No Project
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes



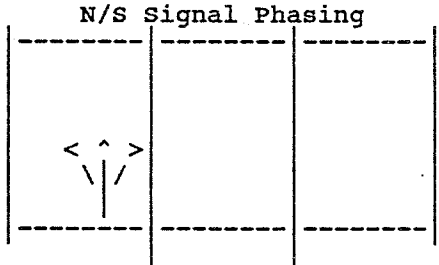
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	11	11
	EXR	1	225	
EB	T	1	455	
	EXR	1	9	
WB	EXL	1	235	
	T	1	725	725
Total Critical Volume				736

Maximum Total Critical Volumes

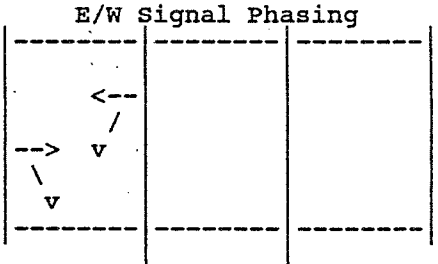
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 736
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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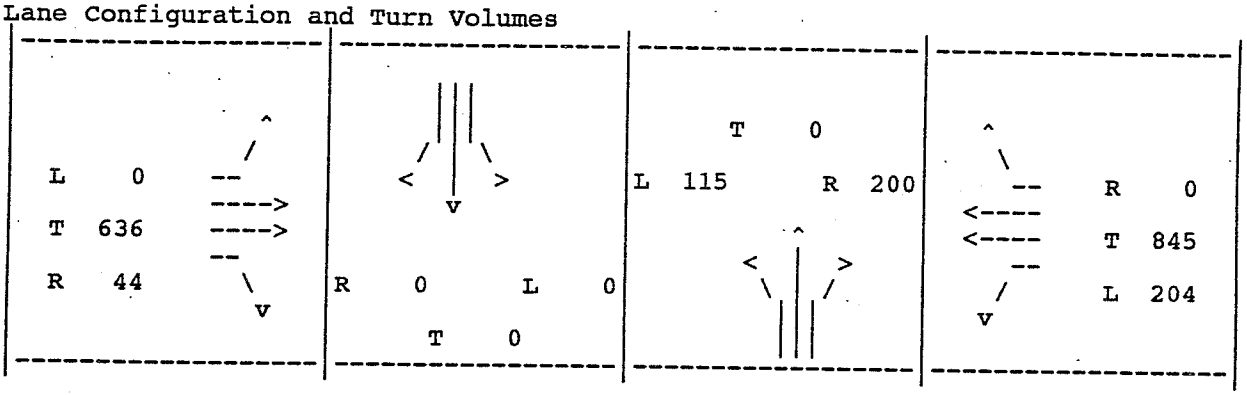
Year 2010, Alt 1, No Project
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes



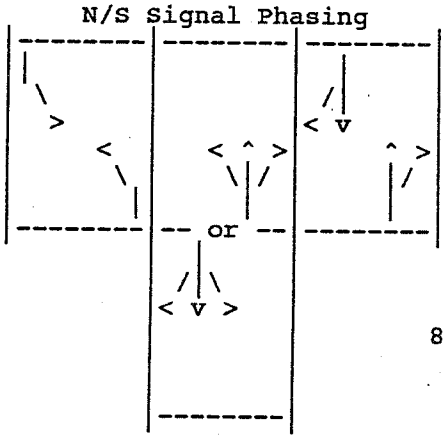
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	115	115
	T	1	0	
	EXR	1	200	
SB	EXL	1	0	
	T	1	0	0
	EXR	1	0	
EB	EXL	1	0	
	T	2	318	318
	EXR	1	44	
WB	EXL	1	204	204
	T	2	423	
	EXR	1	0	
Total Critical Volume				637

Maximum Total Critical Volumes

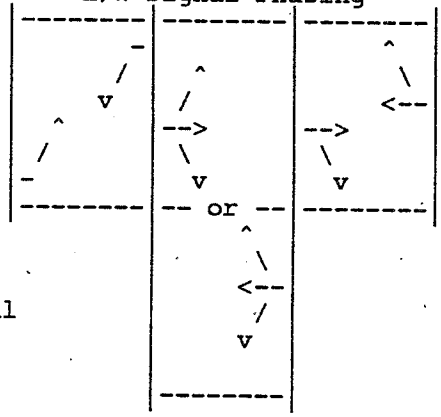
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 637
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.46

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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Traffic Analysis on Microcomputers

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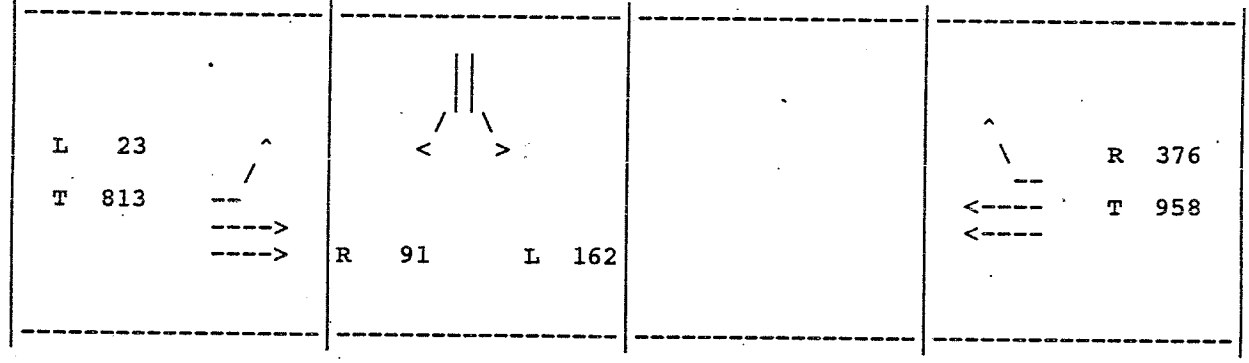
Year 2010, Alt 1, No Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



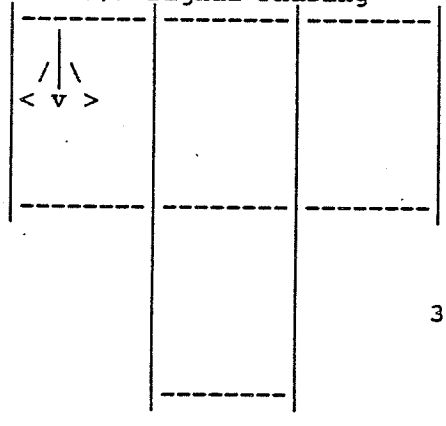
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	162	162
	EXR	1	91	
EB	EXL	1	23	23
	T	2	407	
WB	T	2	479	479
	EXR	1	376	
Total Critical Volume				664

Maximum Total Critical Volumes

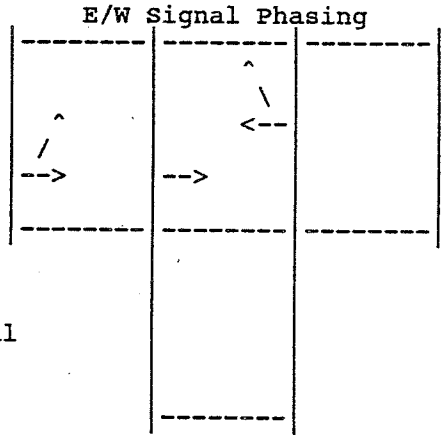
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 664
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.47

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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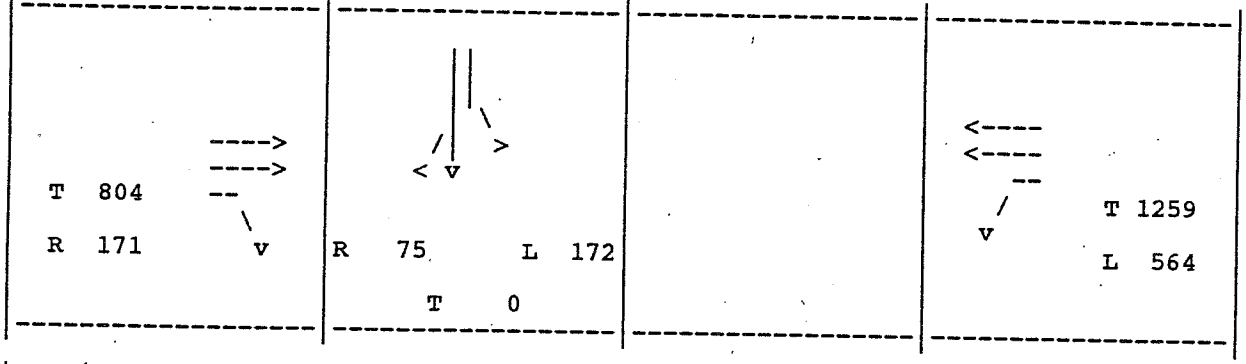
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, No Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



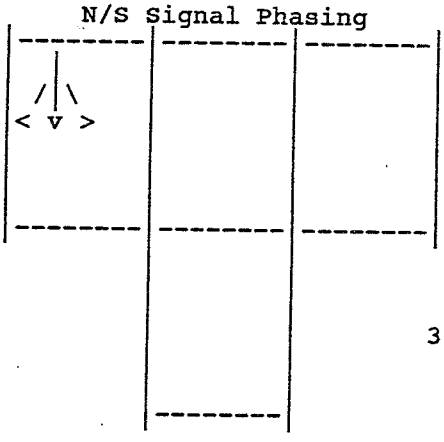
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	172	172
	TR	1	75	
EB	T	2	402	402
	EXR	1	171	
WB	EXL	1	564	564
	T	2	630	
Total Critical Volume				1138

Maximum Total Critical Volumes

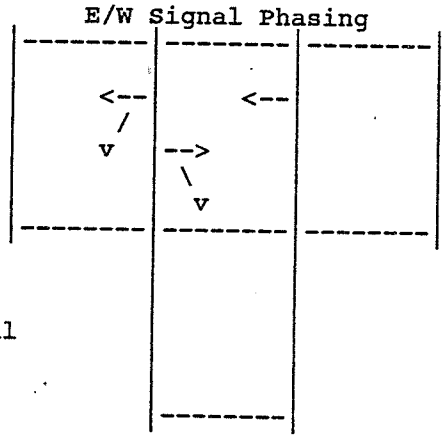
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1138
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.80

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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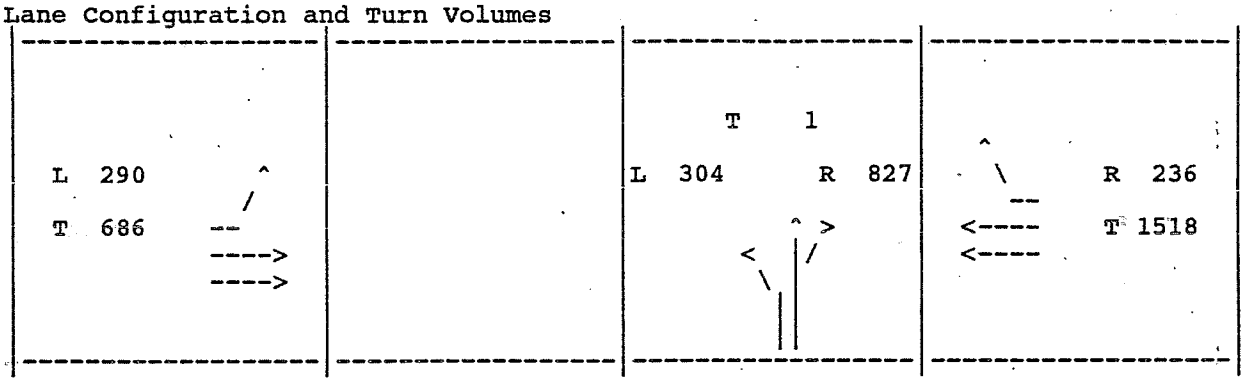
Year 2010, Alt 1, No Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

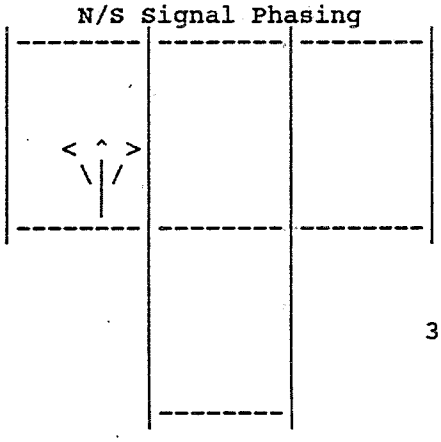


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	304	
	TR	1	828	828
EB	EXL	1	290	290
	T	2	343	
WB	T	2	759	759
	EXR	1	236	
	Total Critical Volume			1877

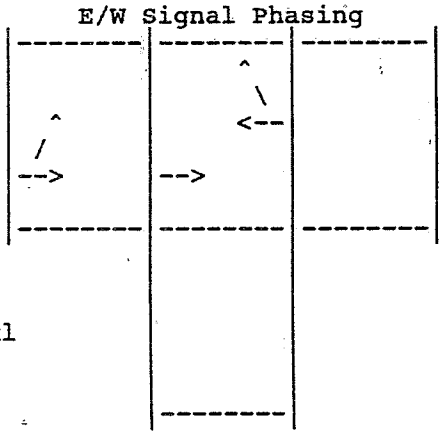
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1877
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.32

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

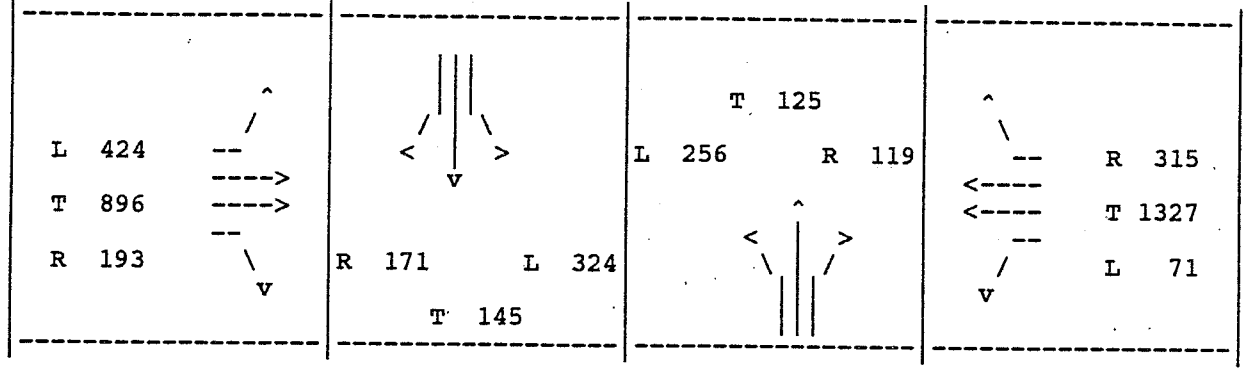
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:47:03

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, No Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

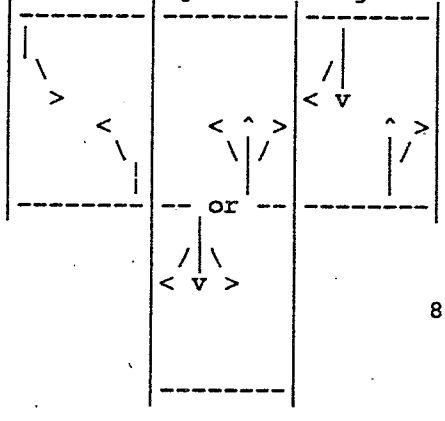


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	256	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	324	324
	T	1	145	
	EXR	1	171	
EB	EXL	1	424	424
	T	2	448	
	EXR	1	193	
WB	EXL	1	71	
	T	2	664	664
	EXR	1	315	
Total Critical Volume				1537

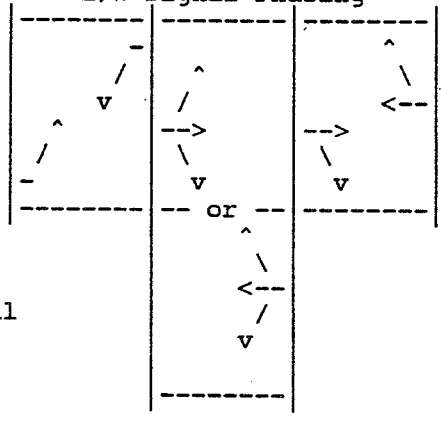
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1537
No of Critical Phases	= 4
Level of Service	= F
Volume/Capacity	= 1.12

N/S Signal Phasing



E/W Signal Phasing

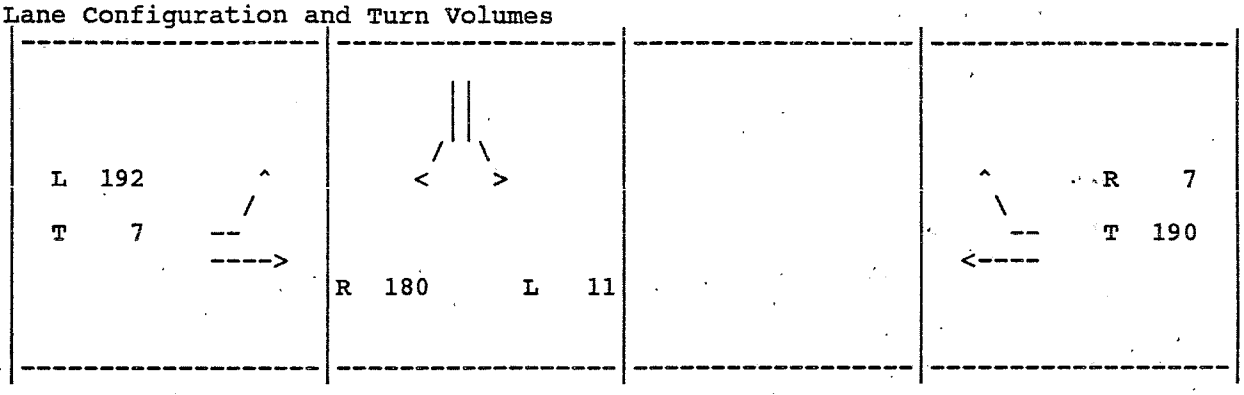


8 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, No Project
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes

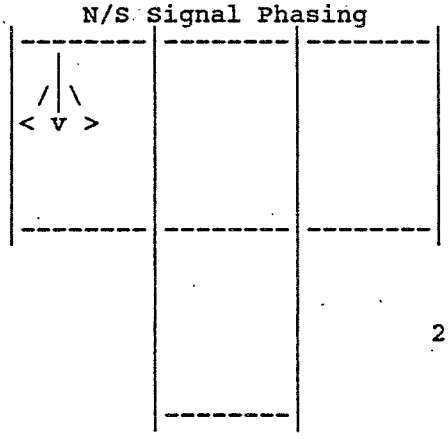


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	11	11
	EXR	1	180	
EB	EXL	1	192	192
	T	1	7	
WB	T	1	190	190
	EXR	1	7	
	Total Critical Volume			393

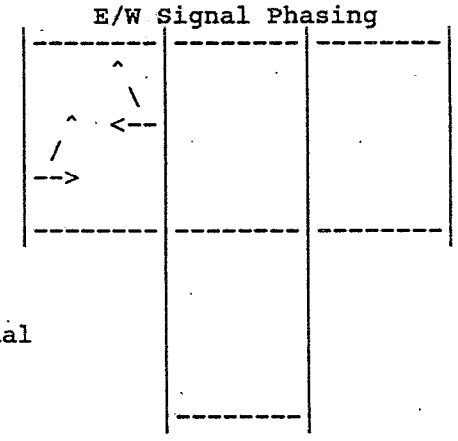
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 393
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.26

N/S Signal Phasing



E/W Signal Phasing



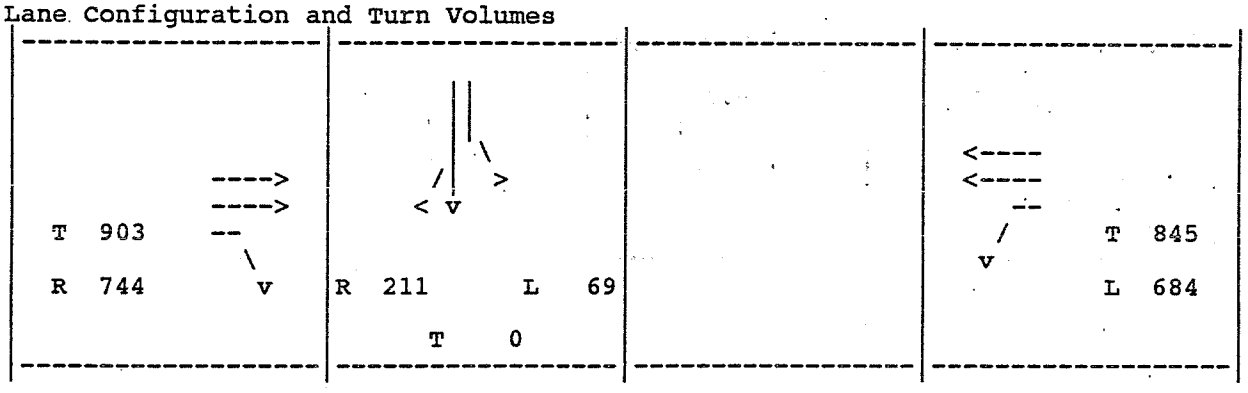
2 Phase Signal

Year 2010, Alt 1, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	E	0.95	
6	NB SR113 ON & COVELL	C	0.77	

Year 2010, Alt 1, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

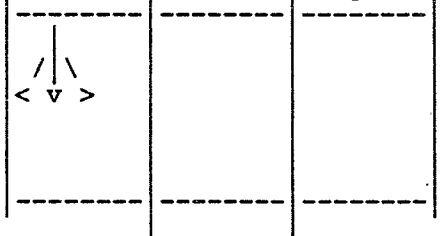


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	69	
	TR	1	211	211
EB	T	2	452	452
	EXR	1	744	
WB	EXL	1	684	684
	T	2	423	
Total Critical Volume				1347

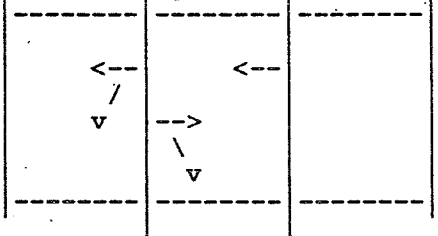
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1347
No of Critical Phases	= 3
Level of Service	= E
Volume/Capacity	= 0.95

N/S Signal Phasing



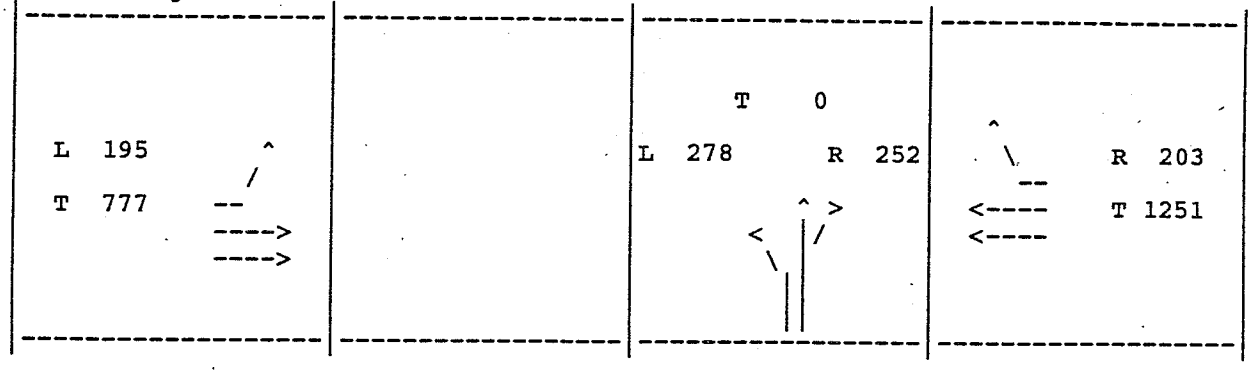
E/W Signal Phasing



3 Phase Signal

Year 2010, Alt 1, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

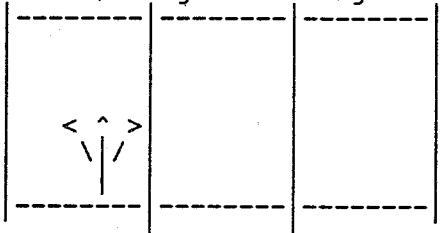


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	278	278
	TR	1	252	
EB	EXL	1	195	195
	T	2	389	
WB	T	2	626	626
	EXR	1	203	
	Total Critical Volume			1099

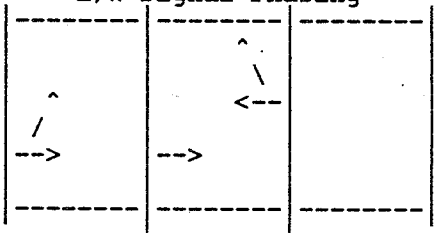
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1099
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.77

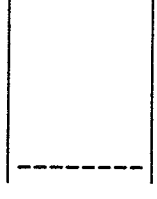
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



Year 2010, Alt 1, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	A B	0.56 0.63	
2	DENALLI & COVELL	A	0.49	
3	VANSELL & COVELL	A	0.49	
4	CNTY ROAD 99 & COVELL	C	0.77	
5	SB SR113 OFF & COVELL	E	0.93	1
6	NB SR113 ON & COVELL	F	1.45	
7	SYCAMORE & COVELL	F	1.18	
8	DENALLI & SHASTA DRIVE	A	0.29	
12	CNTY ROAD 99 & Comm. Access	A	0.49	
15	CNTY ROAD 99 & EAST ACCESS	A	0.55	

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:48:58

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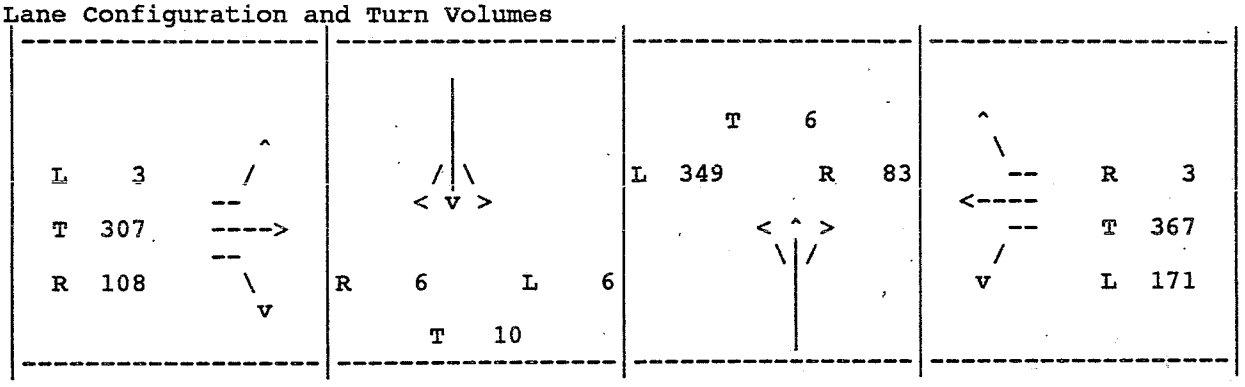
Year 2010, Alt 1, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



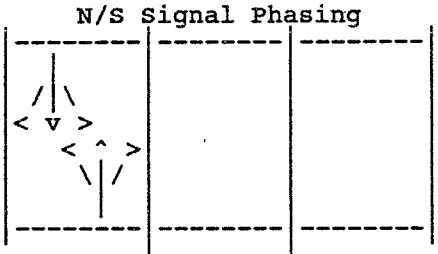
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	349	349
	TR	1	89	
SB	L	0	6	
	TR	1	16	16
EB	EXL	1	3	
	T	1	307	307
	EXR	1	108	
WB	EXL	1	171	171
	T	1	367	
	EXR	1	3	
	Total Critical Volume			843

Maximum Total Critical Volumes

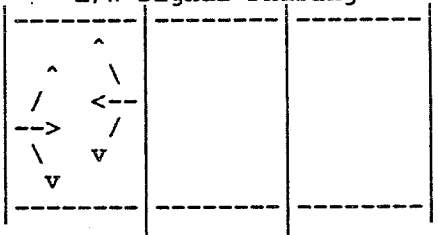
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 843
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.56

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

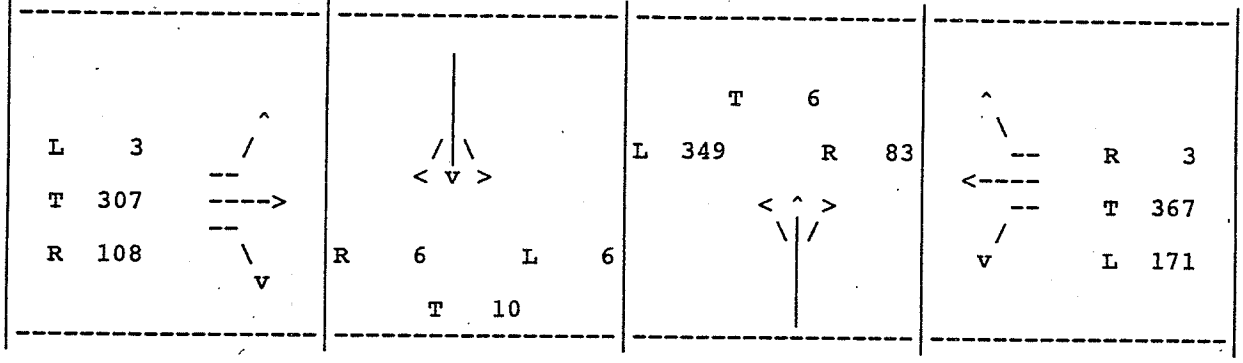
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:48:58

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes



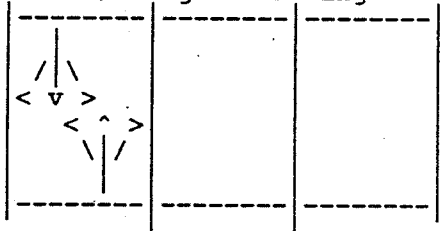
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	438	438
SB	LTR	1	22	22
EB	EXL	1	3	
	T	1	307	307
	EXR	1	108	
WB	EXL	1	171	171
	T	1	367	
	EXR	1	3	
	Total Critical Volume			938

Maximum Total Critical Volumes

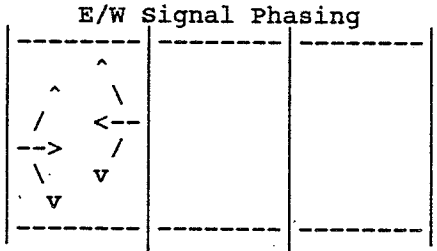
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 938
No of Critical Phases	= 2
Level of Service	= B
Volume/Capacity	= 0.63

N/S Signal Phasing



E/W Signal Phasing

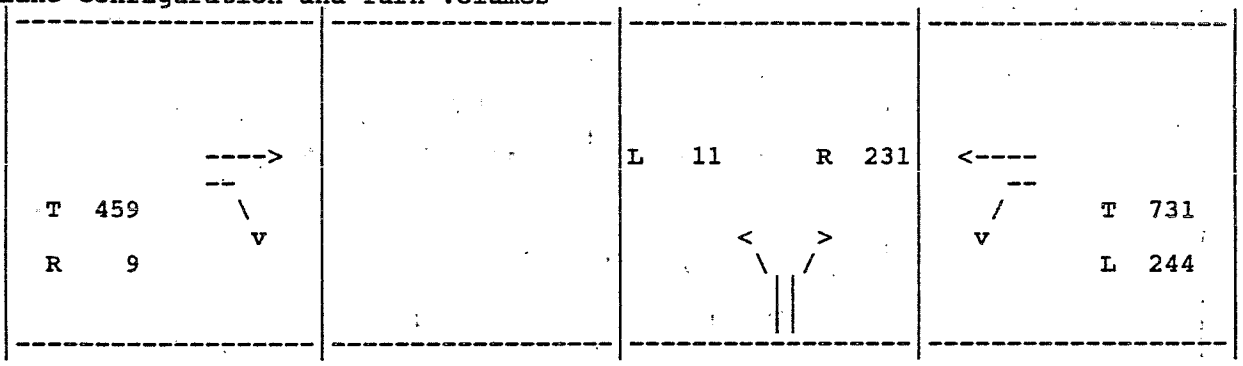


2 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes

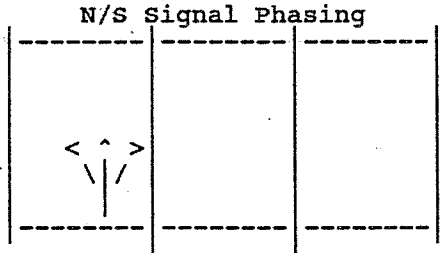


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	11	11
	EXR	1	231	
EB	T	1	459	
	EXR	1	9	
WB	EXL	1	244	
	T	1	731	731
Total Critical Volume				742

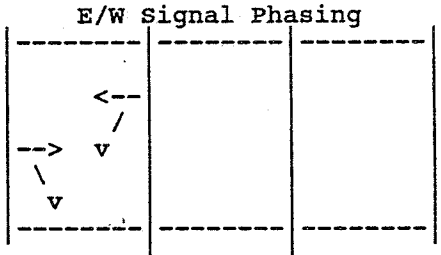
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 742
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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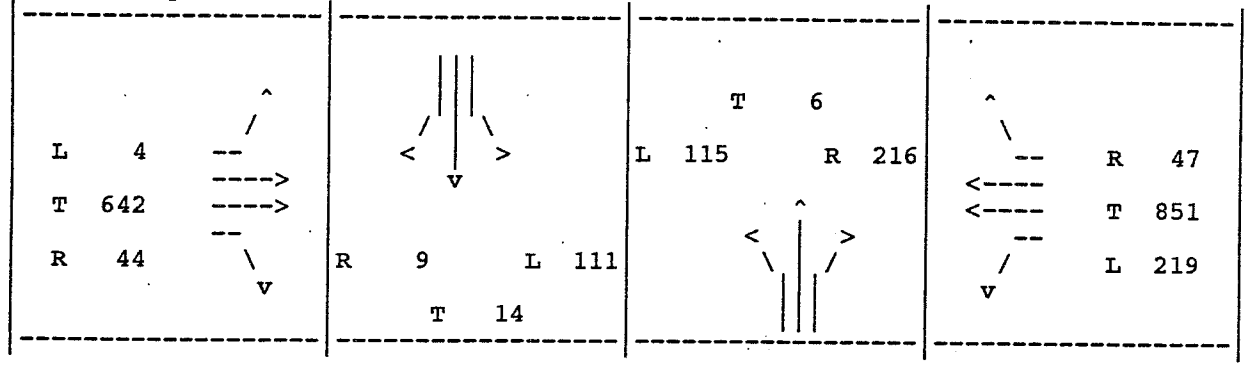
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes



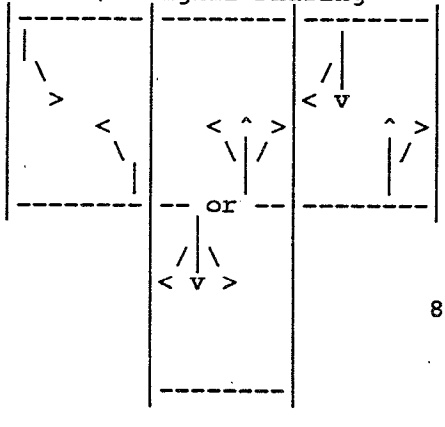
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	115	115
	T	1	6	
	EXR	1	216	
SB	EXL	1	111	
	T	1	14	14
	EXR	1	9	
EB	EXL	1	4	
	T	2	321	321
	EXR	1	44	
WB	EXL	1	219	219
	T	2	426	
	EXR	1	47	
Total Critical Volume				669

Maximum Total Critical Volumes

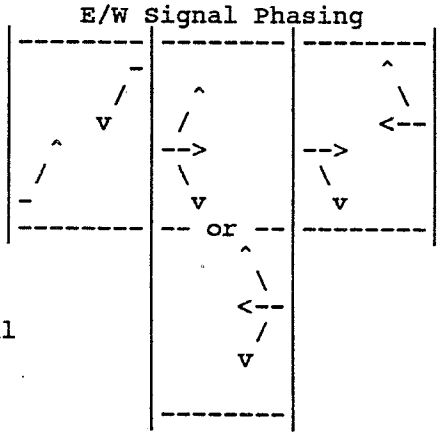
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 669
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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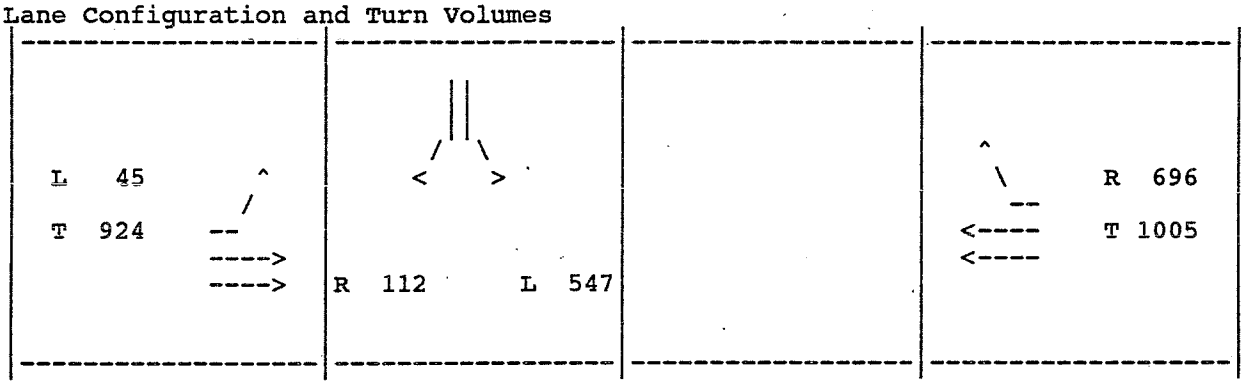
Year 2010, Alt 1, With Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



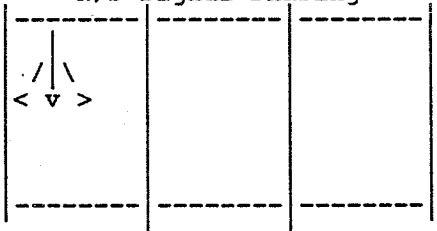
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	547	547
	EXR	1	112	
EB	EXL	1	45	45
	T	2	462	
WB	T	2	503	503
	EXR	1	696	
	Total Critical Volume			1095

Maximum Total Critical Volumes

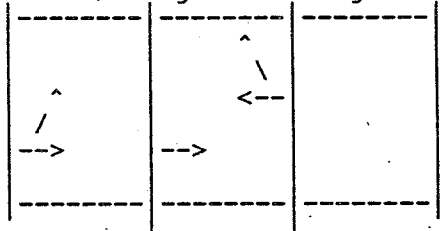
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1095
No of Critical Phases = 3
Level of Service = C
Volume/Capacity = 0.77

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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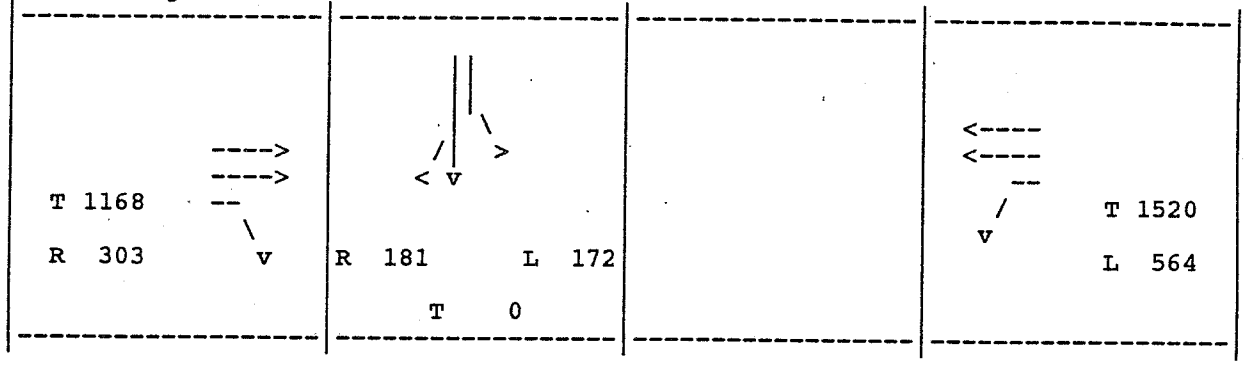
Year 2010, Alt 1, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

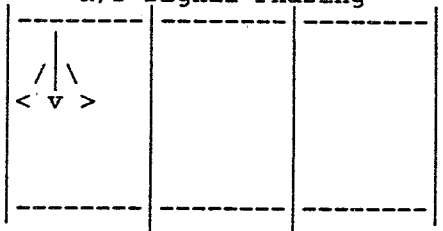


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	172	
	TR	1	181	181
EB	T	2	584	584
	EXR	1	303	
WB	EXL	1	564	564
	T	2	760	
	Total Critical Volume			1329

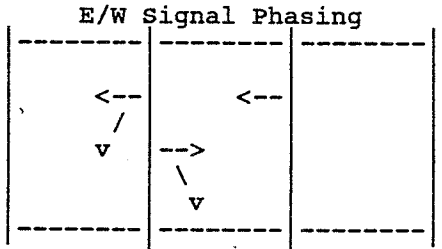
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1329
No of Critical Phases	= 3
Level of Service	= E
Volume/Capacity	= 0.93

N/S Signal Phasing



E/W Signal Phasing

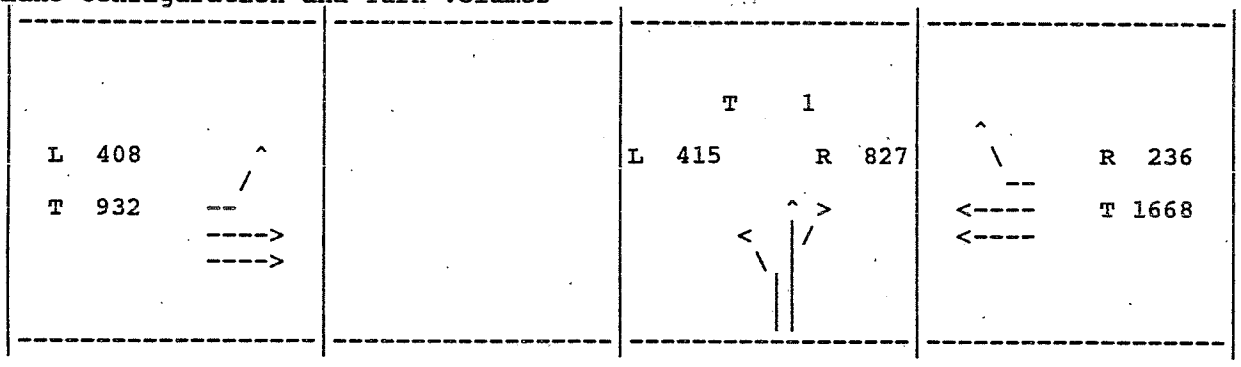


3 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

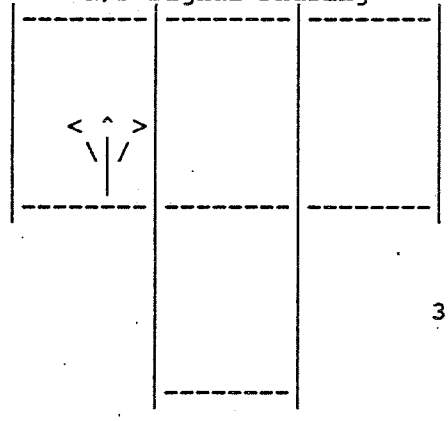


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	415	
	TR	1	828	828
EB	EXL	1	408	408
	T	2	466	
WB	T	2	834	834
	EXR	1	236	
	Total Critical Volume			2070

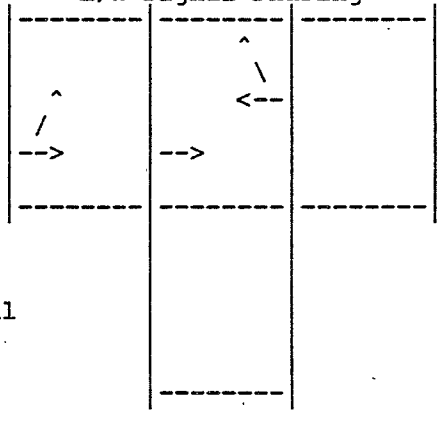
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 2070
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.45

N/S Signal Phasing



E/W Signal Phasing



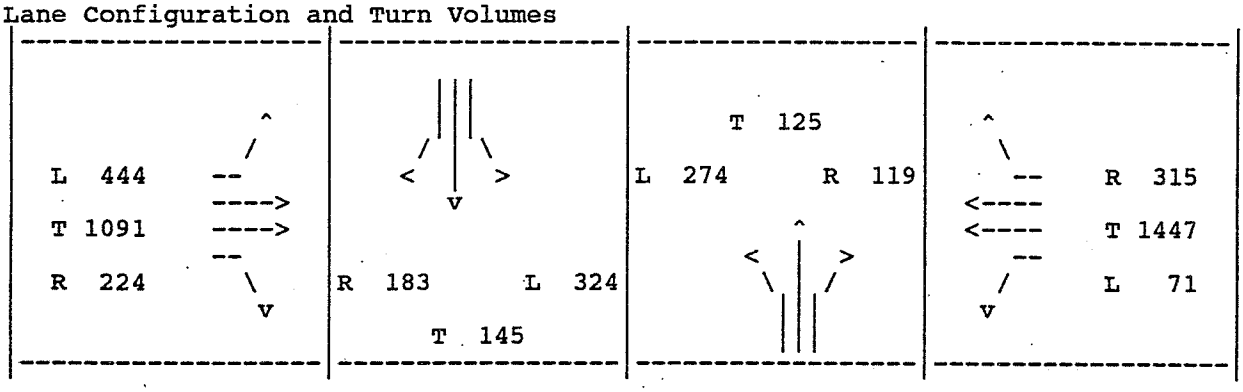
3 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:48:58

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes



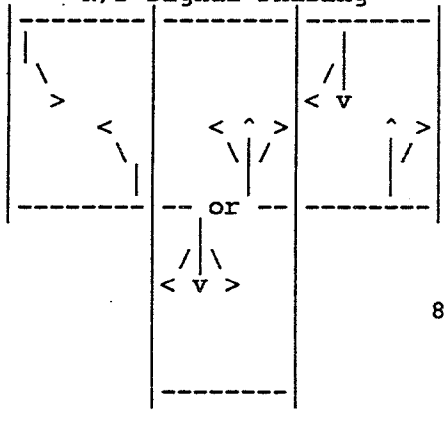
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	274	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	324	324
	T	1	145	
	EXR	1	183	
EB	EXL	1	444	444
	T	2	546	
	EXR	1	224	
WB	EXL	1	71	
	T	2	724	724
	EXR	1	315	
Total Critical Volume				1617

Maximum Total Critical Volumes

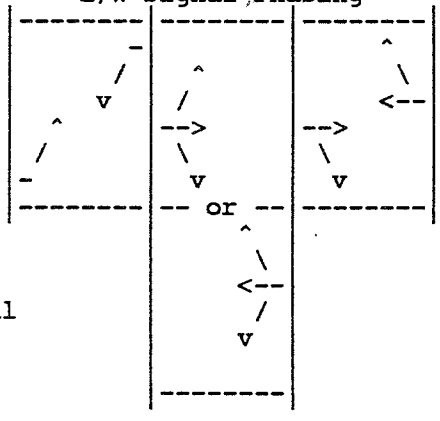
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1617
No of Critical Phases = 4
Level of Service = F
Volume/Capacity = 1.18

N/S Signal Phasing



E/W Signal Phasing

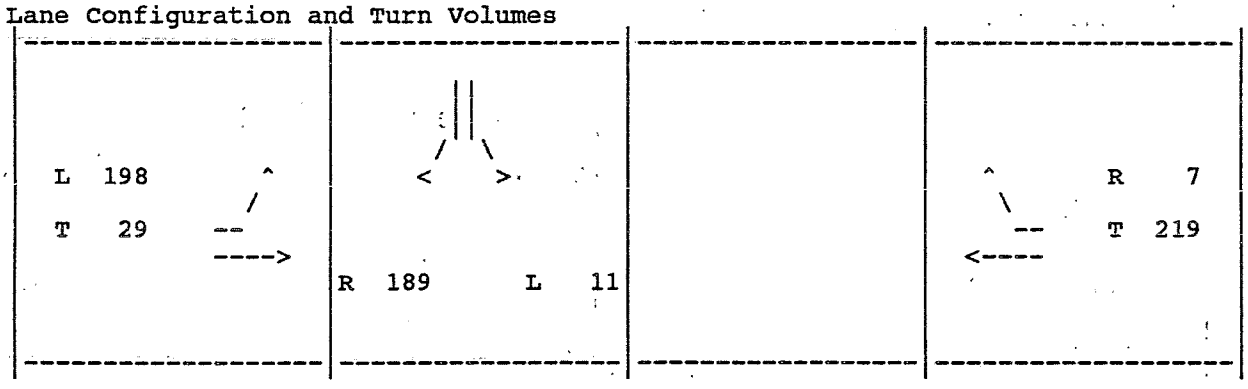


8 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes



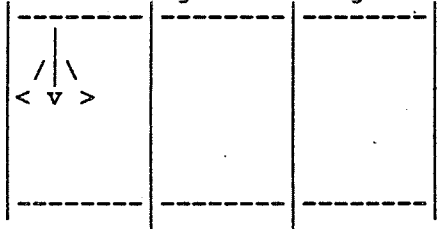
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	11	11
	EXR	1	189	
EB	EXL	1	198	198
	T	1	29	
WB	T	1	219	219
	EXR	1	7	
	Total Critical Volume			428

Maximum Total Critical Volumes

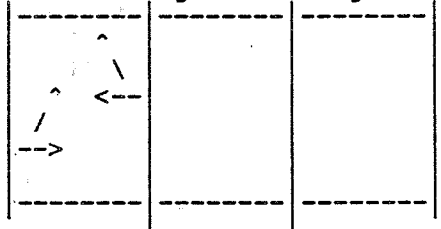
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 428
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.29

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
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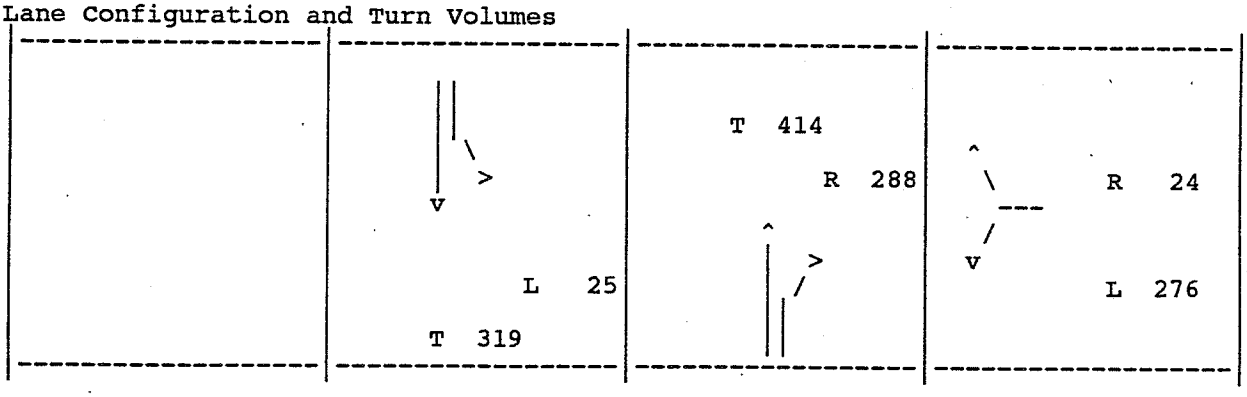
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 1, With Project
PM Peak
Intersection: 12 CNTY ROAD 99 & Comm. Access

Lane Configuration and Turn Volumes

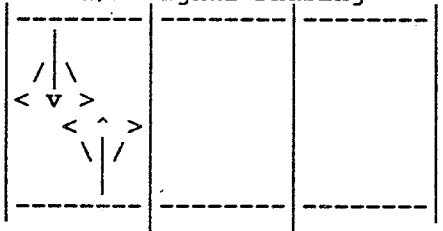


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	T	1	414	414
	EXR	1	288	
SB	EXL	1	25	25
	T	1	319	
WB	LR	1	300	300
Total Critical Volume				739

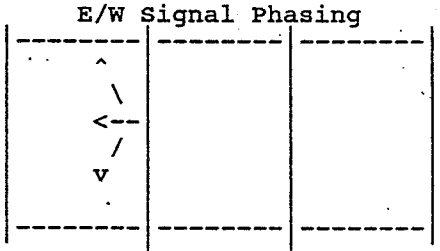
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 739
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

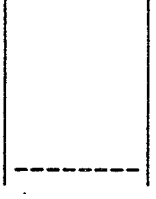
N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal



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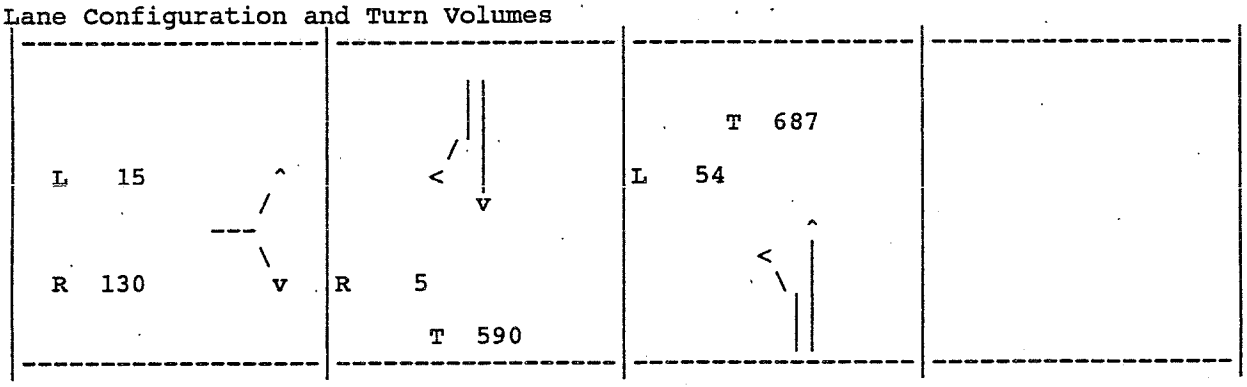
Year 2010, Alt 1, With Project
PM Peak
Intersection: 15 CNTY ROAD 99 & EAST ACCESS

Lane Configuration and Turn Volumes

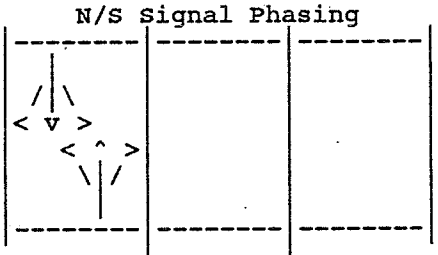


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	54	
	T	1	687	687
SB	T	1	590	
	EXR	1	5	
EB	LR	1	145	145
	Total Critical Volume			832

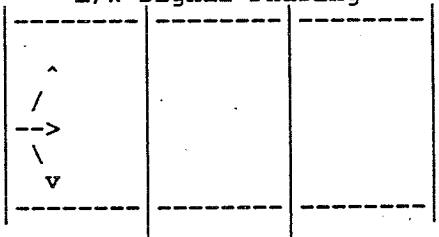
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 832
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.55

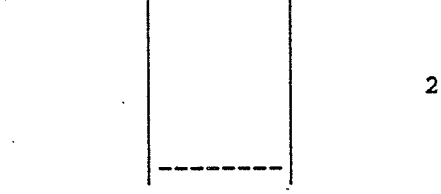
N/S Signal Phasing

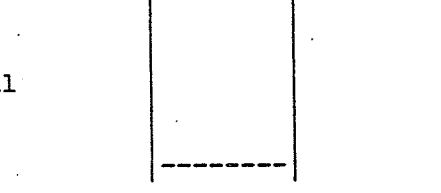


E/W Signal Phasing



2 Phase Signal





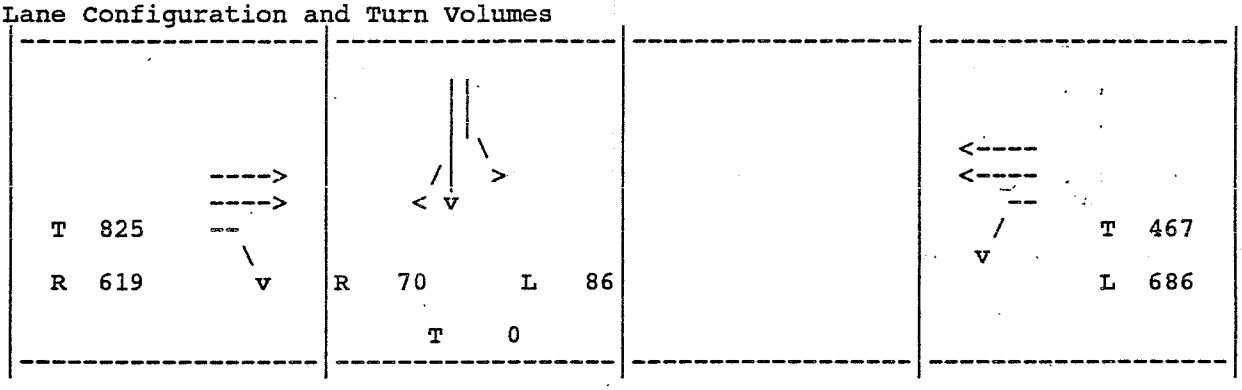
Year 2010, Alt 2, No PRoject
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	D	0.83	
6	NB SR113 ON & COVELL	A	0.55	

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No PRoject
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



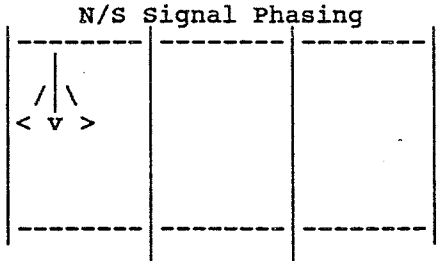
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	86	86
	TR	1	70	
EB	T	2	413	413
	EXR	1	619	
WB	EXL	1	686	686
	T	2	234	
Total Critical Volume				1185

Maximum Total Critical Volumes

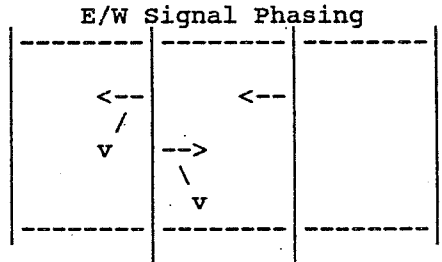
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1185
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.83

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
07:54:42

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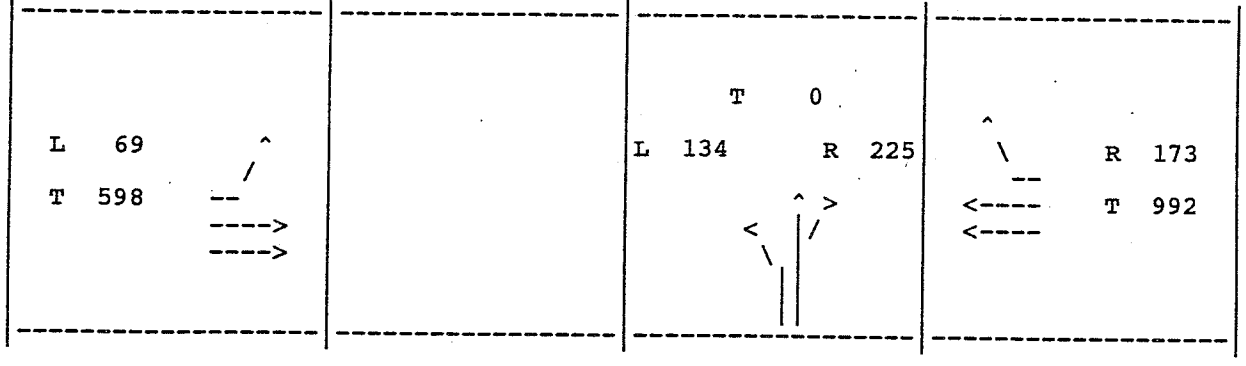
Year 2010, Alt 2, No PRoject
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



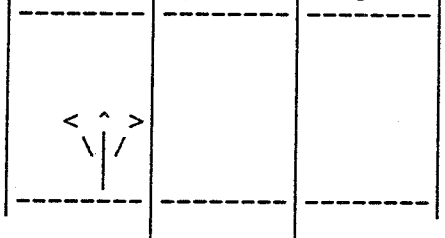
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	134	
	TR	1	225	225
EB	EXL	1	69	69
	T	2	299	
WB	T	2	496	496
	EXR	1	173	
	Total Critical Volume			790

Maximum Total Critical Volumes

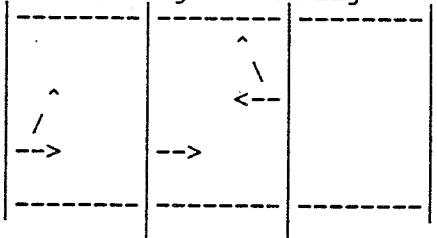
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 790
No of Critical Phases = 3
Level of Service = A
Volume/Capacity = 0.55

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Year 2010, Alt 2, No Project
PM Peak

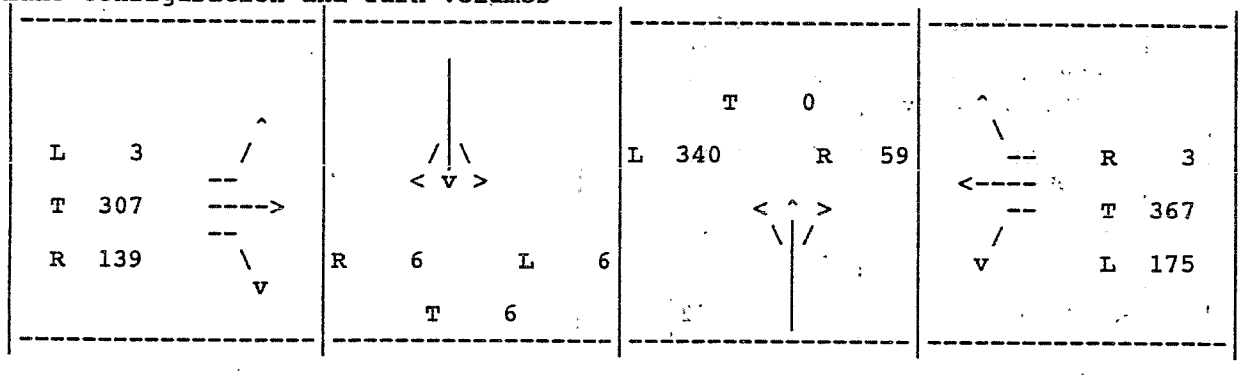
Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99	A	0.56	
	& CNTY ROAD 29	A	0.60	
2	DENALLI	A	0.48	
	& COVELL			
3	VANSELL	A	0.46	
	& COVELL			
4	CNTY ROAD 99	A	0.52	
	& COVELL			
5	SB SR113 OFF	C	0.71	
	& COVELL			
6	NB SR113 ON	F	1.19	
	& COVELL			
7	SYCAMORE	F	1.01	
	& COVELL			
8	DENALLI	A	0.27	
	& SHASTA DRIVE			

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:55:38

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



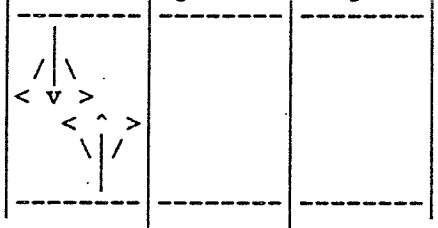
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	340	340
	TR	1	59	
SB	L	0	6	
	TR	1	12	12
EB	EXL	1	3	
	T	1	307	307
	EXR	1	139	
WB	EXL	1	175	175
	T	1	367	
	EXR	1	3	
Total Critical Volume				834

Maximum Total Critical Volumes

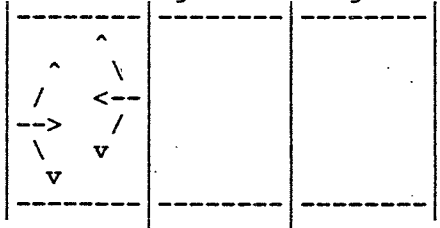
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 834
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.56

N/S Signal Phasing



E/W Signal Phasing



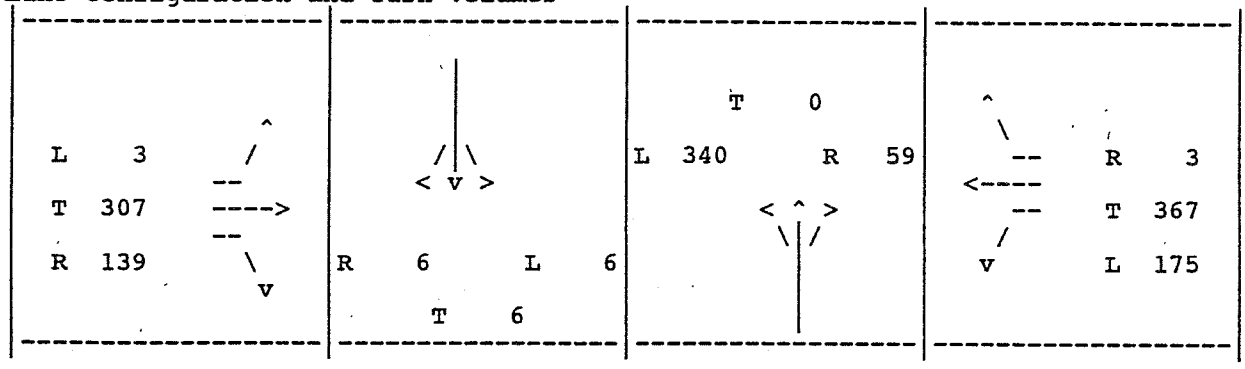
2 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:55:38

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

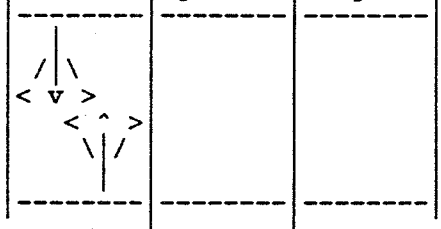


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	399	399
SB	LTR	1	18	18
EB	EXL	1	3	
	T	1	307	307
	EXR	1	139	
WB	EXL	1	175	175
	T	1	367	
	EXR	1	3	
Total Critical Volume				899

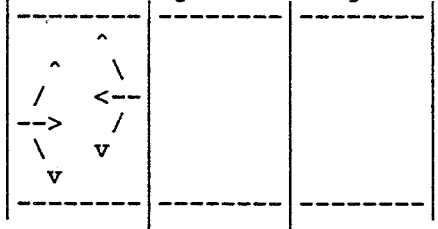
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 899
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.60

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
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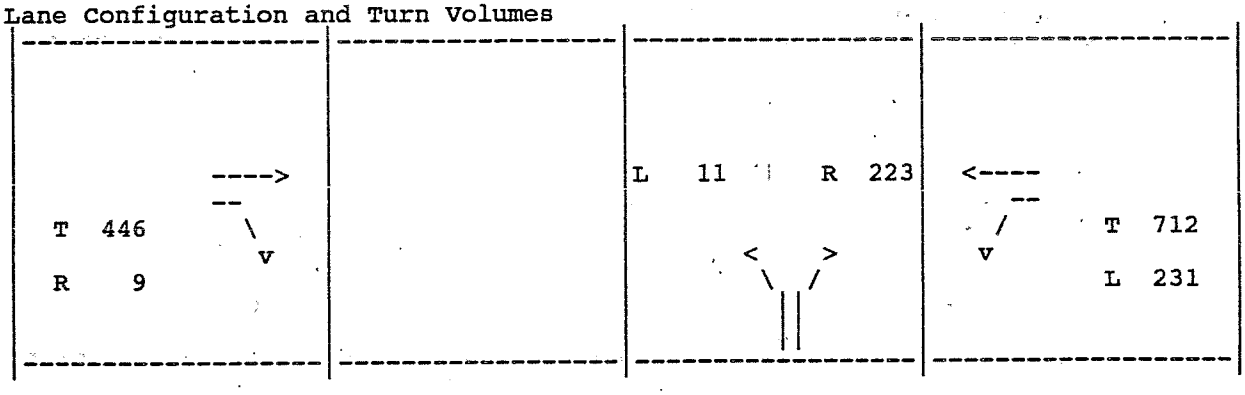
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes



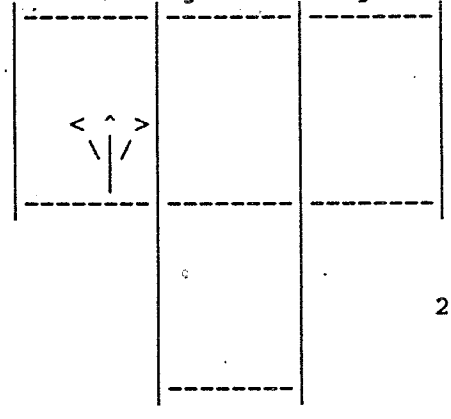
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	11	11
	EXR	1	223	
EB	T	1	446	
	EXR	1	9	
WB	EXL	1	231	
	T	1	712	712
Total Critical Volume				723

Maximum Total Critical Volumes

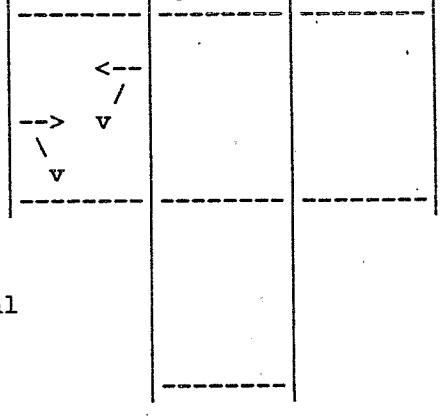
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 723
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.48

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

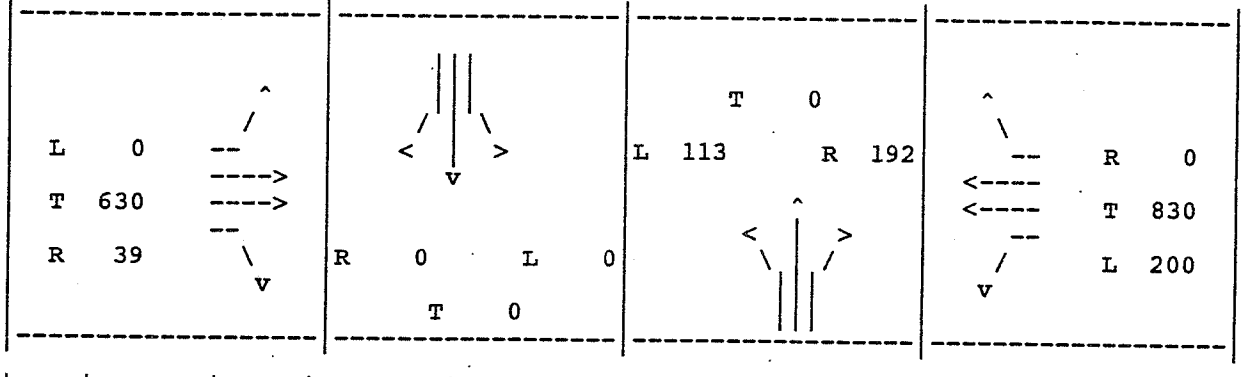
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:55:38

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes

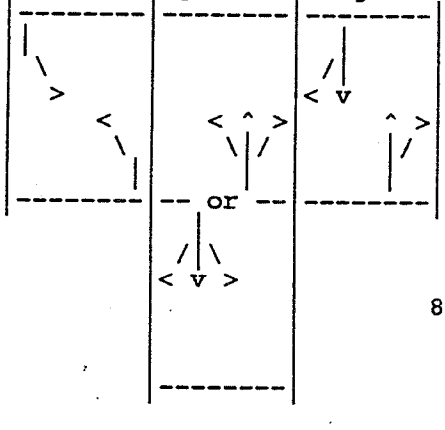


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	113	113
	T	1	0	
	EXR	1	192	
SB	EXL	1	0	
	T	1	0	0
	EXR	1	0	
EB	EXL	1	0	
	T	2	315	315
	EXR	1	39	
WB	EXL	1	200	200
	T	2	415	
	EXR	1	0	
Total Critical Volume				628

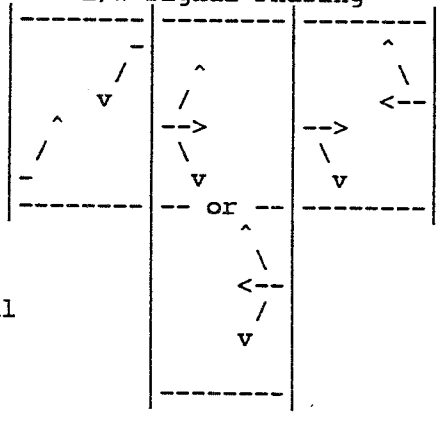
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 628
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.46

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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Traffic Analysis on Microcomputers

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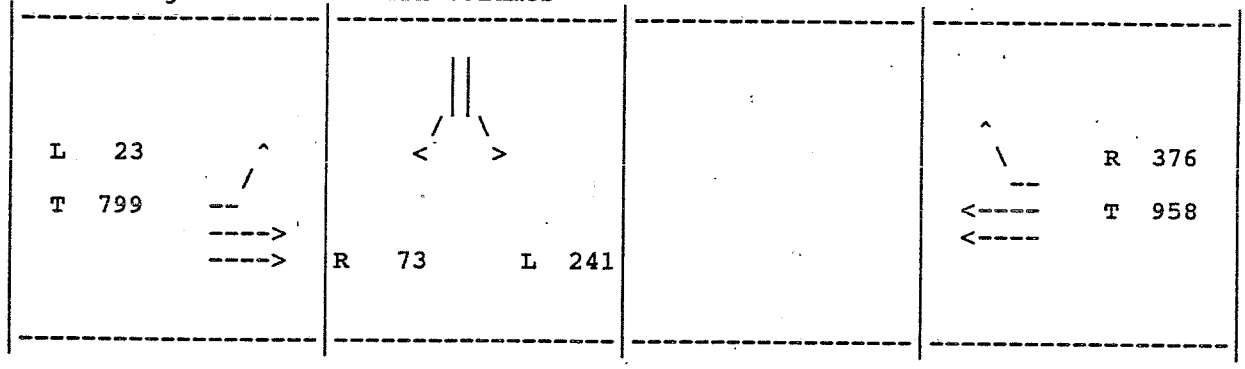
07:55:38

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



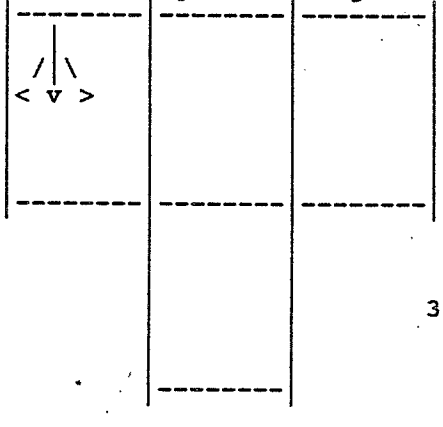
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	241	241
	EXR	1	73	
EB	EXL	1	23	23
	T	2	400	
WB	T	2	479	479
	EXR	1	376	
Total Critical Volume				743

Maximum Total Critical Volumes

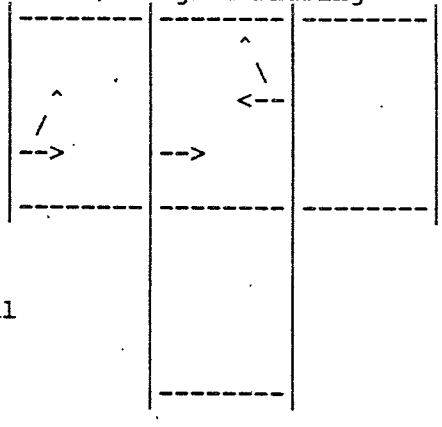
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 743
No of Critical Phases = 3
Level of Service = A
Volume/Capacity = 0.52

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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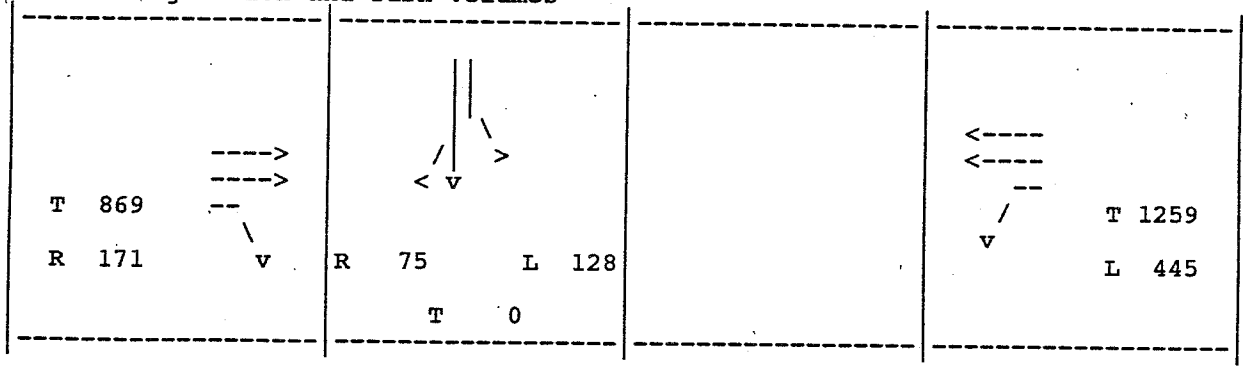
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

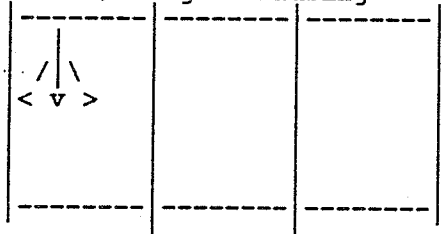


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	128	128
	TR	1	75	
EB	T	2	435	435
	EXR	1	171	
WB	EXL	1	445	445
	T	2	630	
Total Critical Volume				1008

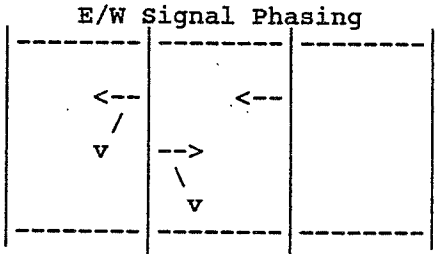
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1008
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.71

N/S Signal Phasing



E/W Signal Phasing

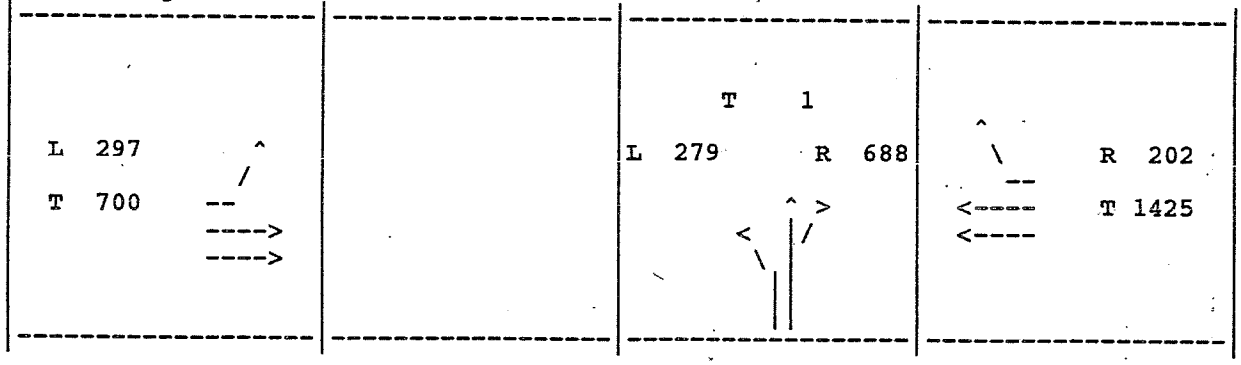


3 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



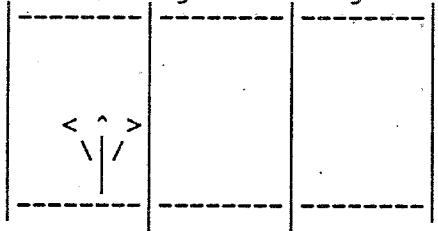
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	279	
	TR	1	689	689
EB	EXL	1	297	297
	T	2	350	
WB	T	2	713	713
	EXR	1	202	
Total Critical Volume				1699

Maximum Total Critical Volumes

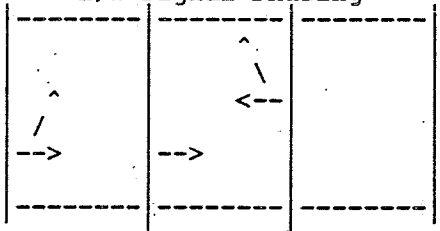
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1699
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.19

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

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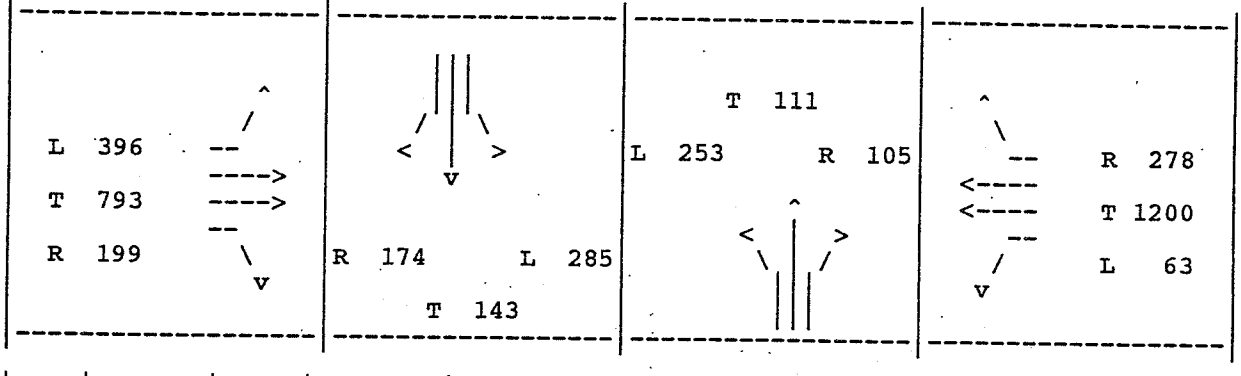
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes



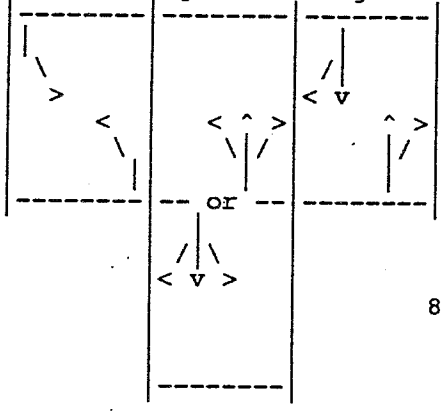
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	253	
	T	1	111	111
	EXR	1	105	
SB	EXL	1	285	285
	T	1	143	
	EXR	1	174	
EB	EXL	1	396	396
	T	2	397	
	EXR	1	199	
WB	EXL	1	63	
	T	2	600	600
	EXR	1	278	
Total Critical Volume				1392

Maximum Total Critical Volumes

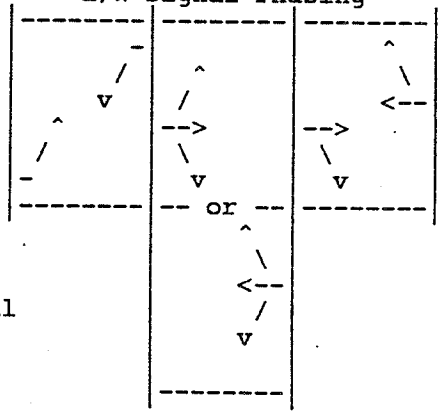
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1392
No of Critical Phases	= 4
Level of Service	= F
Volume/Capacity	= 1.01

N/S Signal Phasing



E/W Signal Phasing

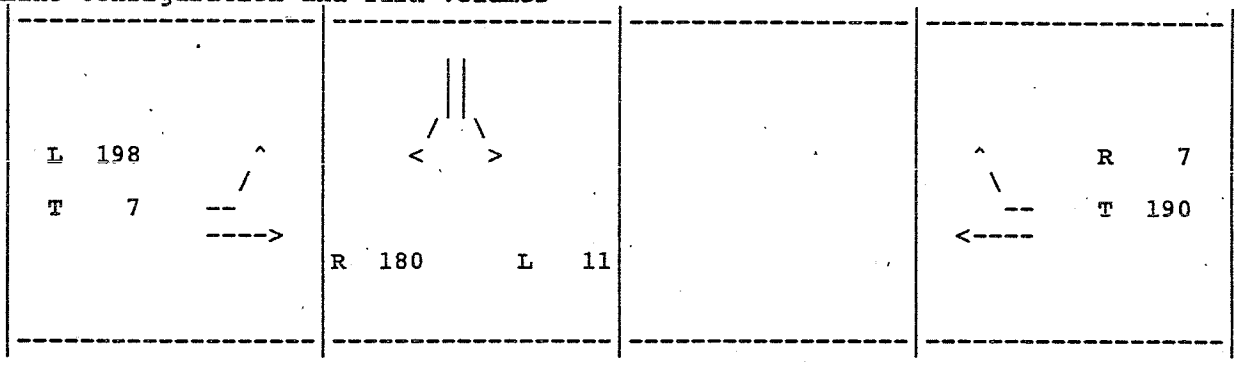


8 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, No Project
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes

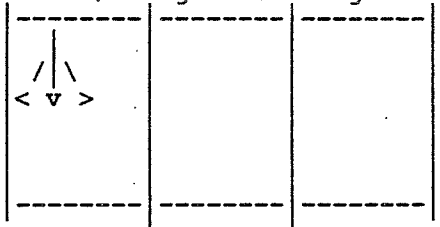


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	11	11
	EXR	1	180	
EB	EXL	1	198	198
	T	1	7	
WB	T	1	190	190
	EXR	1	7	
Total Critical Volume				399

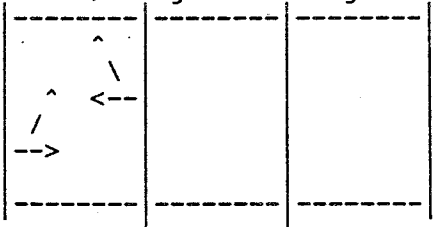
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 399
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.27

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Year 2010, Alt 2, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	F	1.01	
6	NB SR113 ON & COVELL	C	0.76	

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Traffic Analysis on Microcomputers

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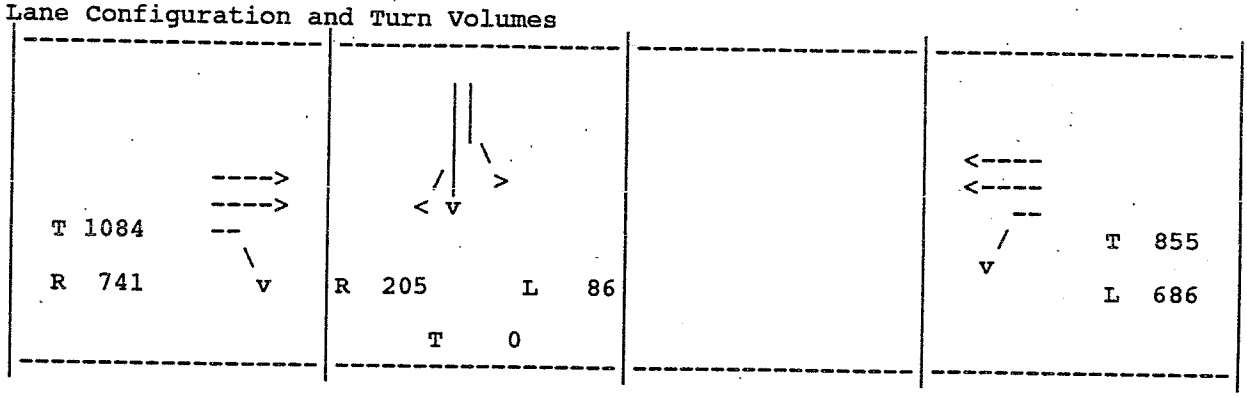
Year 2010, Alt 2, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



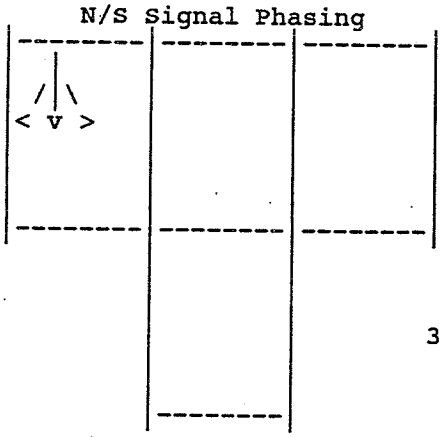
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	86	
	TR	1	205	205
EB	T	2	542	542
	EXR	1	741	
WB	EXL	1	686	686
	T	2	428	
Total Critical Volume				1433

Maximum Total Critical Volumes

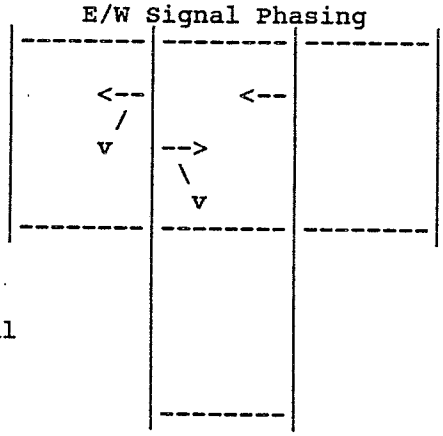
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1433
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.01

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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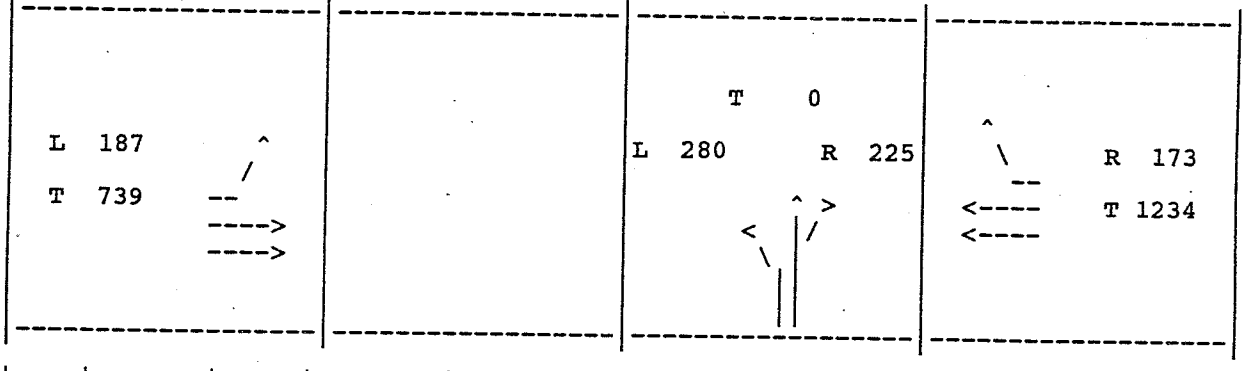
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:56:18

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



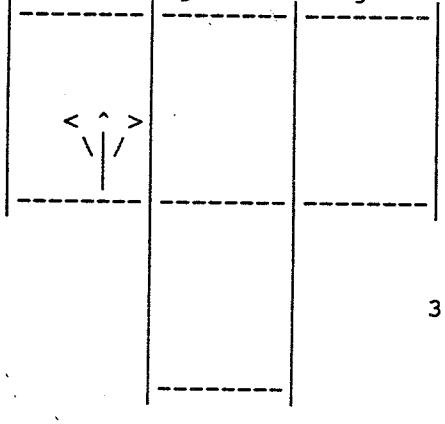
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	280	280
	TR	1	225	
EB	EXL	1	187	187
	T	2	370	
WB	T	2	617	617
	EXR	1	173	
Total Critical Volume				1084

Maximum Total Critical Volumes

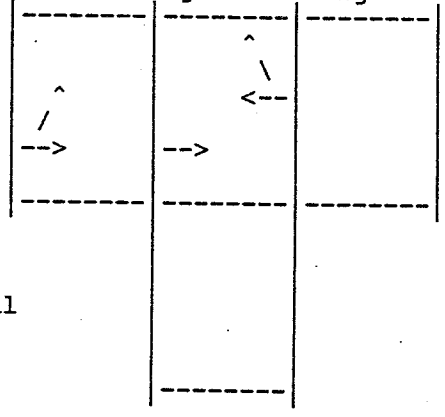
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1084
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.76

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Year 2010, Alt 2, With Project
PM Peakj

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	A B	0.58 0.64	
2	DENALLI & COVELL	A	0.49	
3	VANSELL & COVELL	A	0.48	
4	CNTY ROAD 99 & COVELL	D	0.82	
5	SB SR113 OFF & COVELL	D	0.87	
6	NB SR113 ON & COVELL	F	1.33	
7	SYCAMORE & COVELL	F	1.08	
8	DENALLI & SHASTA DRIVE	A	0.29	
12	CNTY ROAD 99 & Comm. Access	A	0.49	
15	CNTY ROAD 99 & EAST ACCESS	A	0.55	

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Traffic Analysis on Microcomputers

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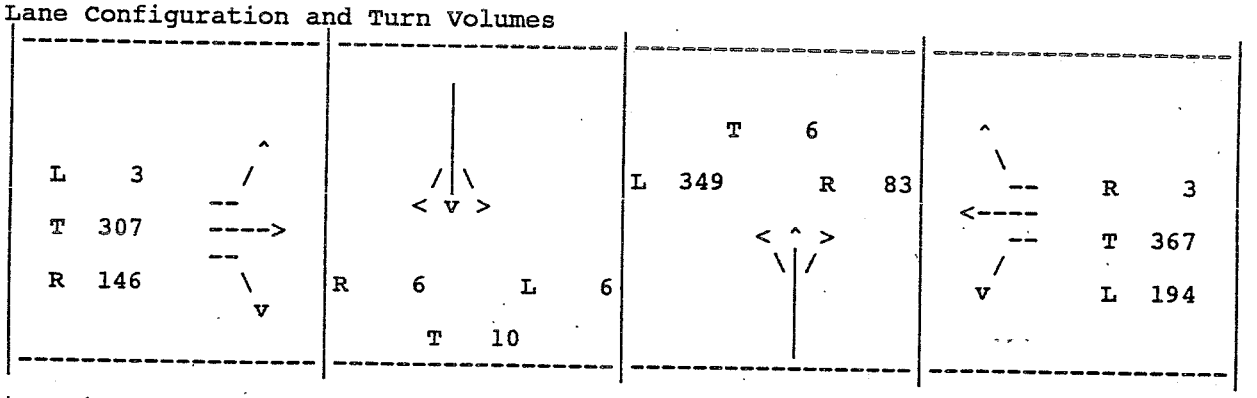
Year 2010, Alt 2, With Project
PM Peakj
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes



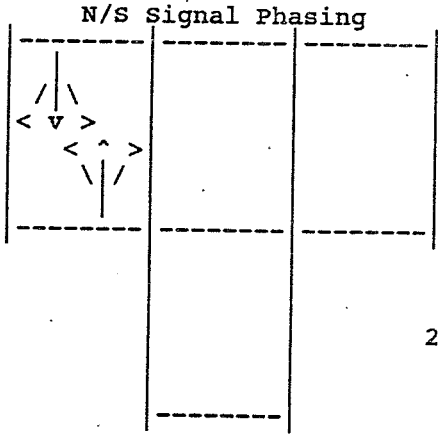
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	349	349
	TR	1	89	
SB	L	0	6	
	TR	1	16	16
EB	EXL	1	3	
	T	1	307	307
	EXR	1	146	
WB	EXL	1	194	194
	T	1	367	
	EXR	1	3	
Total Critical Volume				866

Maximum Total Critical Volumes

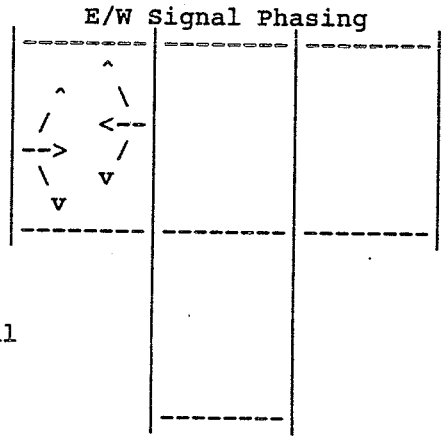
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 866
No of Critical Phases = 2
Level of Service = A
Volume/Capacity = 0.58

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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09-30-1992

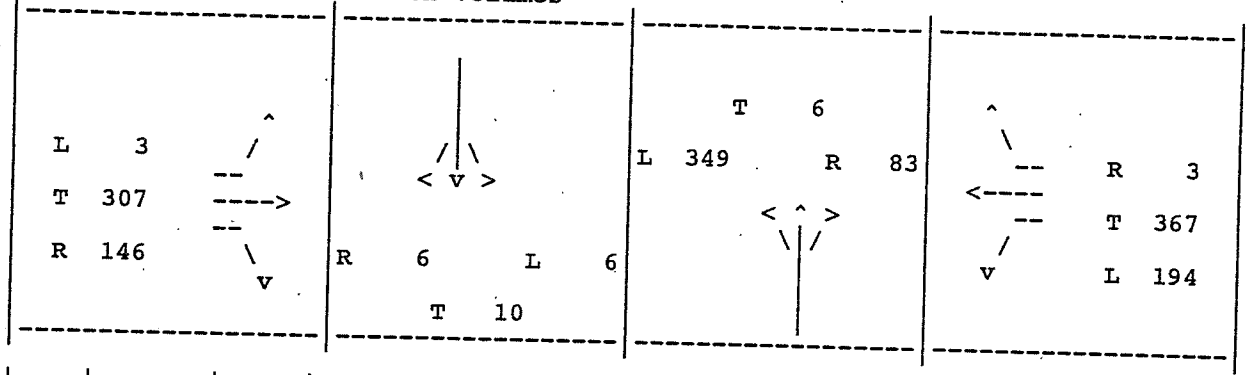
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes



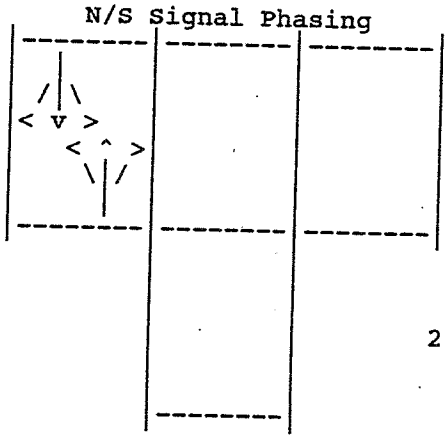
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	438	438
SB	LTR	1	22	22
EB	EXL	1	3	
	T	1	307	307
	EXR	1	146	
WB	EXL	1	194	194
	T	1	367	
	EXR	1	3	
Total Critical Volume				961

Maximum Total Critical Volumes

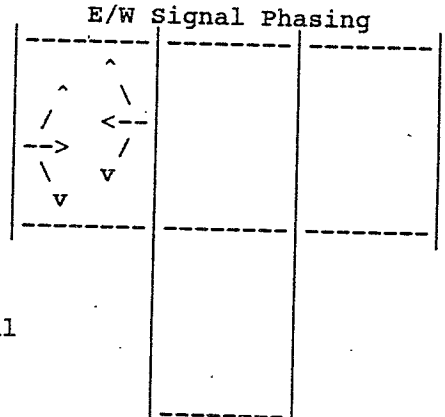
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 961
No of Critical Phases = 2
Level of Service = B
Volume/Capacity = 0.64

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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Traffic Analysis on Microcomputers

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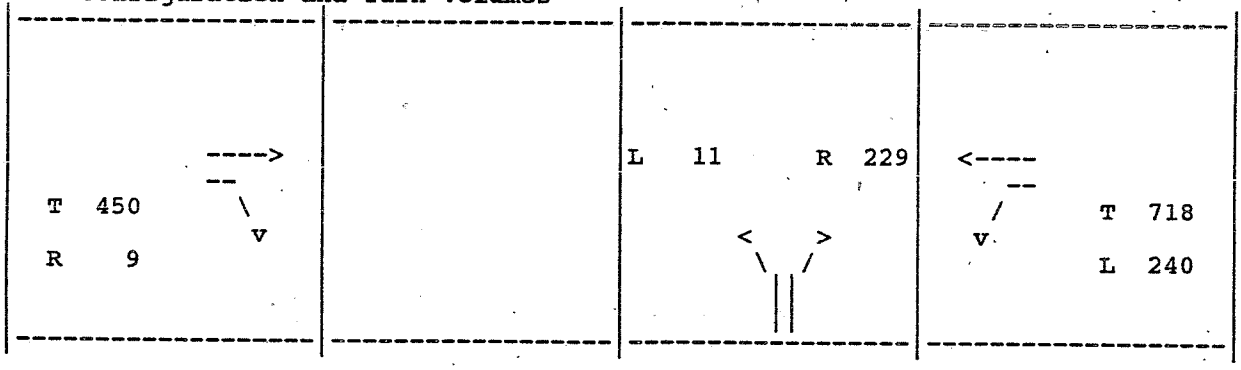
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes



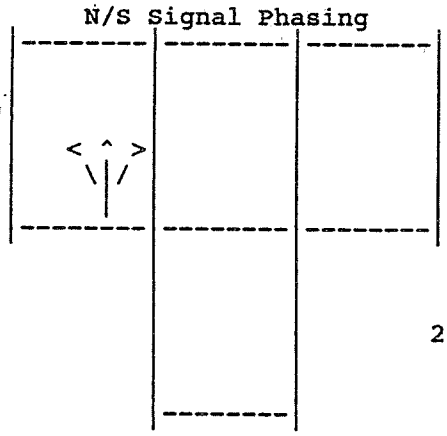
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	11	11
	EXR	1	229	
EB	T	1	450	
	EXR	1	9	
WB	EXL	1	240	
	T	1	718	718
Total Critical Volume				729

Maximum Total Critical Volumes

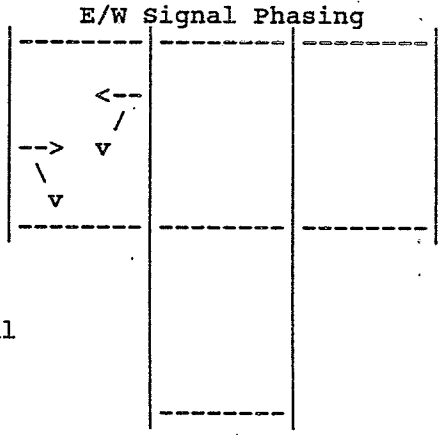
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 729
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing

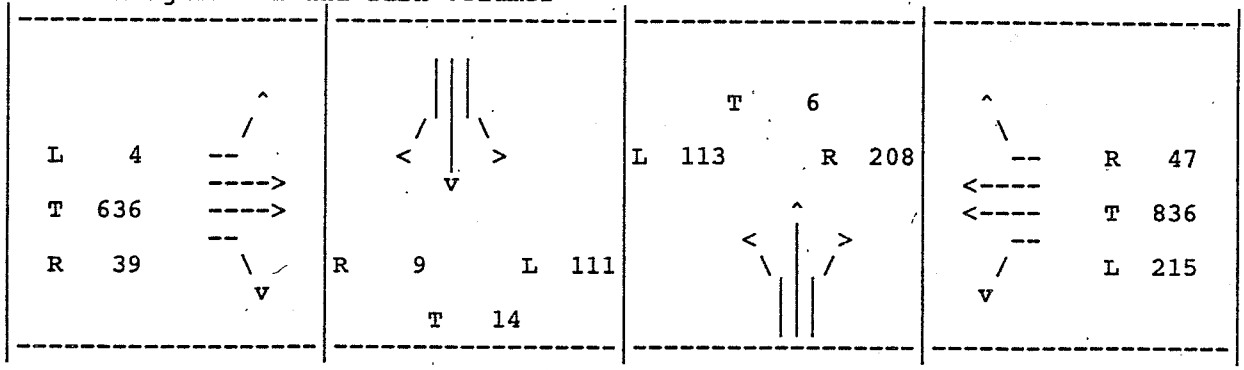


2 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes

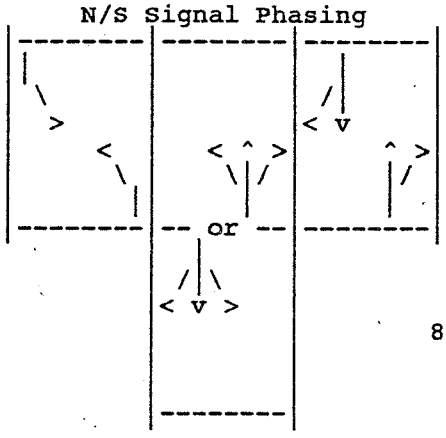


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	113	113
	T	1	6	
	EXR	1	208	
SB	EXL	1	111	
	T	1	14	14
	EXR	1	9	
EB	EXL	1	4	
	T	2	318	318
	EXR	1	39	
WB	EXL	1	215	215
	T	2	418	
	EXR	1	47	
Total Critical Volume				660

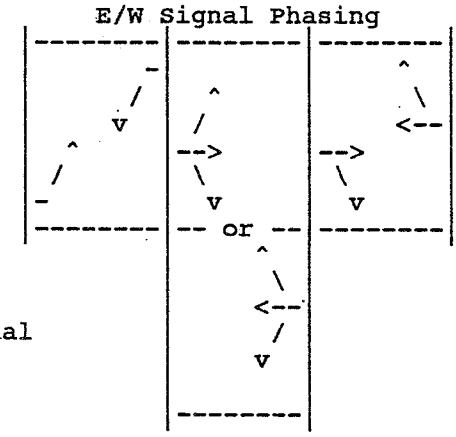
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 660
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.48

N/S Signal Phasing



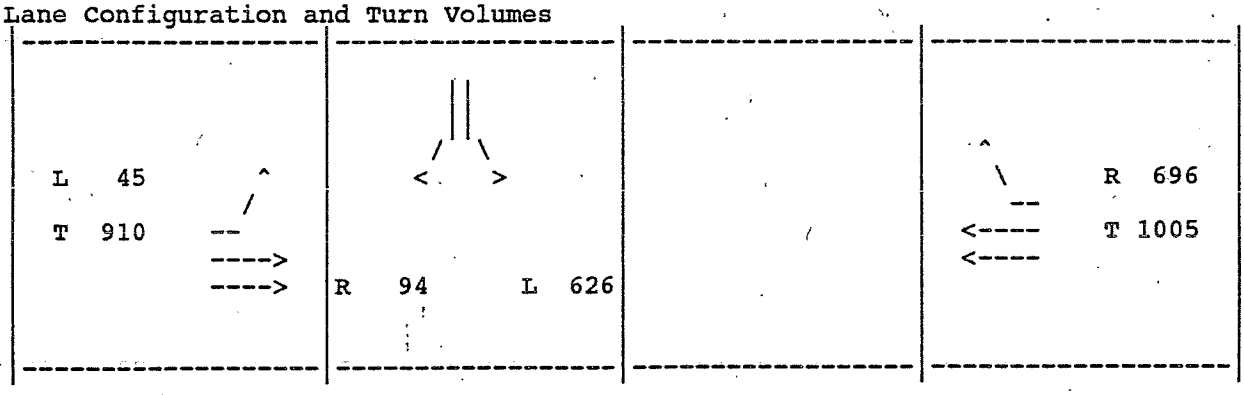
E/W Signal Phasing



8 Phase Signal

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



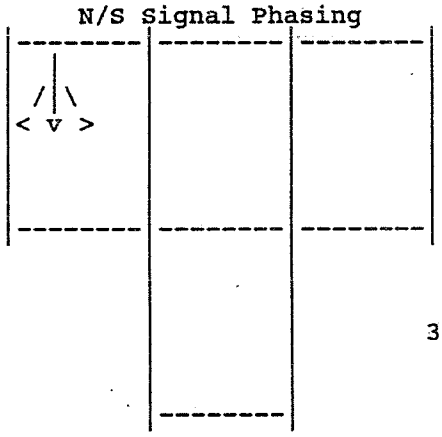
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	626	626
	EXR	1	94	
EB	EXL	1	45	45
	T	2	455	
WB	T	2	503	503
	EXR	1	696	
Total Critical Volume				1174

Maximum Total Critical Volumes

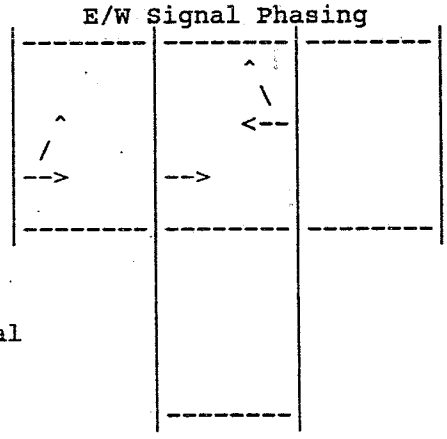
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1174
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.82

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

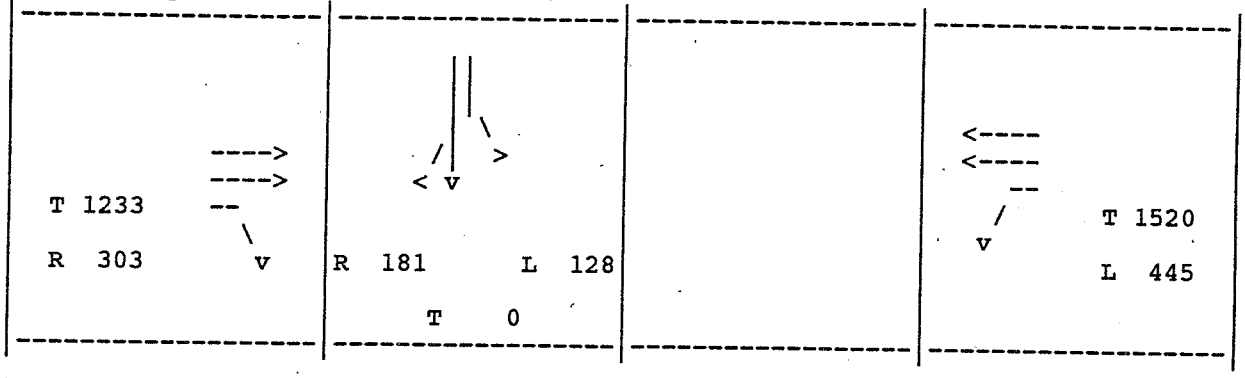
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

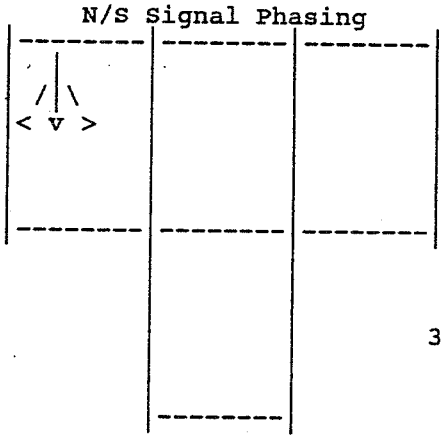


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	128	
	TR	1	181	181
EB	T	2	617	617
	EXR	1	303	
WB	EXL	1	445	445
	T	2	760	
Total Critical Volume				1243

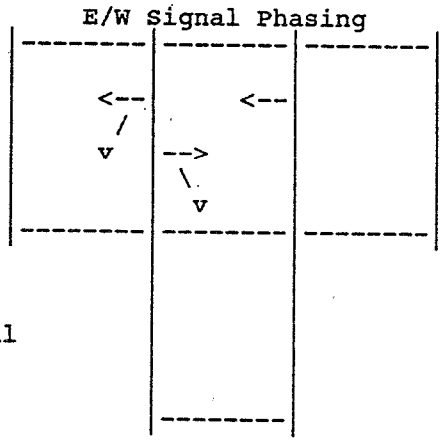
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1243
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.87

N/S Signal Phasing



E/W Signal Phasing

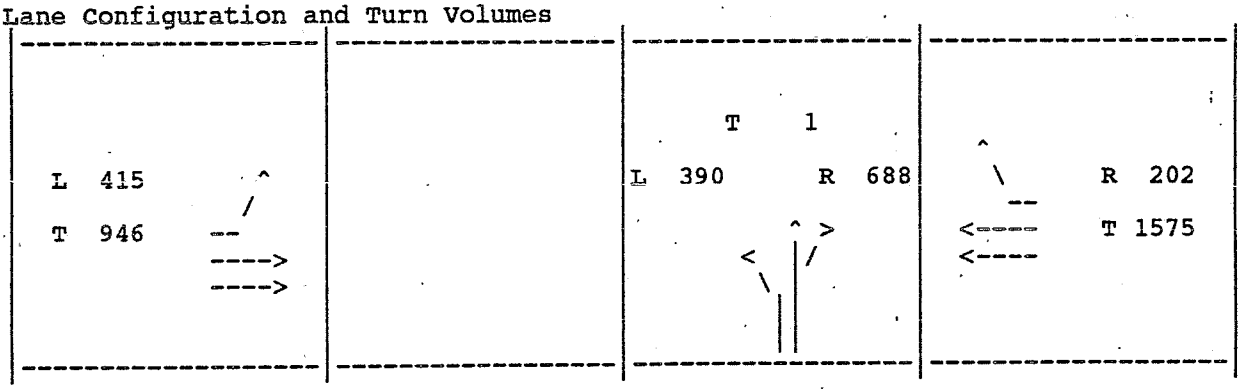


3 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

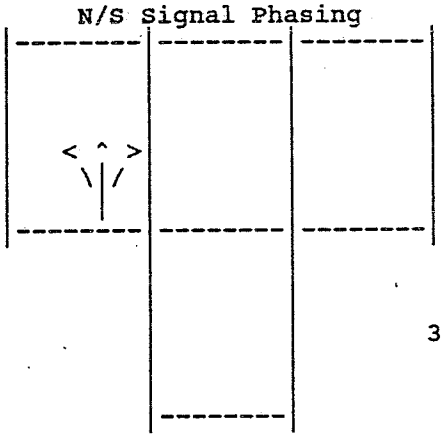


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	390	
	TR	1	689	689
EB	EXL	1	415	415
	T	2	473	
WB	T	2	788	788
	EXR	1	202	
	Total Critical Volume			1892

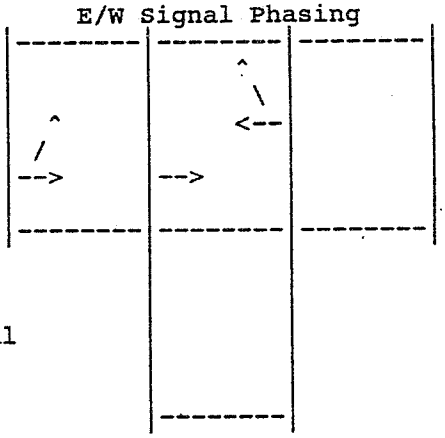
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1892
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.33

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

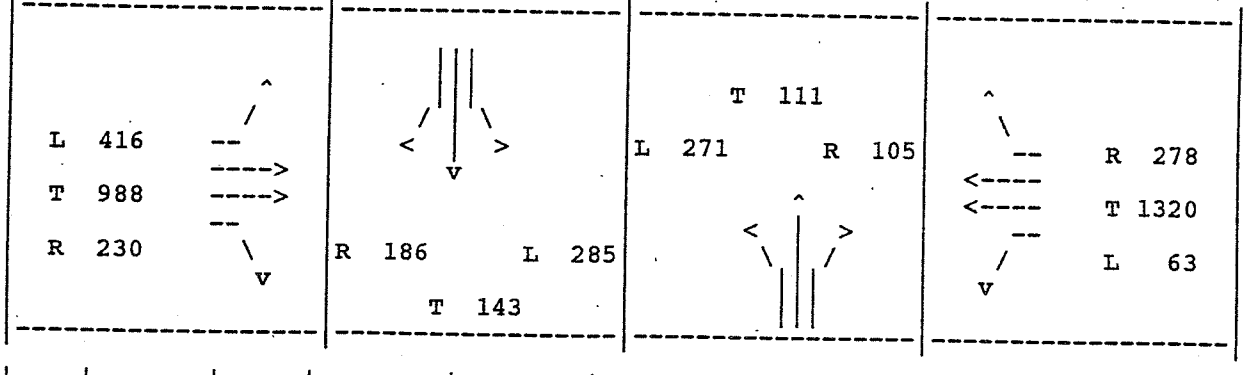
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes



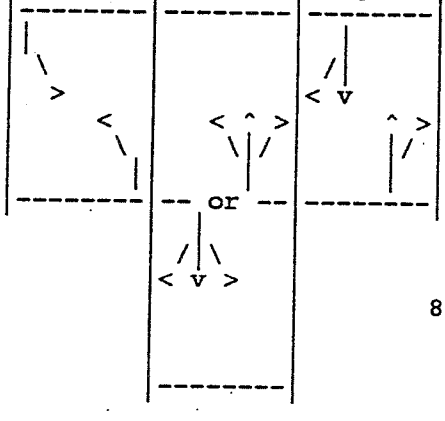
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	271	271
	T	1	111	
	EXR	1	105	
SB	EXL	1	285	
	T	1	143	143
	EXR	1	186	
EB	EXL	1	416	416
	T	2	494	
	EXR	1	230	
WB	EXL	1	63	
	T	2	660	660
	EXR	1	278	
Total Critical Volume				1490

Maximum Total Critical Volumes

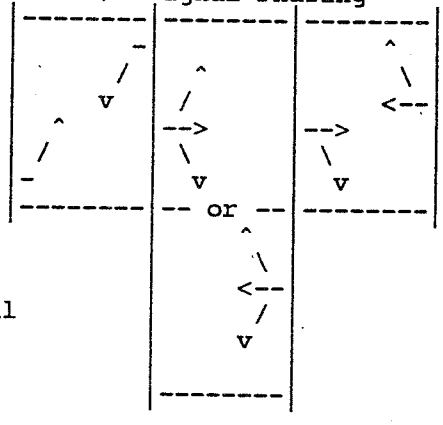
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1490
No of Critical Phases	= 4
Level of Service	= F
Volume/Capacity	= 1.08

N/S Signal Phasing



E/W Signal Phasing



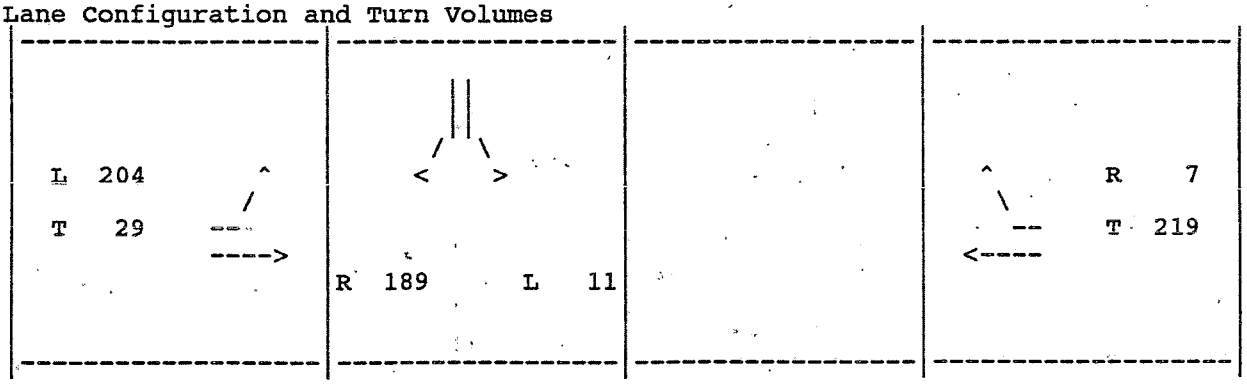
8 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes



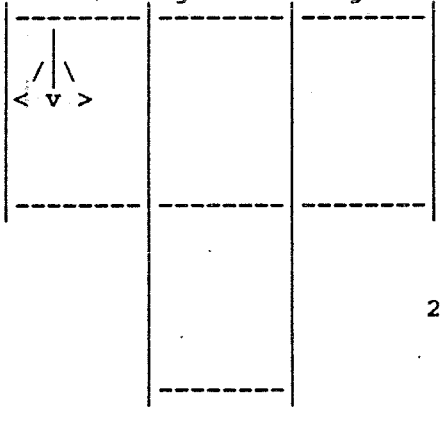
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	11	11
	EXR	1	189	
EB	EXL	1	204	204
	T	1	29	
WB	T	1	219	219
	EXR	1	7	
	Total Critical Volume			434

Maximum Total Critical Volumes

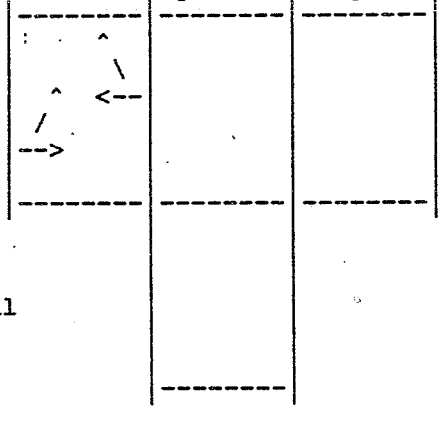
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 434
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.29

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

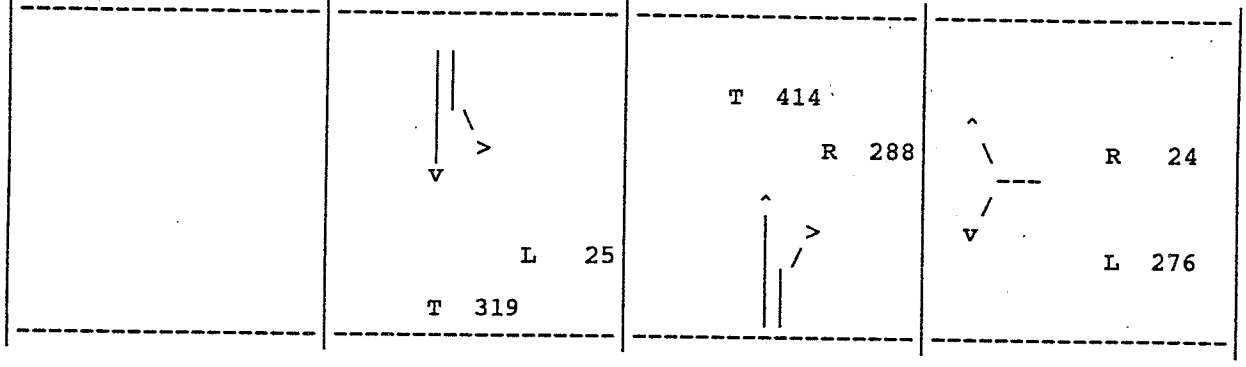
Traffic Analysis on Microcomputers

PRC ENGINEERING
07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 12 CNTY ROAD 99 & Comm. Access

Lane Configuration and Turn Volumes



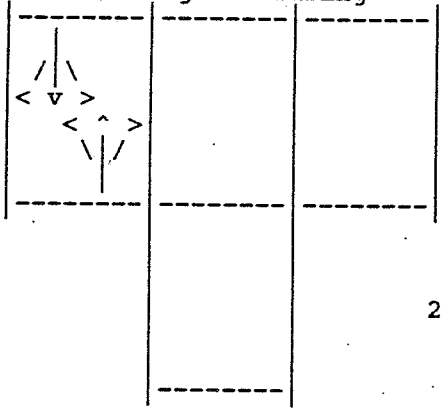
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	T	1	414	414
	EXR	1	288	
SB	EXL	1	25	25
	T	1	319	
WB	LR	1	300	300
	Total Critical Volume			739

Maximum Total Critical Volumes

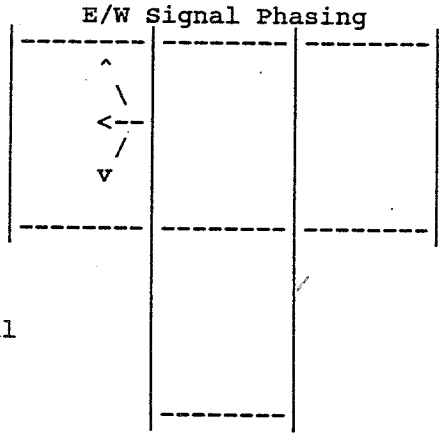
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 739
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing



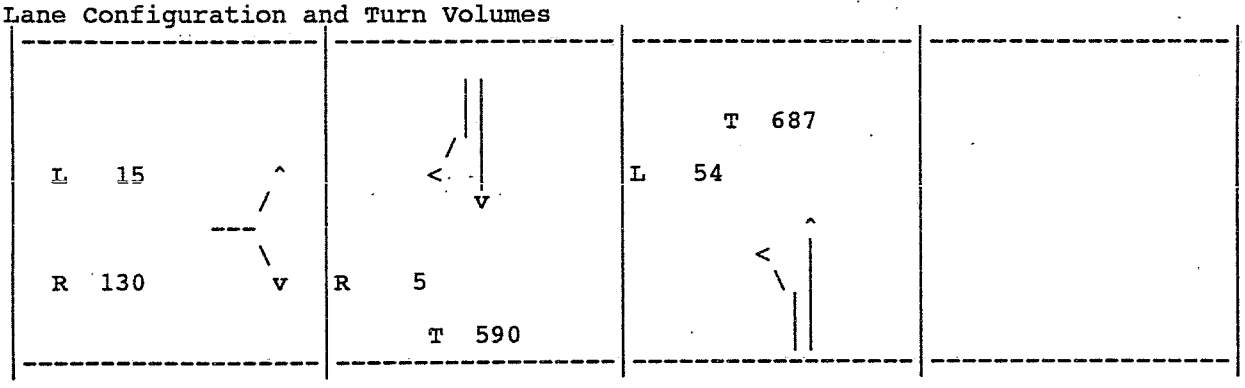
2 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 07:57:04

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 2, With Project
PM Peakj
Intersection: 15 CNTY ROAD 99 & EAST ACCESS

Lane Configuration and Turn Volumes

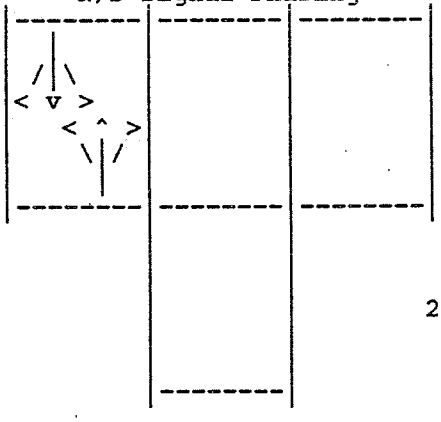


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	54	
	T	1	687	687
SB	T	1	590	
	EXR	1	5	
EB	LR	1	145	145
	Total Critical Volume			832

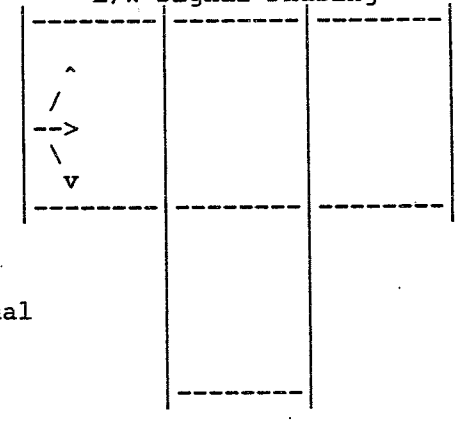
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 832
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.55

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Year 2010, Alt 7, No Project
Am Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	F	1.12	1
6	NB SR113 ON & COVELL	F	1.11	

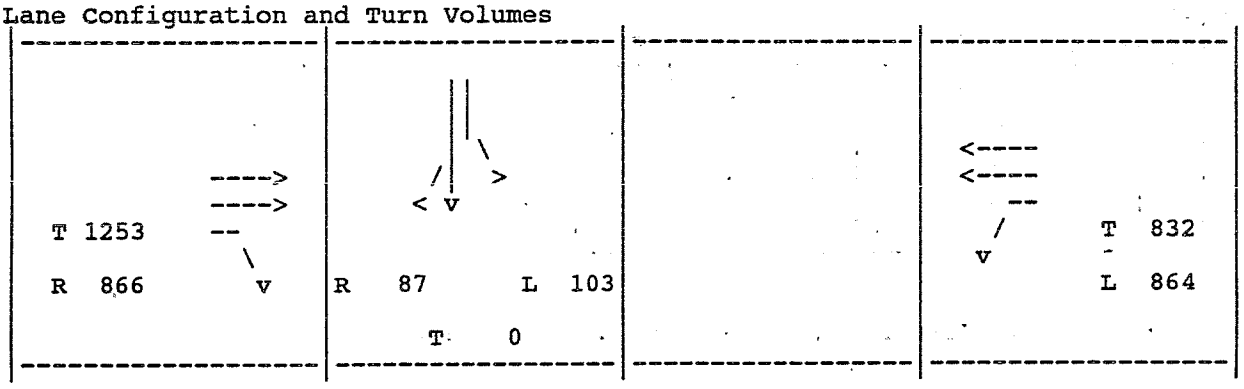
Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:28:54

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No Project
Am Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



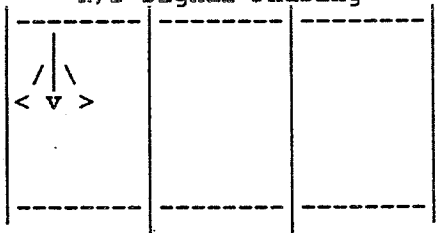
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	103	103
	TR	1	87	
EB	T	2	627	627
	EXR	1	866	
WB	EXL	1	864	864
	T	2	416	
Total Critical Volume				1594

Maximum Total Critical Volumes

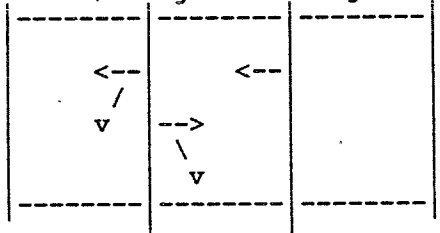
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1594
No of Critical Phases = 3
Level of Service = F
Volume/Capacity = 1.12

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

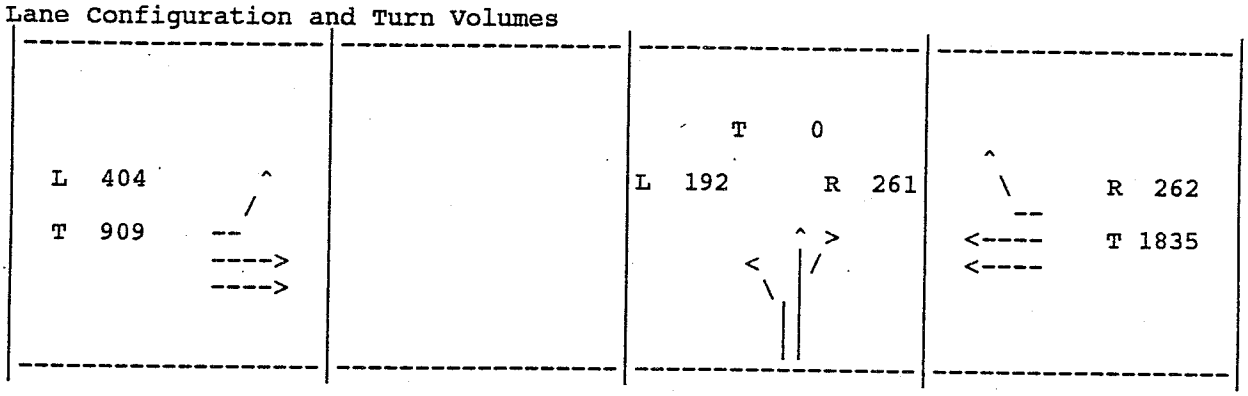
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:28:54

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No Project
Am Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



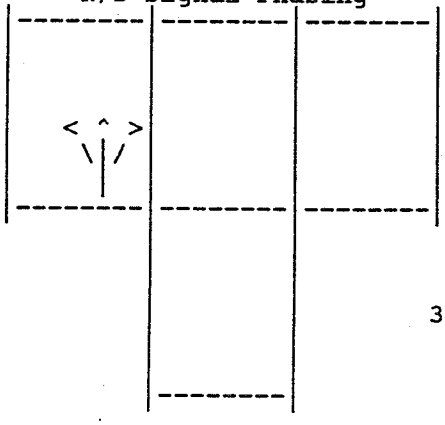
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	192	
	TR	1	261	261
EB	EXL	1	404	404
	T	2	455	
WB	T	2	918	918
	EXR	1	262	
	Total Critical Volume			1583

Maximum Total Critical Volumes

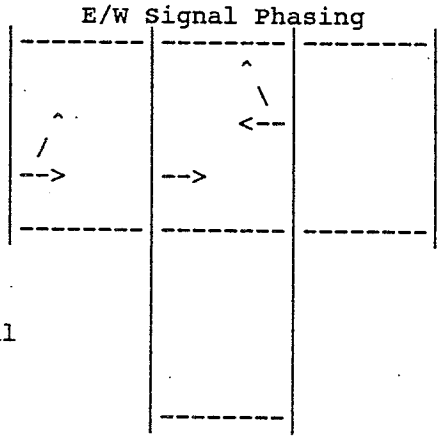
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1583
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.11

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Year 2010, Alt 7, No PRoject
PM Peak

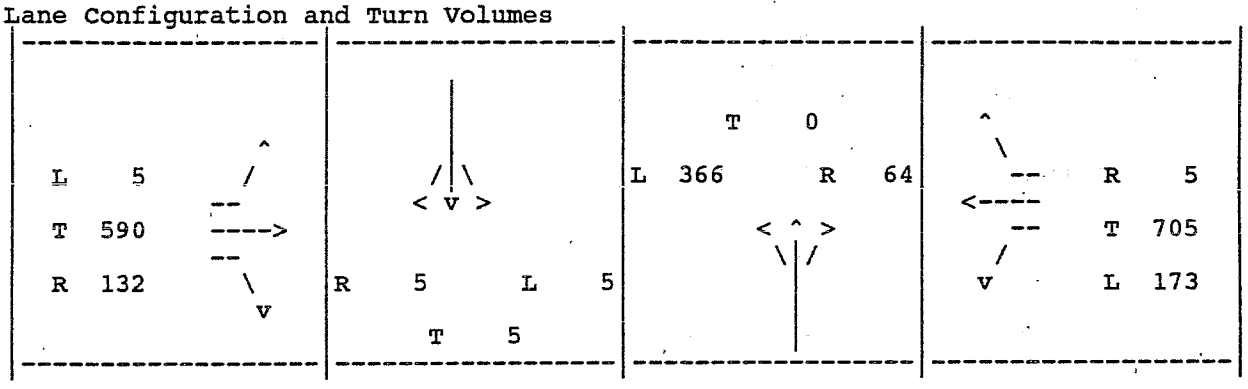
Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	~~A~~ D ~~A~~	~~0.52~~ ~~0.53~~ 0.81	
2	DENALLI & COVELL	A	0.55	
3	VANSELL & COVELL	A	0.51	
4	CNTY ROAD 99 & COVELL	A	0.56	
5	SB SR113 OFF & COVELL	D	0.89	1
6	NB SR113 ON & COVELL	F	1.37	
7	SYCAMORE & COVELL	F	1.18	
8	DENALLI & SHASTA DRIVE	A	0.23	

Note 1: Left Turn Check Failed for This Intersection

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes



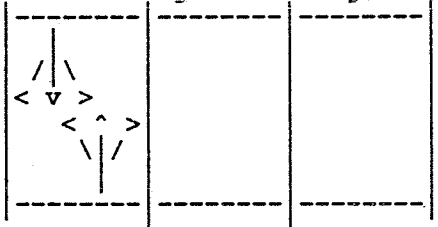
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	430	430
SB	LTR	1	15	15
EB	EXL	1	5	
	T	1	590	590
	EXR	1	132	
WB	EXL	1	173	173
	T	1	705	
	EXR	1	5	
Total Critical Volume				1208

Maximum Total Critical Volumes

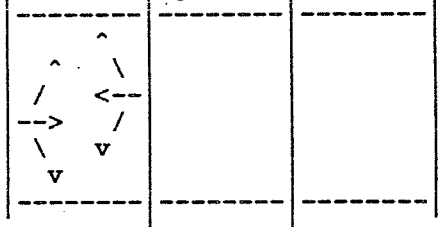
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1208
No of Critical Phases = 2
Level of Service = D
Volume/Capacity = 0.81

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

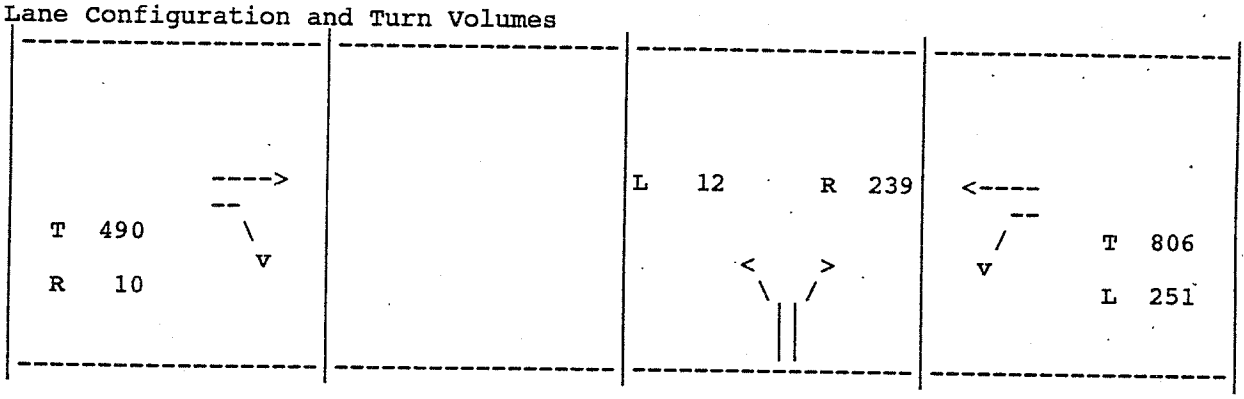
Traffic Analysis on Microcomputers

Program Licensed To: Korve Engineering Inc.

PRC ENGINEERING
08:29:55

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes



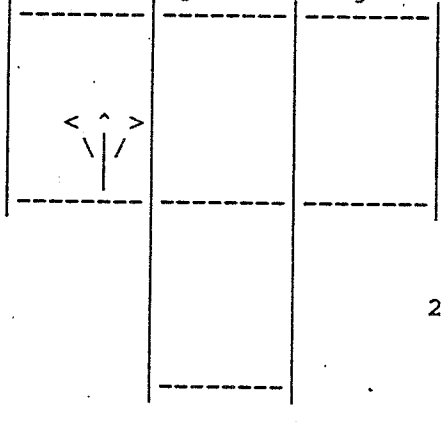
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	12	12
	EXR	1	239	
EB	T	1	490	
	EXR	1	10	
WB	EXL	1	251	
	T	1	806	806
Total Critical Volume				818

Maximum Total Critical Volumes

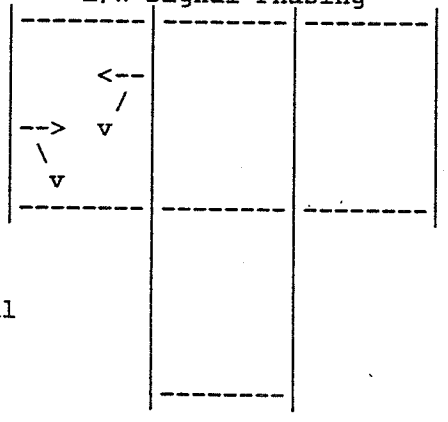
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 818
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.55

N/S Signal Phasing



E/W Signal Phasing

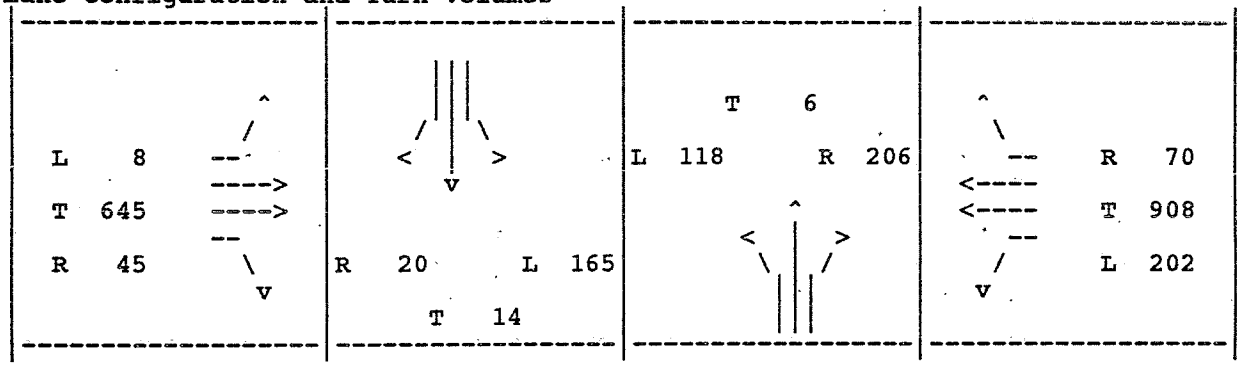


2 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes

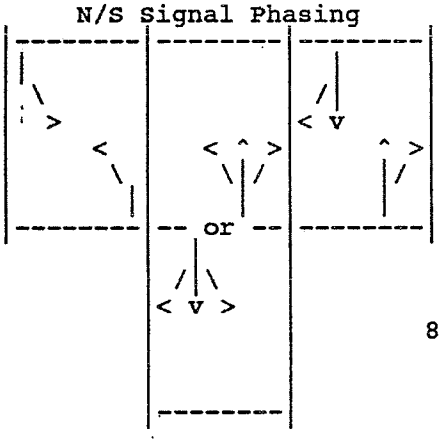


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	118	
	T	1	6	6
	EXR	1	206	
SB	EXL	1	165	165
	T	1	14	
	EXR	1	20	
EB	EXL	1	8	
	T	2	323	323
	EXR	1	45	
WB	EXL	1	202	202
	T	2	454	
	EXR	1	70	
Total Critical Volume				696

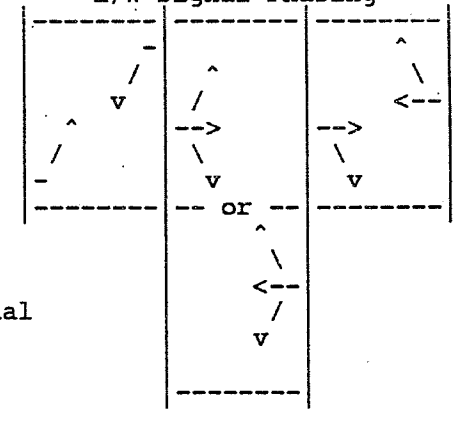
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 696
No of Critical Phases	= 4
Level of Service	= A
Volume/Capacity	= 0.51

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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09-30-1992

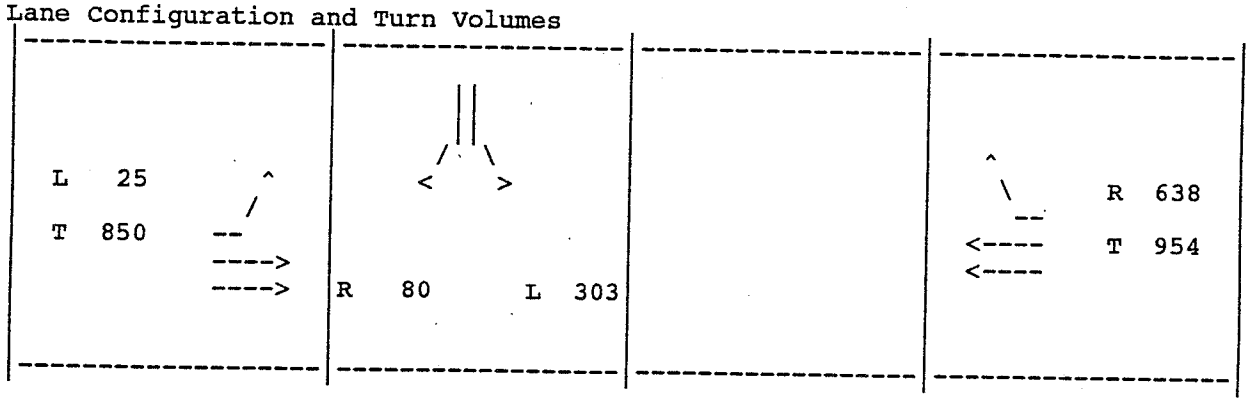
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:29:55

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes

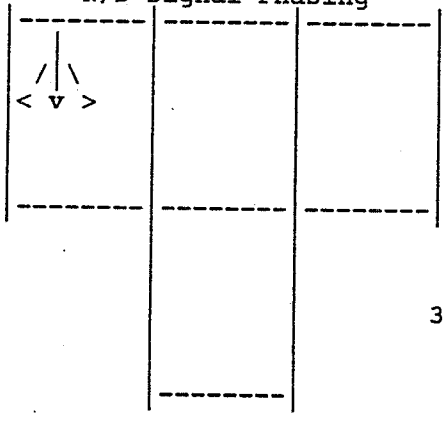


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	303	303
	EXR	1	80	
EB	EXL	1	25	25
	T	2	425	
WB	T	2	477	477
	EXR	1	638	
	Total Critical Volume			805

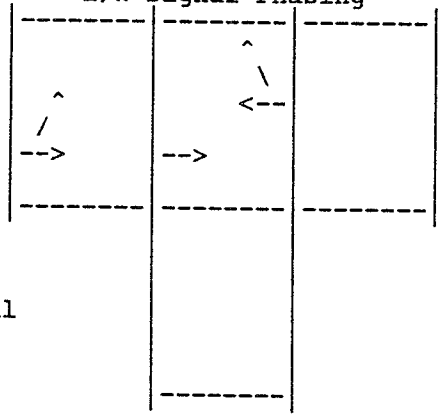
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 805
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.56

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

PRC ENGINEERING
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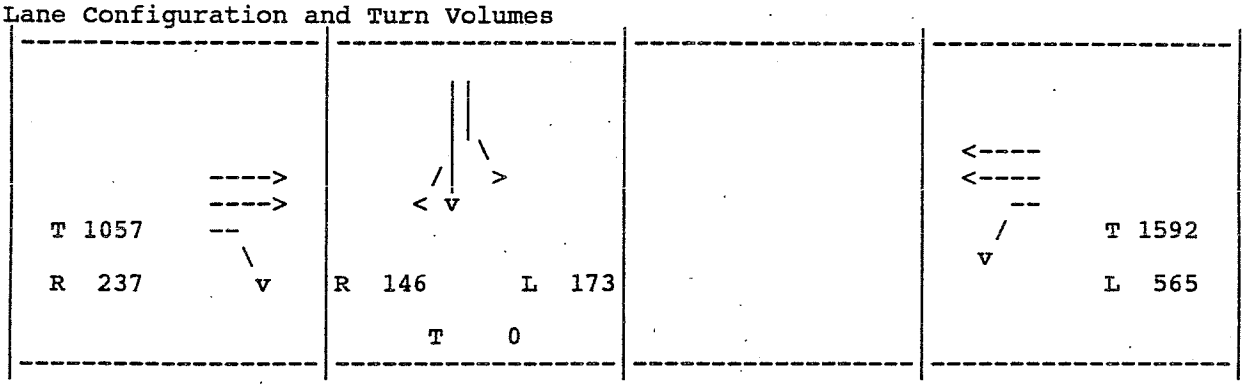
Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

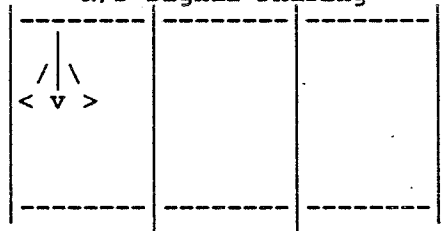


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	173	173
	TR	1	146	
EB	T	2	529	529
	EXR	1	237	
WB	EXL	1	565	565
	T	2	796	
Total Critical Volume				1267

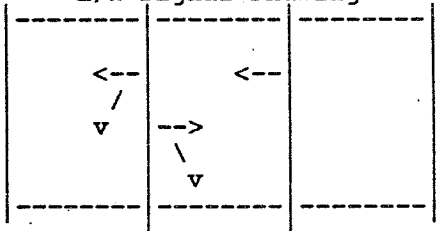
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1267
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.89

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

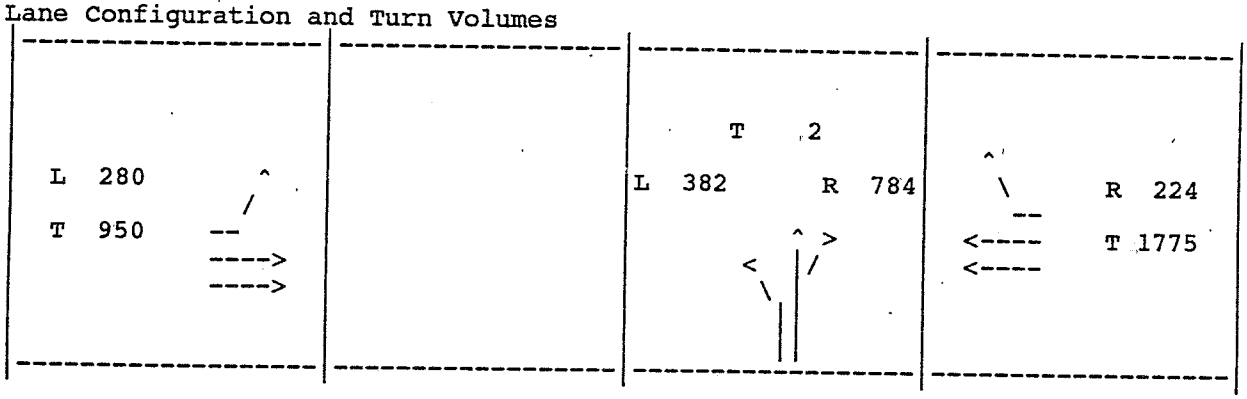
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:29:55

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

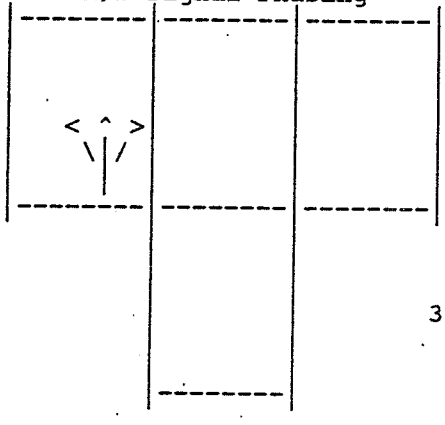


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	382	
	TR	1	786	786
EB	EXL	1	280	280
	T	2	475	
WB	T	2	888	888
	EXR	1	224	
	Total Critical Volume			1954

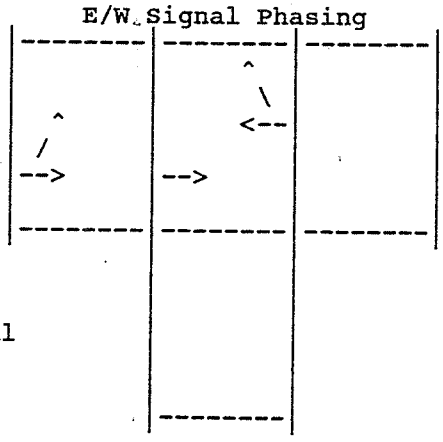
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1954
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.37

N/S Signal Phasing



E/W Signal Phasing

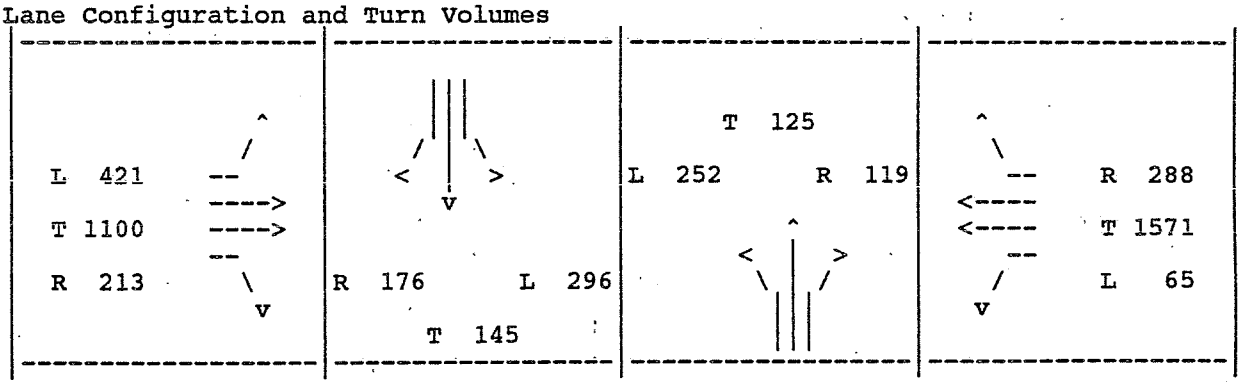


3 Phase Signal

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

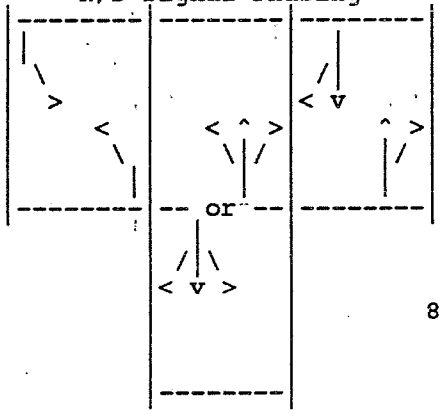


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	252	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	296	296
	T	1	145	
	EXR	1	176	
EB	EXL	1	421	421
	T	2	550	
	EXR	1	213	
WB	EXL	1	65	
	T	2	786	786
	EXR	1	288	
Total Critical Volume				1628

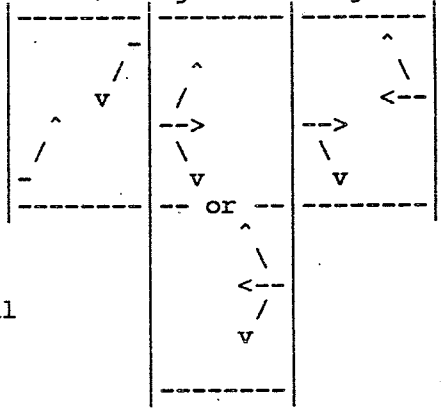
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1628
No of Critical Phases	= 4
Level of Service	= F
Volume/Capacity	= 1.18

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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09-30-1992

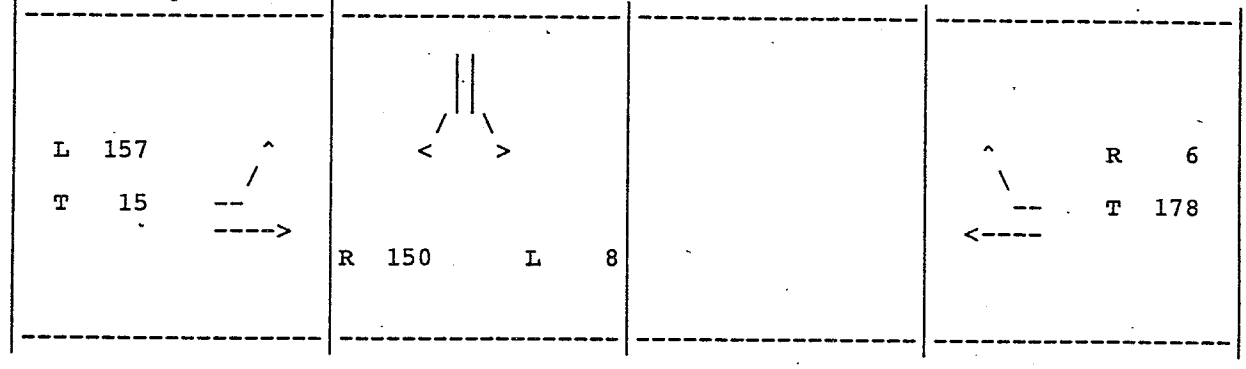
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:29:55

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, No PRoject
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes



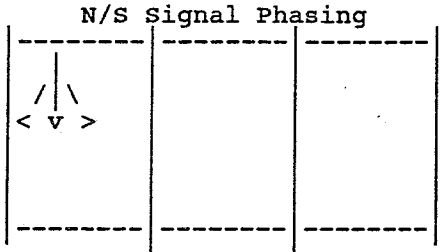
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	8	8
	EXR	1	150	
EB	EXL	1	157	157
	T	1	15	
WB	T	1	178	178
	EXR	1	6	
	Total Critical Volume			343

Maximum Total Critical Volumes

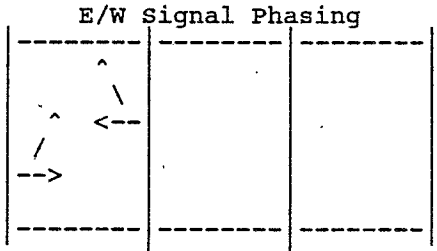
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 343
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.23

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

Year 2010, Alt 7, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	F	1.21	
6	NB SR113 ON & COVELL	F	1.17	1

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22
09-30-1992

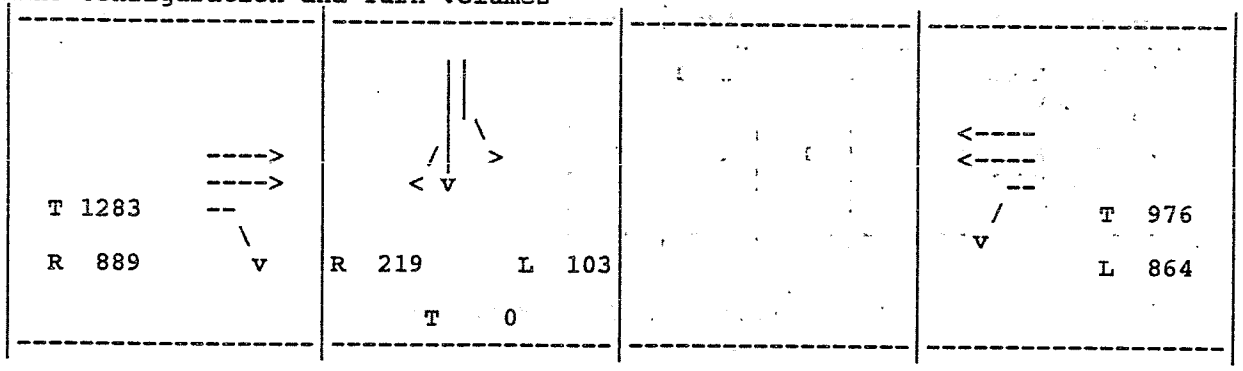
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:30:36

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

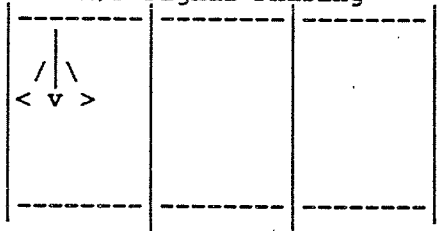


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	103	
	TR	1	219	219
EB	T	2	642	642
	EXR	1	889	
WB	EXL	1	864	864
	T	2	488	
Total Critical Volume				1725

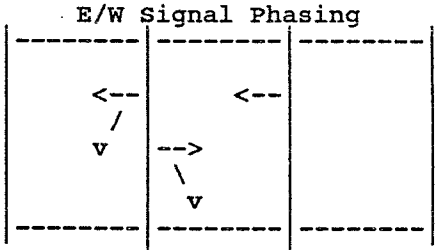
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1725
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.21

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

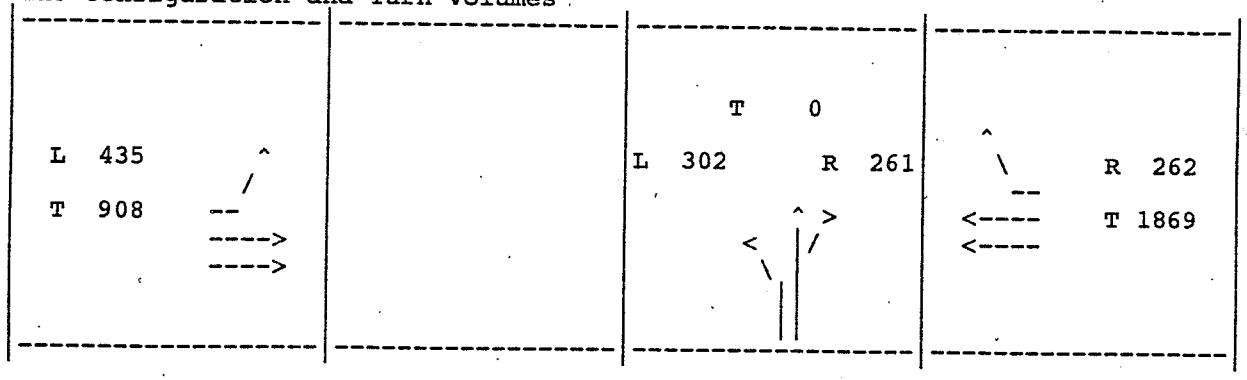
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:30:36

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



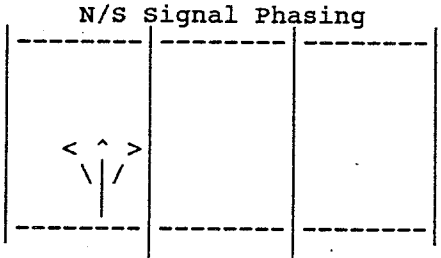
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	302	302
	TR	1	261	
EB	EXL	1	435	435
	T	2	454	
WB	T	2	935	935
	EXR	1	262	
	Total Critical Volume			1672

Maximum Total Critical Volumes

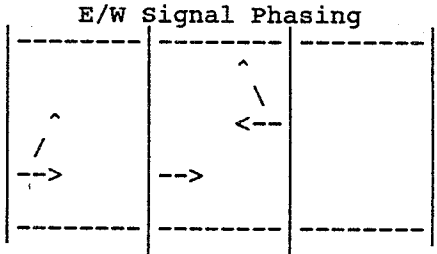
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1672
No of Critical Phases = 3
Level of Service = F
Volume/Capacity = 1.17

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Year 2010, Alt 7, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99 & CNTY ROAD 29	~~E~~ D ~~A~~	~~0.53~~ ~~0.56~~ 0.85	
2	DENALLI & COVELL	A	0.55	
3	VANSELL & COVELL	A	0.50	
4	CNTY ROAD 99 & COVELL	D	0.83	
5	SB SR113 OFF & COVELL	E	0.95	1
6	NB SR113 ON & COVELL	F	1.46	
7	SYCAMORE & COVELL	F	1.18	
8	DENALLI & SHASTA DRIVE	A	0.24	
12	CNTY ROAD 99 & Comm. Access	A	0.37	
15	CNTY ROAD 99 & EAST ACCESS	A	0.43	

Note 1: Left Turn Check Failed for This Intersection

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09-30-1992

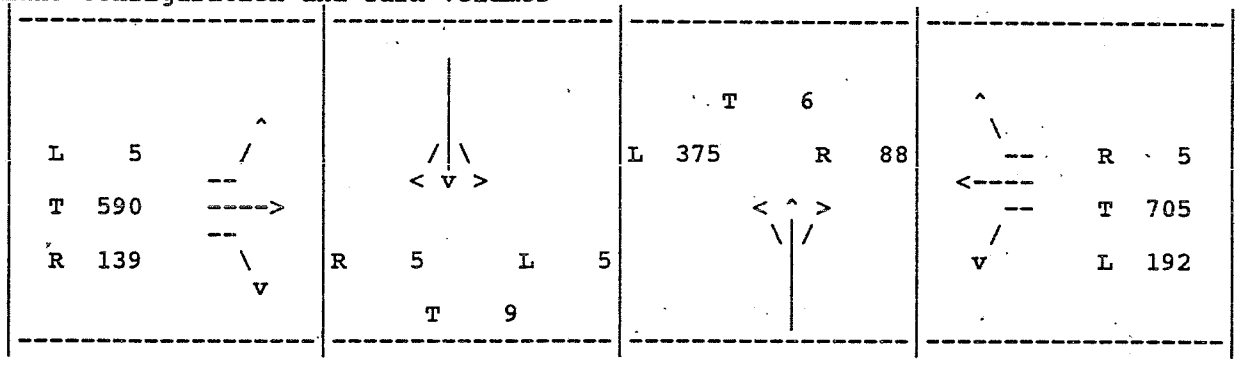
Traffic Analysis on Microcomputers

PRC ENGINEERING
09:29:59

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

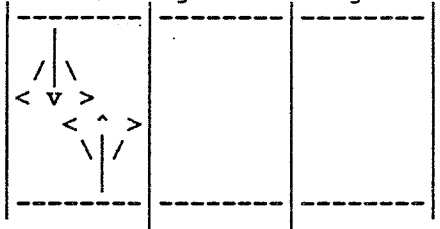


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	1	469	469
SB	LTR	1	19	19
EB	EXL	1	5	
	T	1	590	590
	EXR	1	139	
WB	EXL	1	192	192
	T	1	705	
	EXR	1	5	
Total Critical Volume				1270

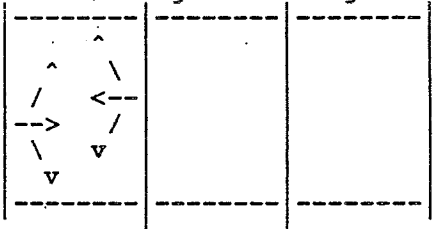
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1270
No of Critical Phases	= 2
Level of Service	= D
Volume/Capacity	= 0.85

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

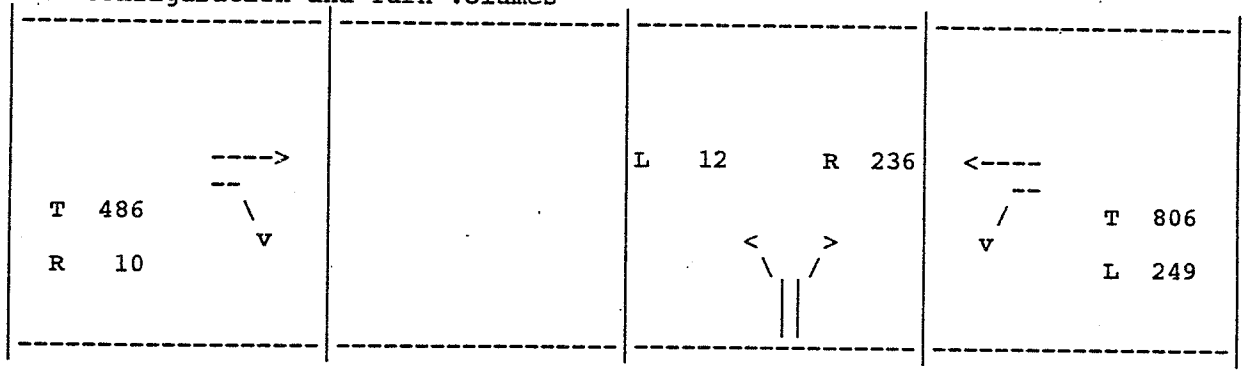
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 2 DENALLI & COVELL

Lane Configuration and Turn Volumes

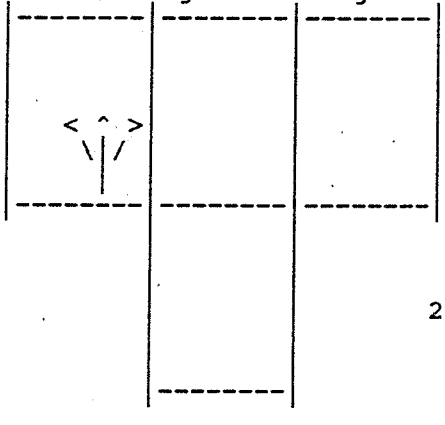


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	12	12
	EXR	1	236	
EB	T	1	486	
	EXR	1	10	
WB	EXL	1	249	
	T	1	806	806
Total Critical Volume				818

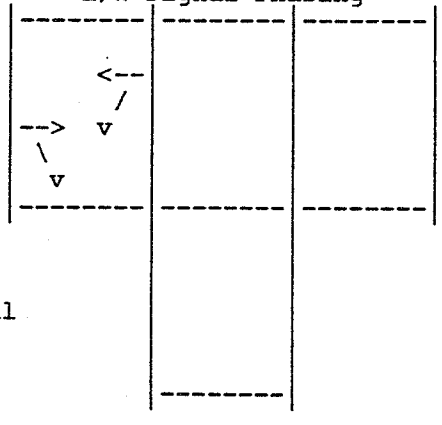
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 818
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.55

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

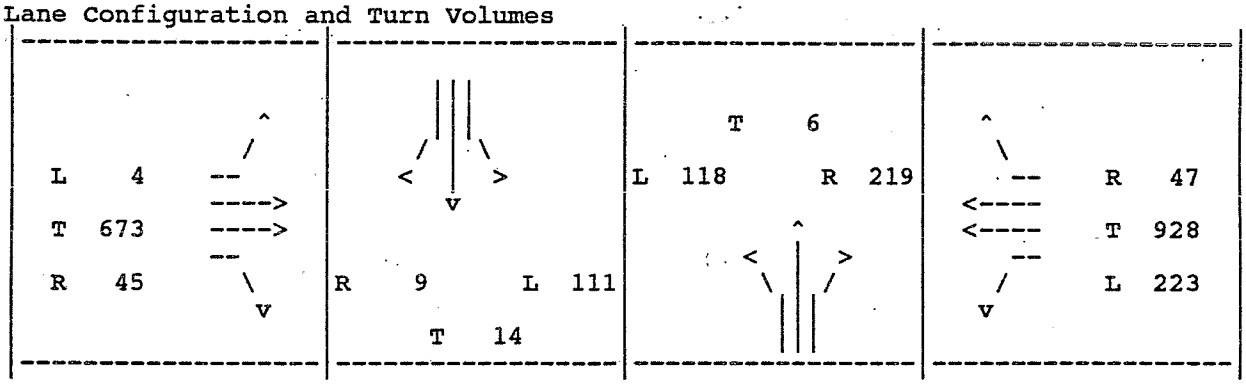
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 3 VANSELL & COVELL

Lane Configuration and Turn Volumes



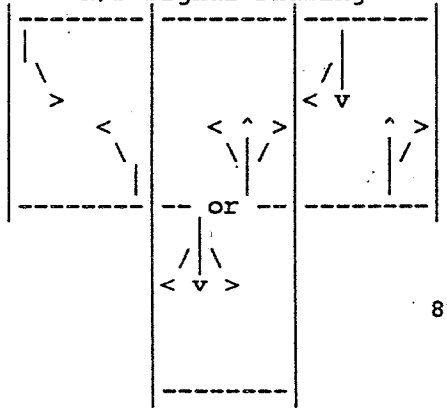
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	118	118
	T	1	6	
	EXR	1	219	
SB	EXL	1	111	
	T	1	14	14
	EXR	1	9	
EB	EXL	1	4	
	T	2	337	337
	EXR	1	45	
WB	EXL	1	223	223
	T	2	464	
	EXR	1	47	
Total Critical Volume				692

Maximum Total Critical Volumes

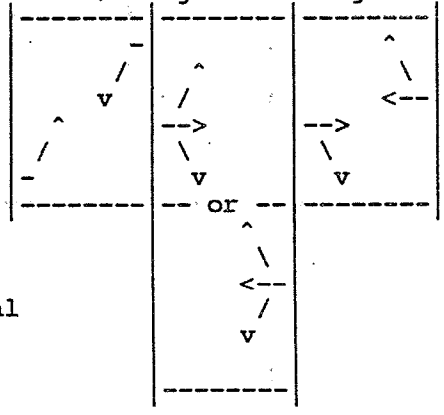
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 692
No of Critical Phases = 4
Level of Service = A
Volume/Capacity = 0.50

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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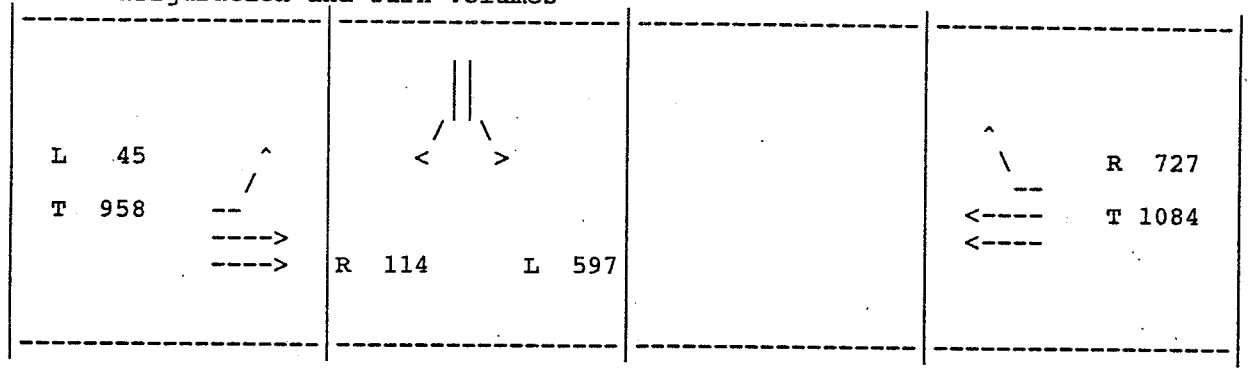
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes

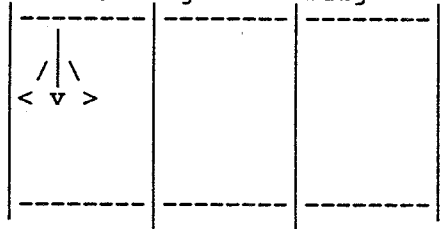


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	597	597
	EXR	1	114	
EB	EXL	1	45	45
	T	2	479	
WB	T	2	542	542
	EXR	1	727	
	Total Critical Volume			1184

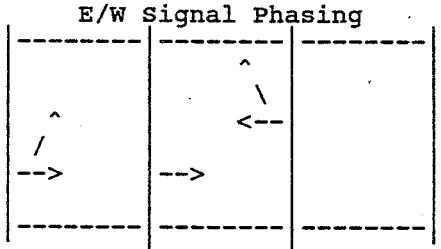
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1184
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.83

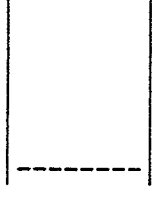
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



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Traffic Analysis on Microcomputers

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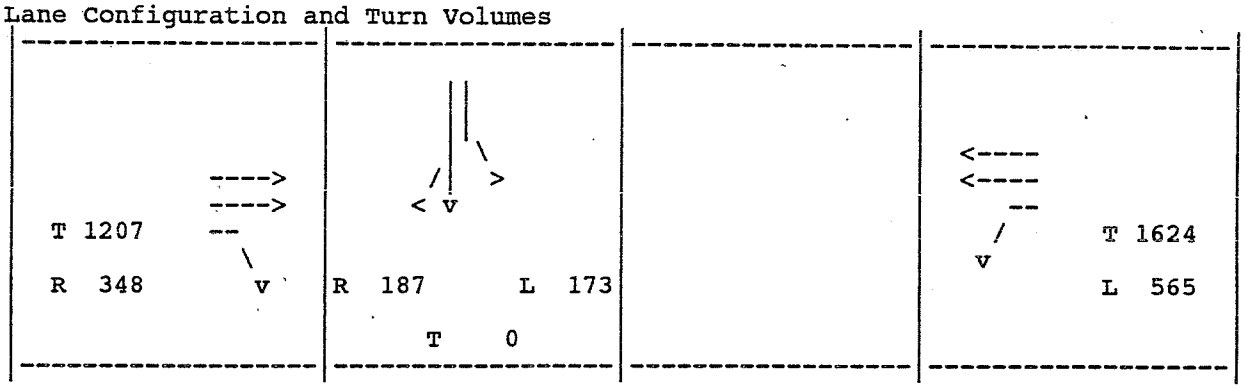
08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



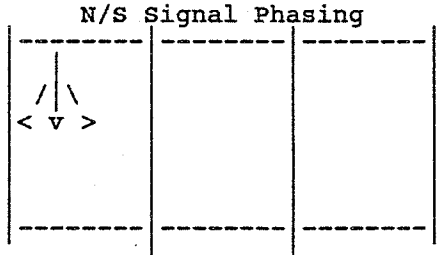
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	173	
	TR	1	187	187
EB	T	2	604	604
	EXR	1	348	
WB	EXL	1	565	565
	T	2	812	
Total Critical Volume				1356

Maximum Total Critical Volumes

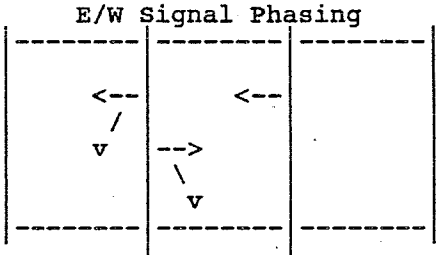
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1356
No of Critical Phases = 3
Level of Service = E
Volume/Capacity = 0.95

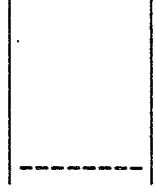
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



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Traffic Analysis on Microcomputers

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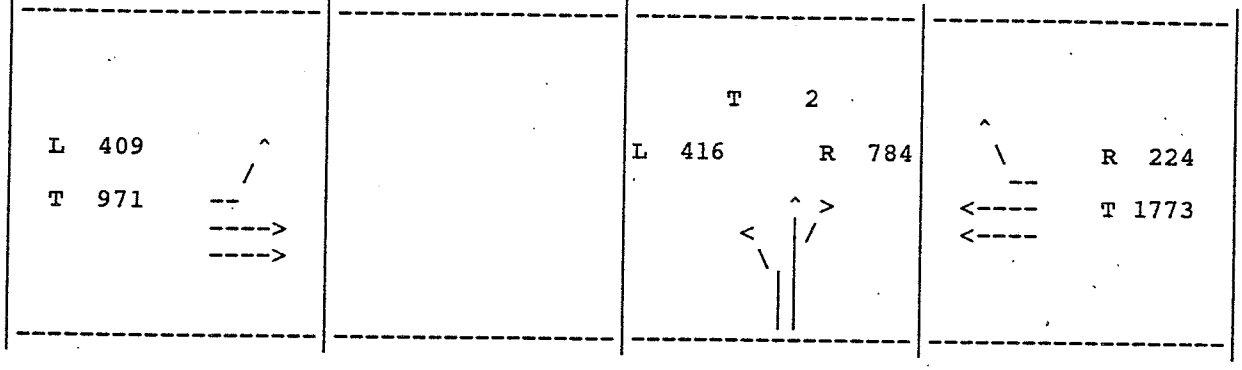
Year 2010, Alt 7, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



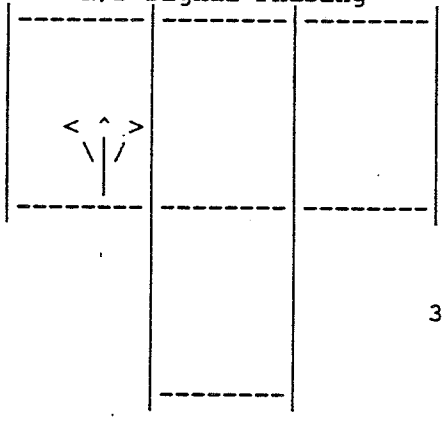
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	416	
	TR	1	786	786
EB	EXL	1	409	409
	T	2	486	
WB	T	2	887	887
	EXR	1	224	
Total Critical Volume				2082

Maximum Total Critical Volumes

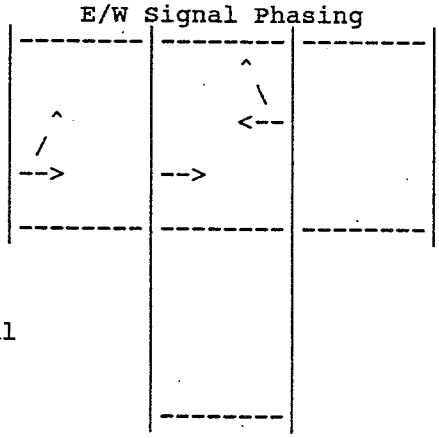
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 2082
No of Critical Phases = 3
Level of Service = F
Volume/Capacity = 1.46

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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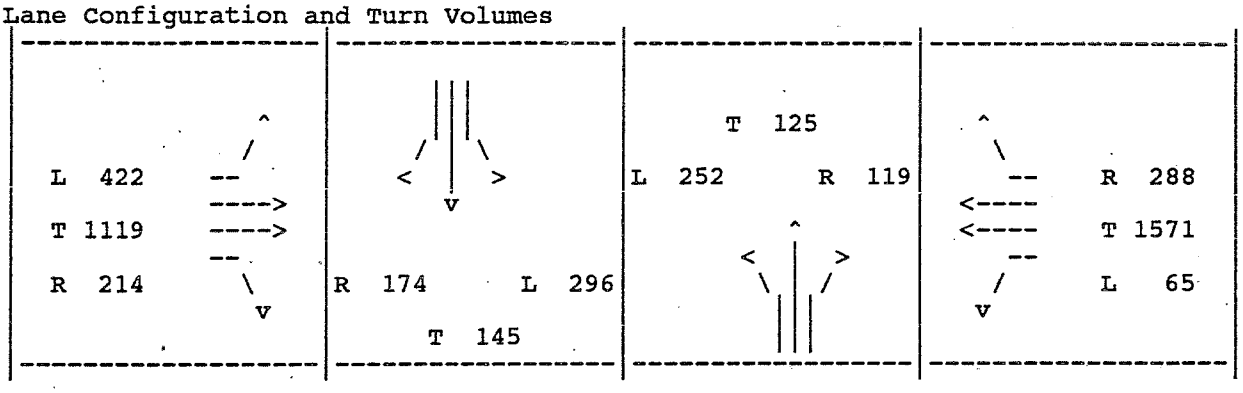
Year 2010, Alt 7, With Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

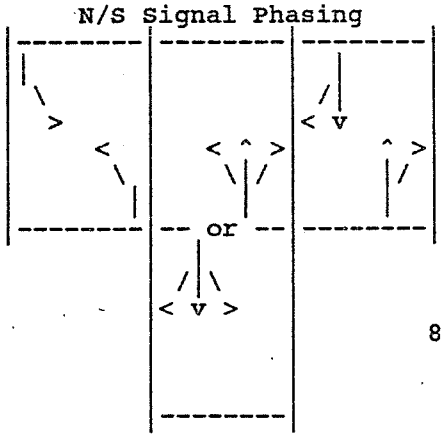


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	252	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	296	296
	T	1	145	
	EXR	1	174	
EB	EXL	1	422	422
	T	2	560	
	EXR	1	214	
WB	EXL	1	65	
	T	2	786	786
	EXR	1	288	
	Total Critical Volume			1629

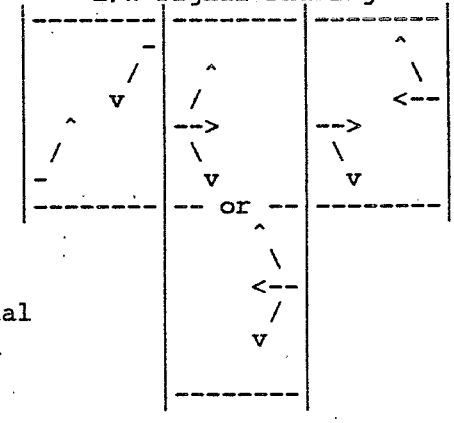
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1629
No of Critical Phases	= 4
Level of Service	= F
Volume/Capacity	= 1.18

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

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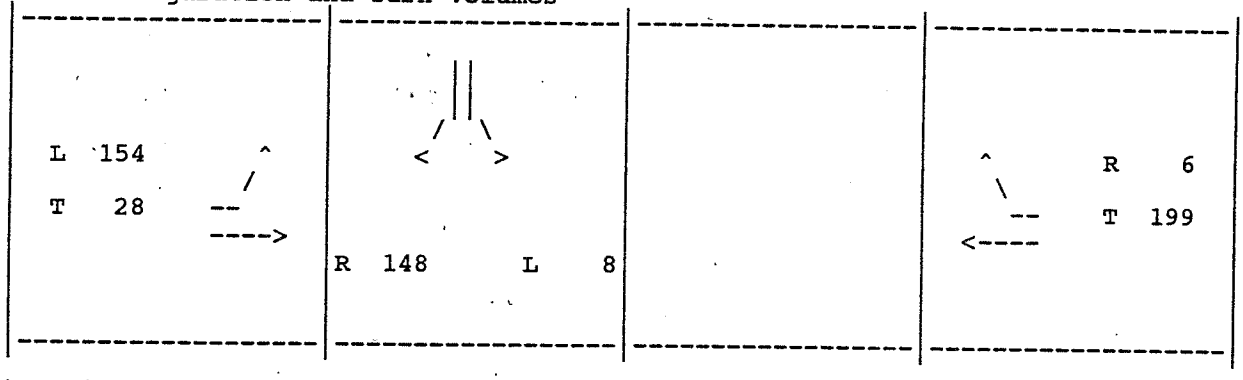
PRC ENGINEERING
08:31:22

Year 2010, Alt 7, With Project
PM Peak
Intersection: 8 DENALLI & SHASTA DRIVE

Lane Configuration and Turn Volumes



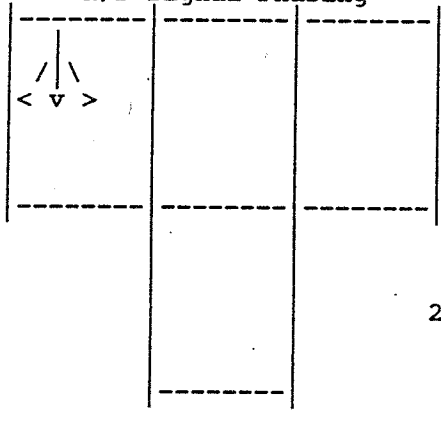
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	8	8
	EXR	1	148	
EB	EXL	1	154	154
	T	1	28	
WB	T	1	199	199
	EXR	1	6	
	Total Critical Volume			361

Maximum Total Critical Volumes

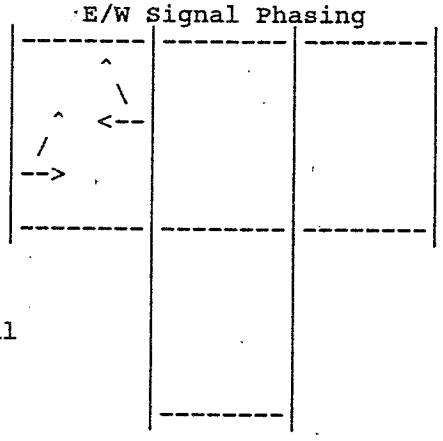
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 361
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.24

N/S Signal Phasing



E/W Signal Phasing



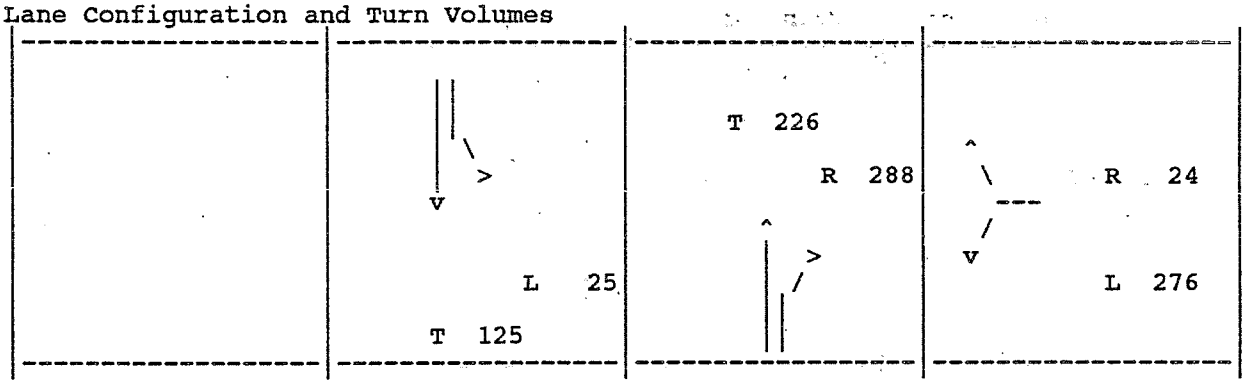
2 Phase Signal

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 12 CNTY ROAD 99 & Comm. Access

Lane Configuration and Turn Volumes

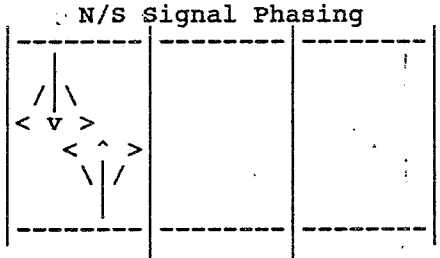


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	T	1	226	226
	EXR	1	288	
SB	EXL	1	25	25
	T	1	125	
WB	LR	1	300	300
Total Critical Volume				551

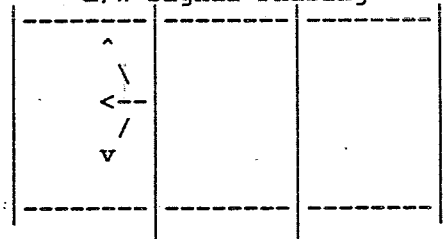
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 551
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.37

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

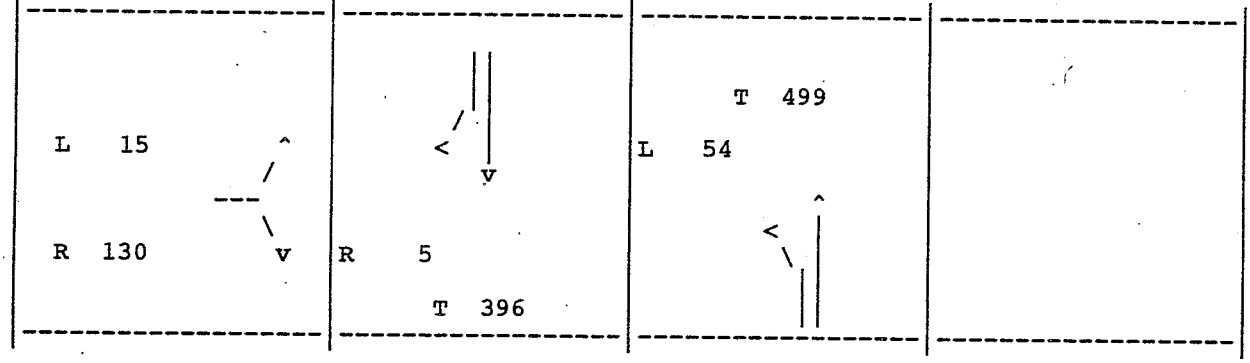
Traffic Analysis on Microcomputers

PRC ENGINEERING
08:31:22

Program Licensed To: Korve Engineering Inc.

Year 2010, Alt 7, With Project
PM Peak
Intersection: 15 CNTY ROAD 99 & EAST ACCESS

Lane Configuration and Turn Volumes

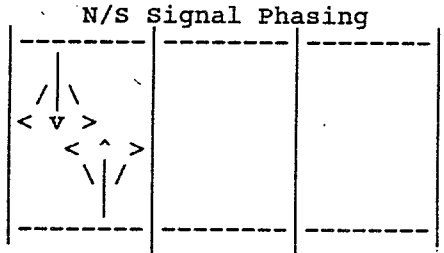


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	54	
	T	1	499	499
SB	T	1	396	
	EXR	1	5	
EB	LR	1	145	145
Total Critical Volume				644

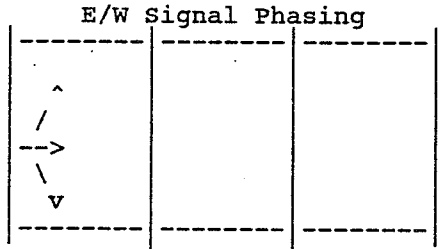
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 644
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.43

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
08:40:34

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, No Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	B	0.68	
6	NB SR113 ON & COVELL	A	0.38	

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
08:40:36

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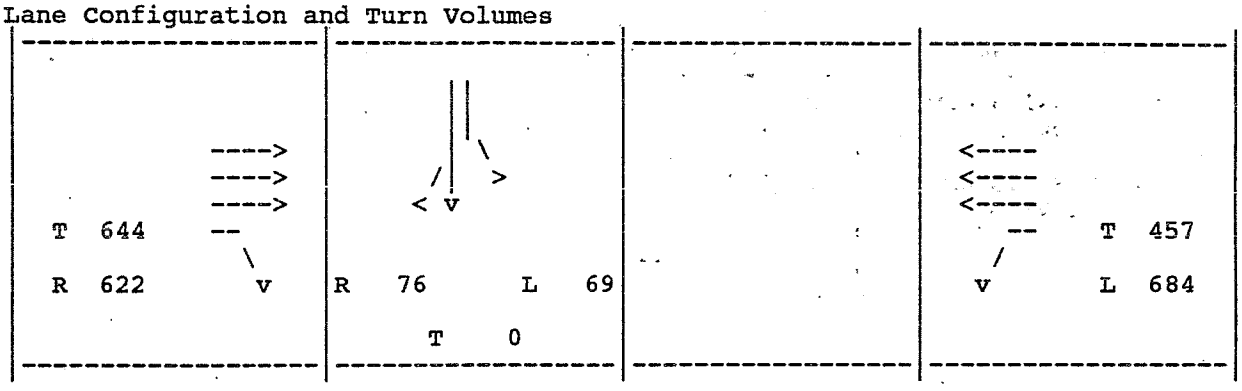
With Cumulative Mitigations

Year 2010, Alt 1, No Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



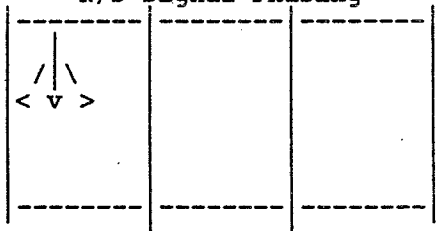
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	69	
	TR	1	76	76
EB	T	3	215	215
	EXR	1	622	
WB	EXL	1	684	684
	T	3	152	
	Total Critical Volume			975

Maximum Total Critical Volumes

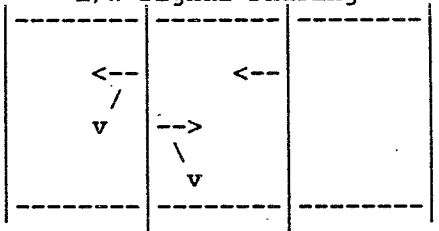
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 975
No of Critical Phases = 3
Level of Service = B
Volume/Capacity = 0.68

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

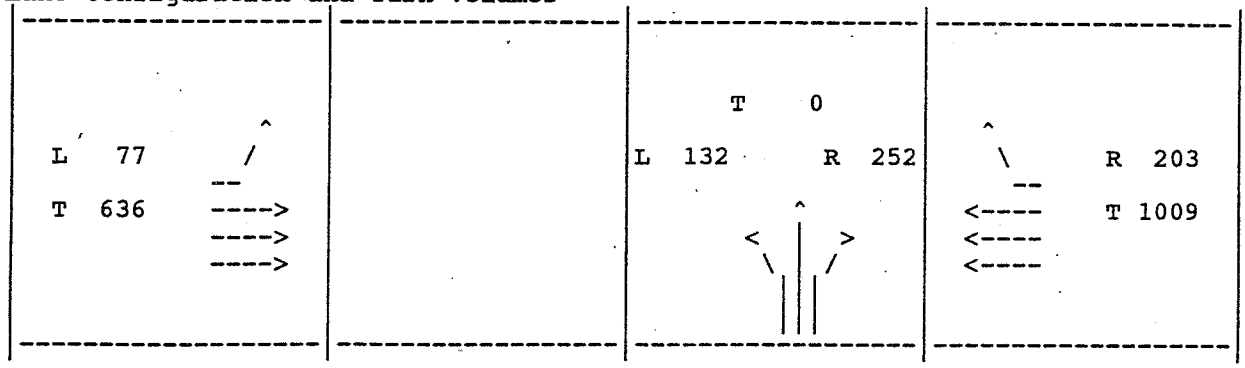
PRC ENGINEERING
08:40:36

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, No Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

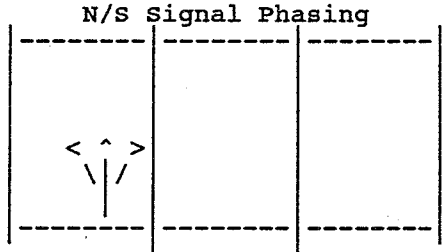


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	132	132
	T	1	0	
	EXR	1	252	
EB	EXL	1	77	77
	T	3	212	
WB	T	3	336	336
	EXR	1	203	
	Total Critical Volume			545

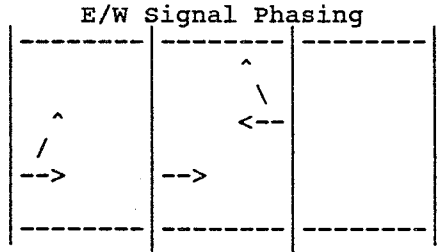
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 545
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.38

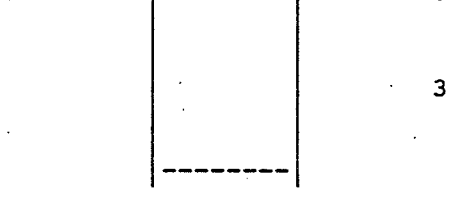
N/S Signal Phasing

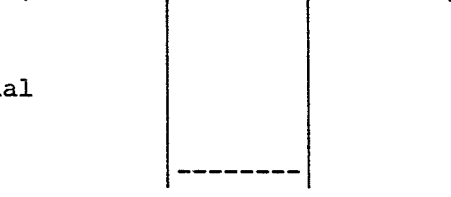


E/W Signal Phasing



3 Phase Signal





Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, No Project
PM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.70	
6	NB SR113 ON & COVELL	C	0.77	
7	SYCAMORE & COVELL	D	0.80	

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:41:12

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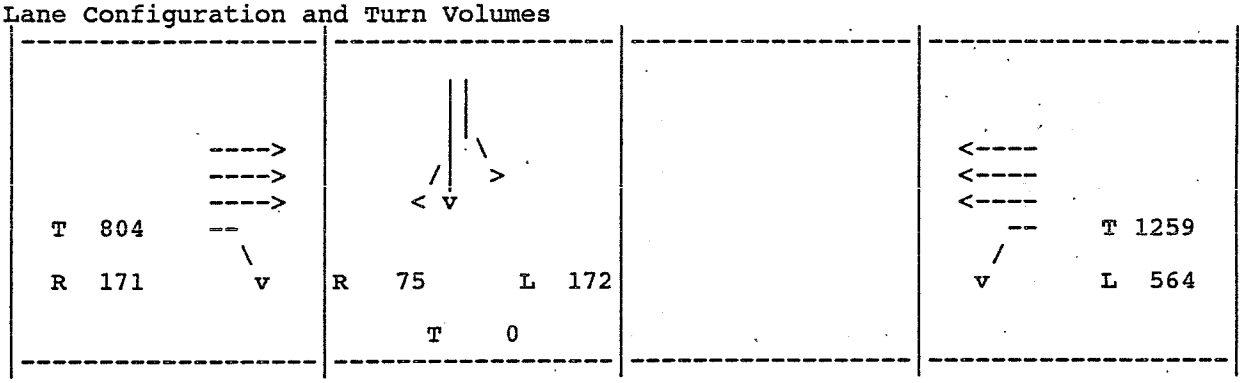
With Cumulative Mitigations

Year 2010, Alt 1, No Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

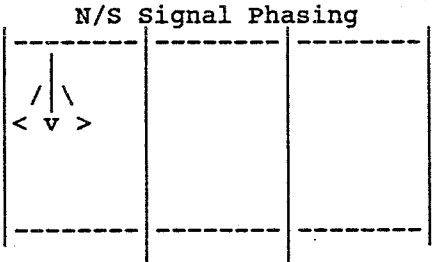


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	172	172
	TR	1	75	
EB	T	3	268	268
	EXR	1	171	
WB	EXL	1	564	564
	T	3	420	
	Total Critical Volume			1004

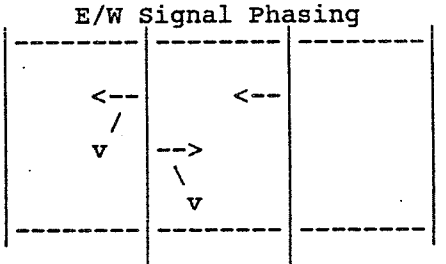
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1004
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.70

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

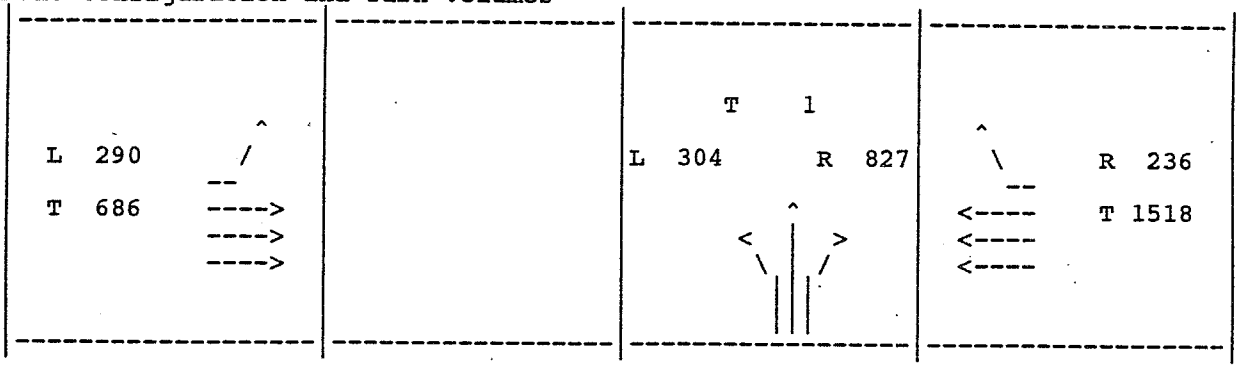
PRC ENGINEERING
08:41:12

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, No Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

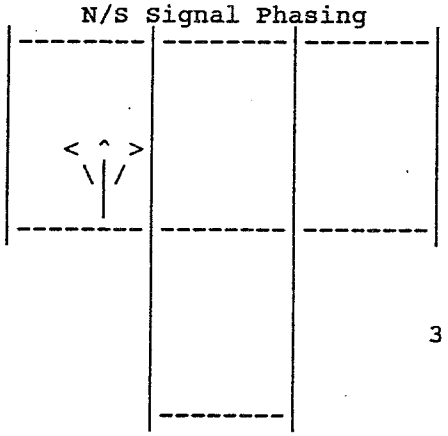


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	304	304
	T	1	1	
	EXR	1	827	
EB	EXL	1	290	290
	T	3	229	
WB	T	3	506	506
	EXR	1	236	
Total Critical Volume				1100

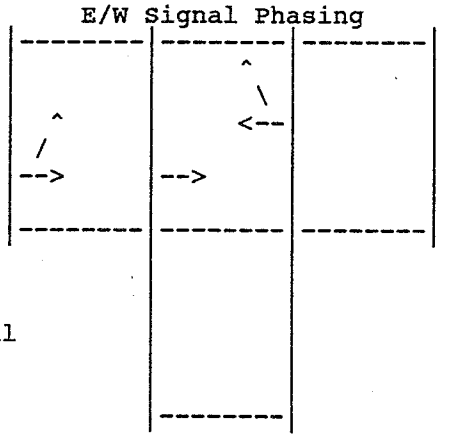
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1100
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.77

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

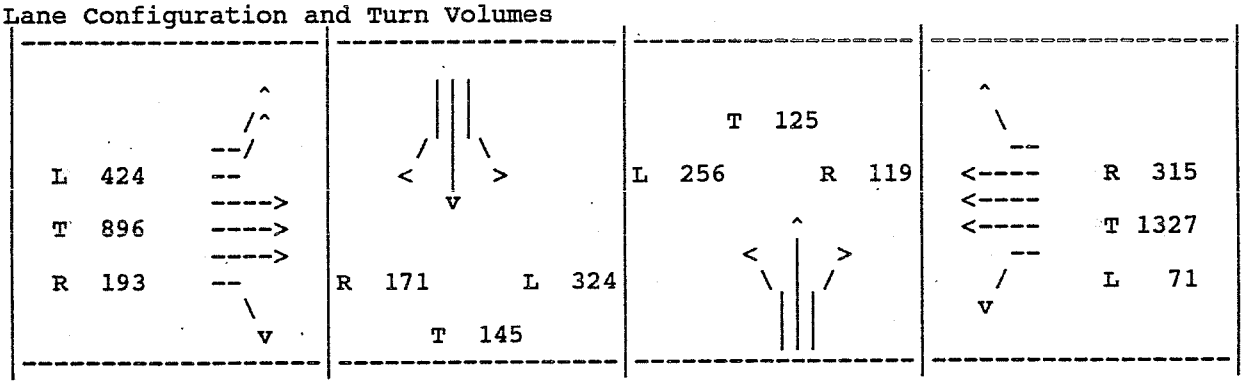
IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:41:12

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, No Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes



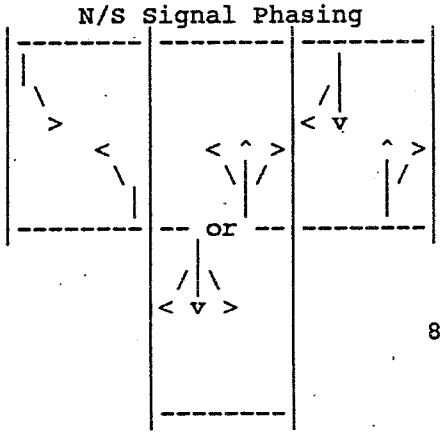
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	256	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	324	324
	T	1	145	
	EXR	1	171	
EB	EXL	2	212	212
	T	3	299	
	EXR	1	193	
WB	EXL	1	71	
	T	3	442	442
	EXR	1	315	
	Total Critical Volume			1103

Maximum Total Critical Volumes

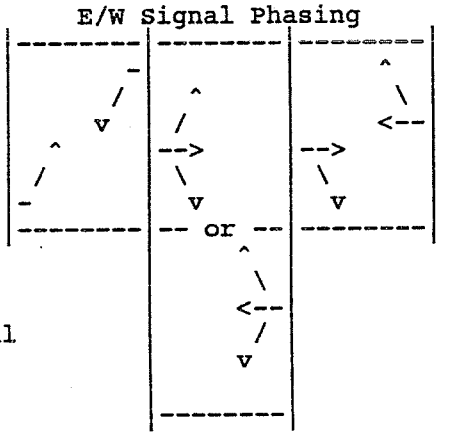
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1103
No of Critical Phases	= 4
Level of Service	= D
Volume/Capacity	= 0.80

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	D	0.84	
6	NB SR113 ON & COVELL	B	0.62	

IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:42:05

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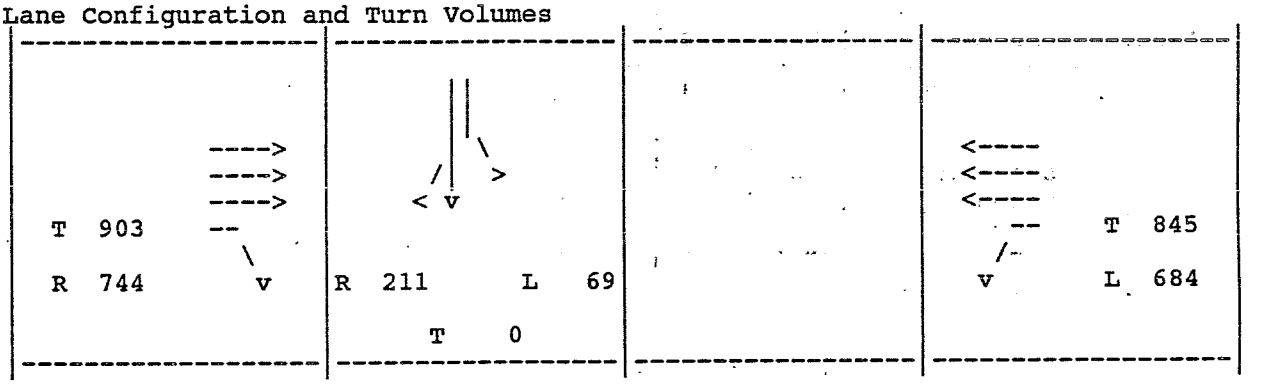
With Cumulative Mitigations

Year 2010, Alt 1, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



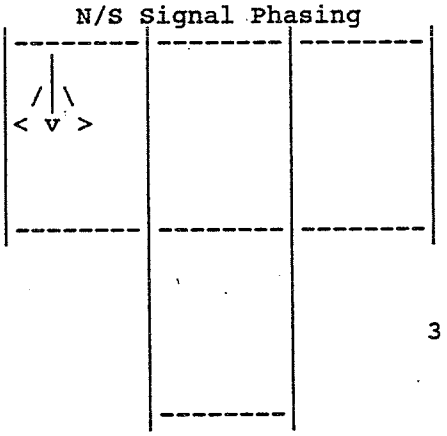
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	69	
	TR	1	211	211
EB	T	3	301	301
	EXR	1	744	
WB	EXL	1	684	684
	T	3	282	
	Total Critical Volume			1196

Maximum Total Critical Volumes

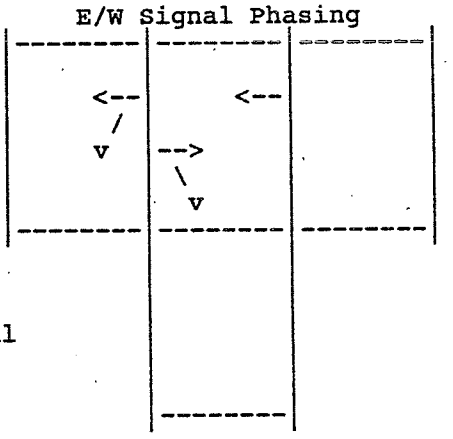
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1196
No of Critical Phases = 3
Level of Service = D
Volume/Capacity = 0.84

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

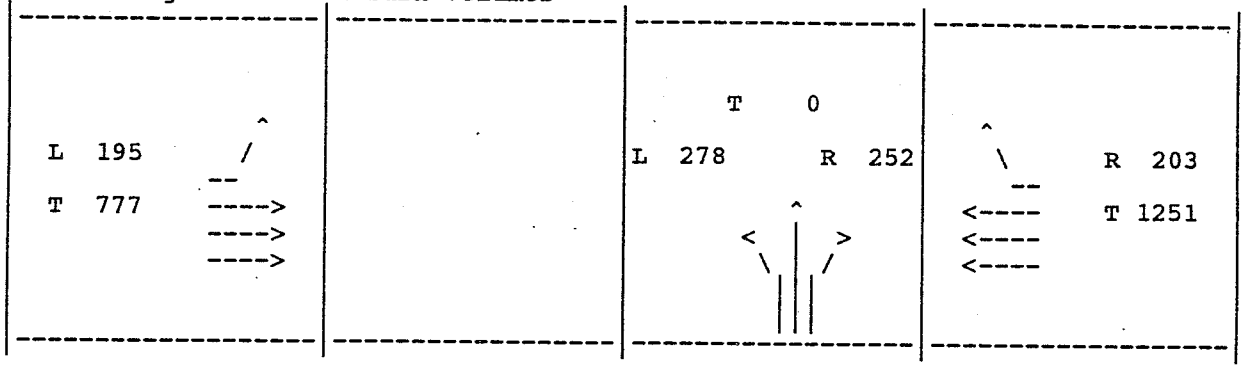
PRC ENGINEERING
08:42:05

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



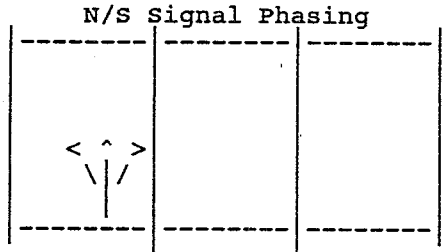
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	278	278
	T	1	0	
	EXR	1	252	
EB	EXL	1	195	195
	T	3	259	
WB	T	3	417	417
	EXR	1	203	
	Total Critical Volume			890

Maximum Total Critical Volumes

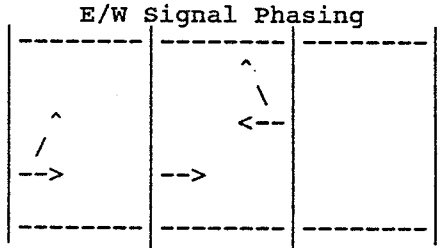
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 890
No of Critical Phases = 3
Level of Service = B
Volume/Capacity = 0.62

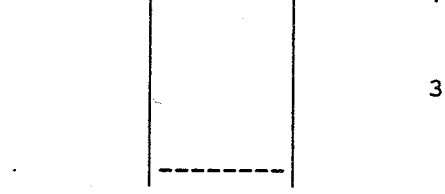
N/S Signal Phasing

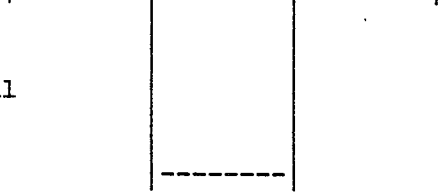


E/W Signal Phasing



3 Phase Signal





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With Cumulative Mitigations

Year 2010, Alt 1, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.80	
6	NB SR113 ON & COVELL	E	0.97	1
7	SYCAMORE & COVELL	D	0.84	

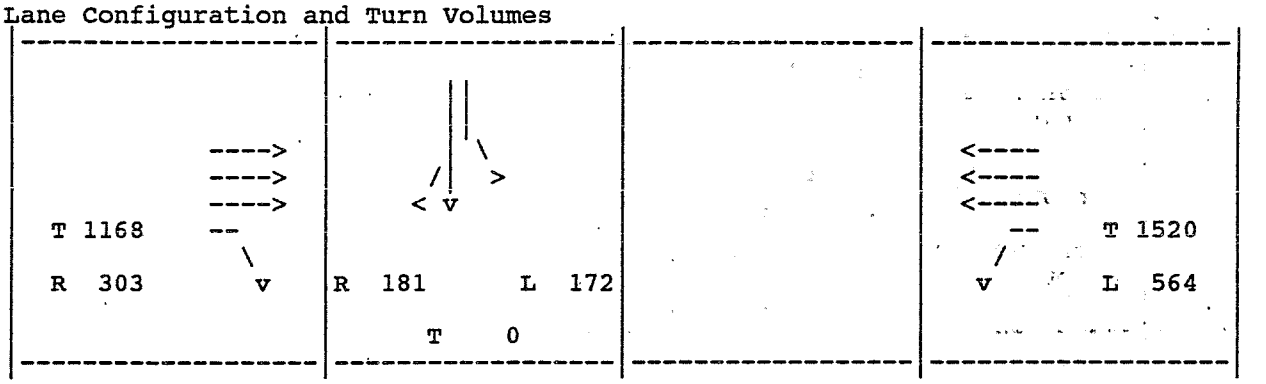
Note 1: Left Turn Check Failed for This Intersection

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

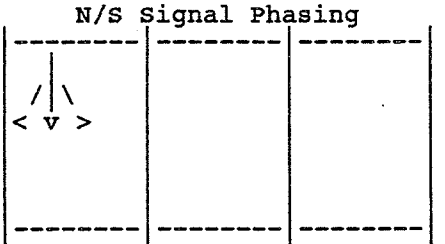


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	172	
	TR	1	181	181
EB	T	3	389	389
	EXR	1	303	
WB	EXL	1	564	564
	T	3	507	
	Total Critical Volume			1134

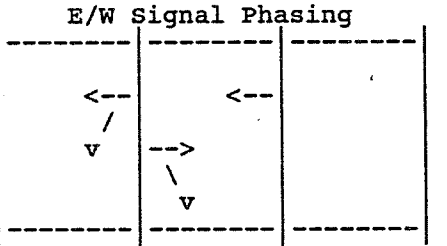
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1134
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.80

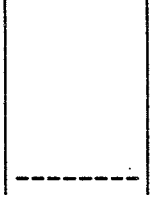
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
08:42:49

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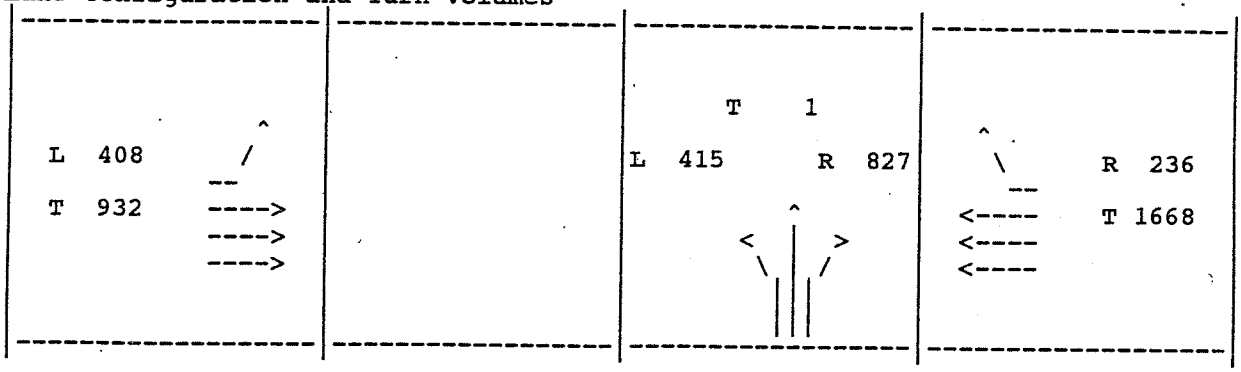
With Cumulative Mitigations

Year 2010, Alt 1, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

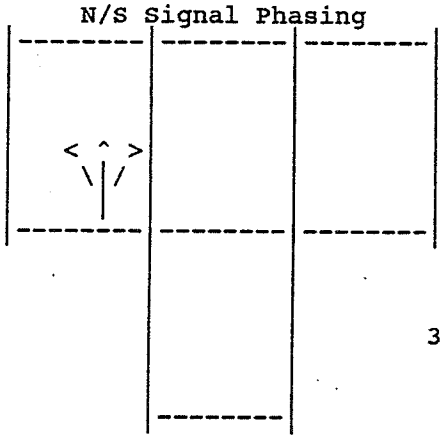


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	415	415
	T	1	1	
	EXR	1	827	
EB	EXL	1	408	408
	T	3	311	
WB	T	3	556	556
	EXR	1	236	
Total Critical Volume				1379

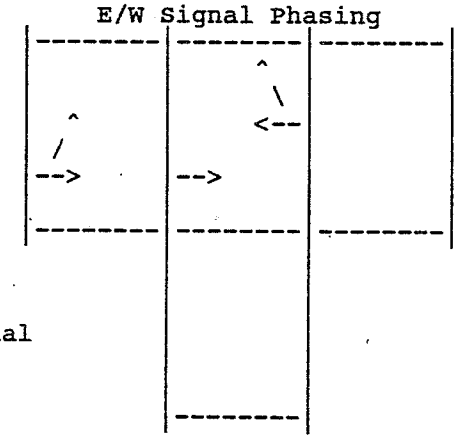
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1379
No of Critical Phases	= 3
Level of Service	= E
Volume/Capacity	= 0.97

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

PRC ENGINEERING
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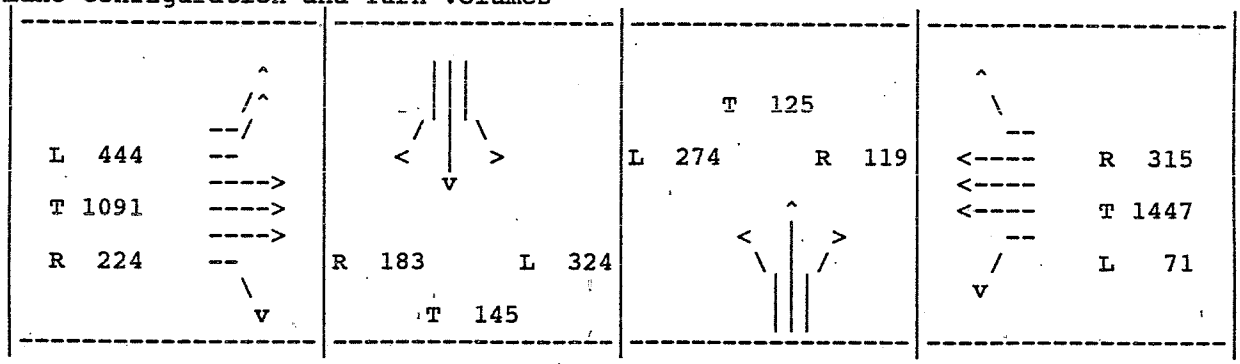
Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 1, With Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

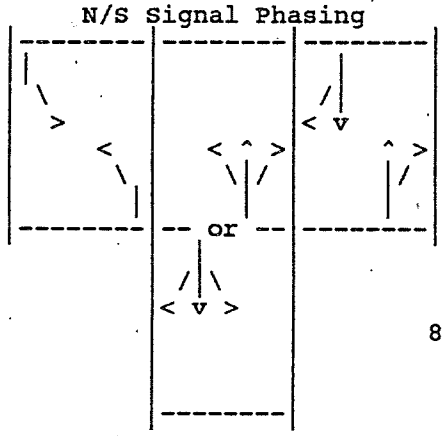


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	274	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	324	324
	T	1	145	
	EXR	1	183	
EB	EXL	2	222	222
	T	3	364	
	EXR	1	224	
WB	EXL	1	71	
	T	3	482	482
	EXR	1	315	
Total Critical Volume				1153

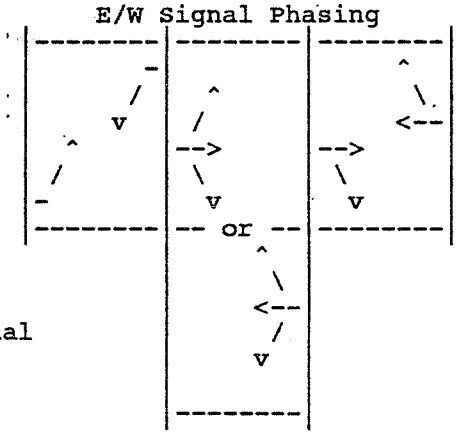
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1153
No of Critical Phases = 4
Level of Service = D
Volume/Capacity = 0.84

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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With Cumulative Mitigations

Year 2010, Alt 2, No Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.73	
6	NB SR113 ON & COVELL	A	0.37	

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Traffic Analysis on Microcomputers

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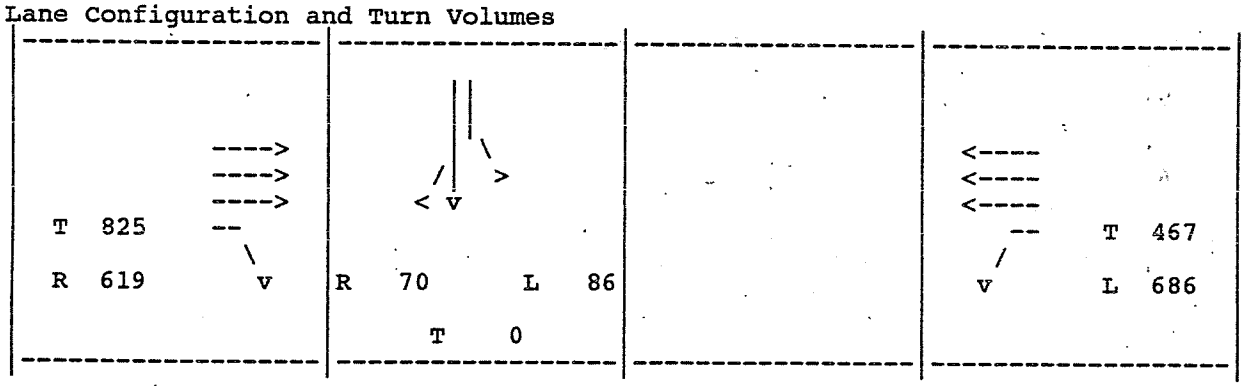
With Cumulative Mitigations

Year 2010, Alt 2, No Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

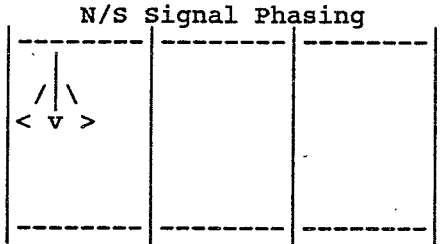


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	86	86
	TR	1	70	
EB	T	3	275	275
	EXR	1	619	
WB	EXL	1	686	686
	T	3	156	
Total Critical Volume				1047

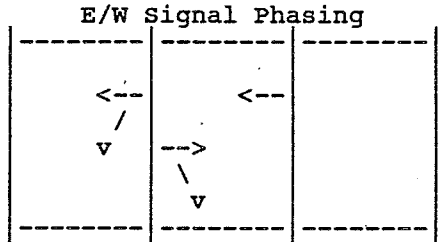
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1047
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.73

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
08:45:29

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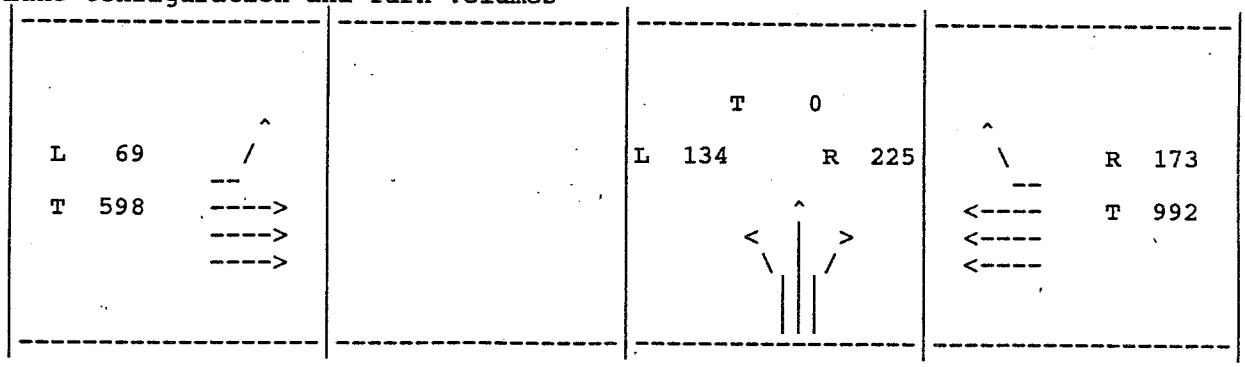
With Cumulative Mitigations

Year 2010, Alt 2, No Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

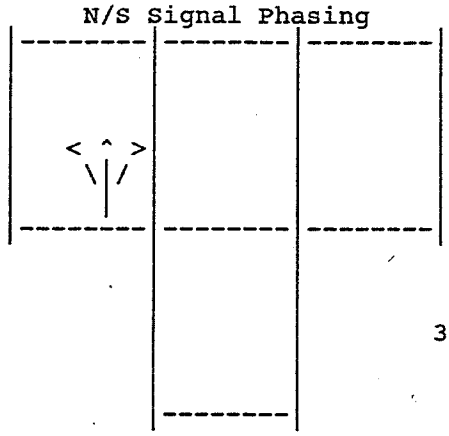


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	134	134
	T	1	0	
	EXR	1	225	
EB	EXL	1	69	69
	T	3	199	
WB	T	3	331	331
	EXR	1	173	
Total Critical Volume				534

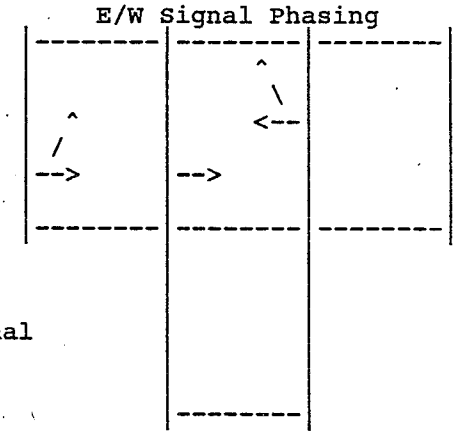
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 534
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.37

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, No Project
PM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	B	0.61	
6	NB SR113 ON & COVELL	C	0.74	
7	SYCAMORE & COVELL	C	0.72	

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

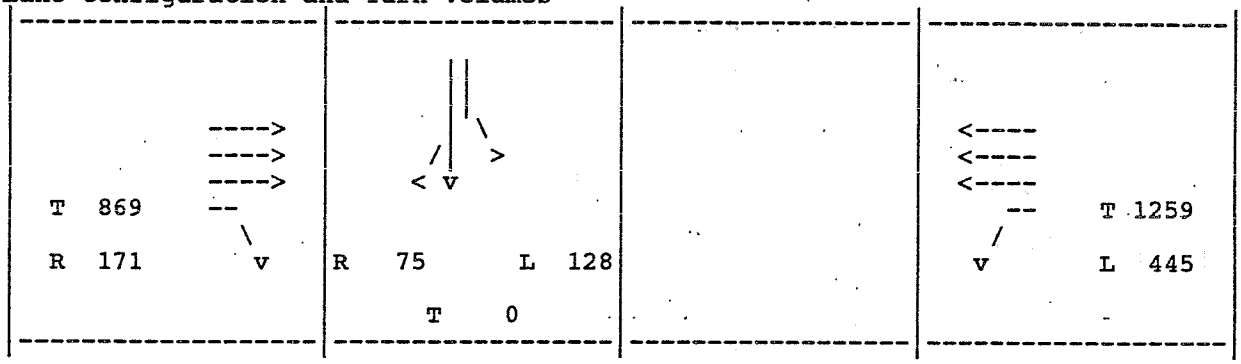
PRC ENGINEERING
08:46:18

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, No Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

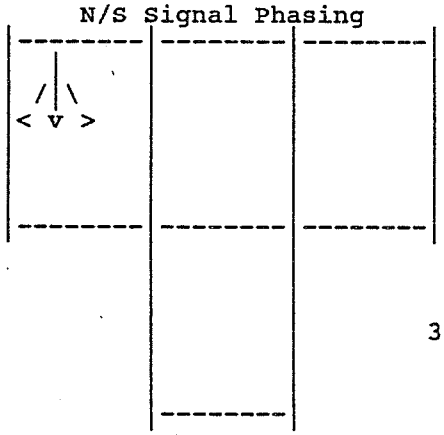


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	128	128
	TR	1	75	
EB	T	3	290	290
	EXR	1	171	
WB	EXL	1	445	445
	T	3	420	
Total Critical Volume				863

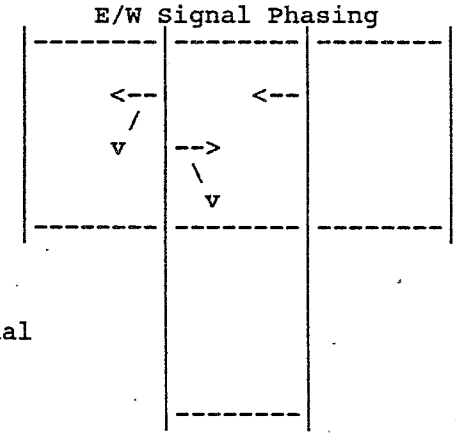
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 863
No of Critical Phases	= 3
Level of Service	= B
Volume/Capacity	= 0.61

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

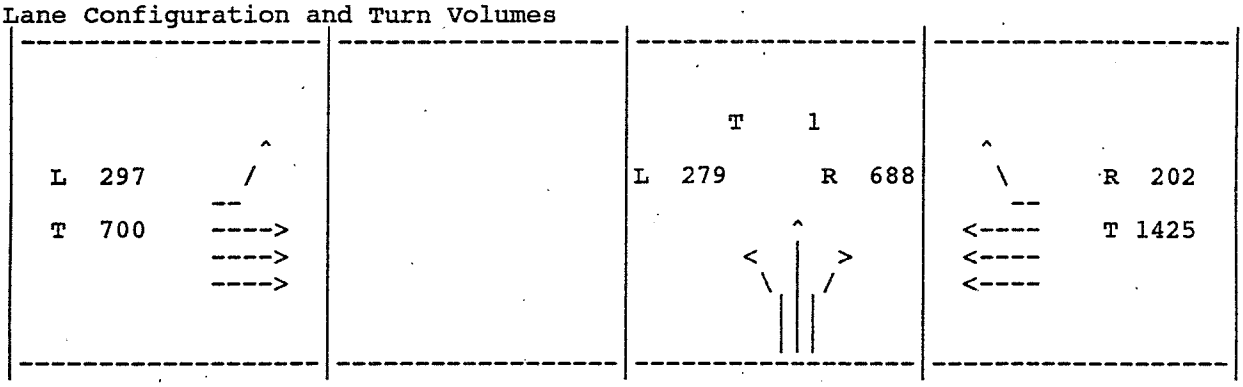
IMPAX 2.22 Traffic Analysis on Microcomputers PRC ENGINEERING
09-30-1992 08:46:18

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, No Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

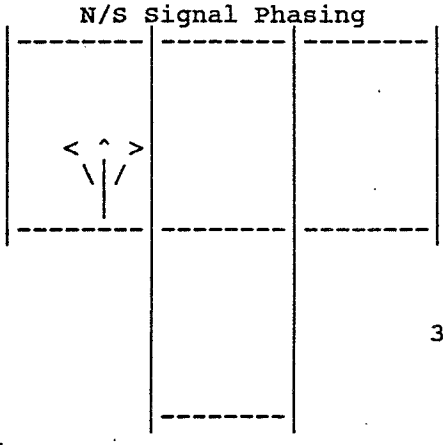


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	279	279
	T	1	1	
	EXR	1	688	
EB	EXL	1	297	297
	T	3	233	
WB	T	3	475	475
	EXR	1	202	
Total Critical Volume				1051

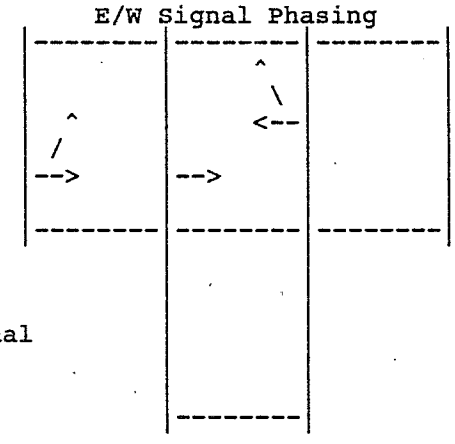
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1051
No of Critical Phases = 3
Level of Service = C
Volume/Capacity = 0.74

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

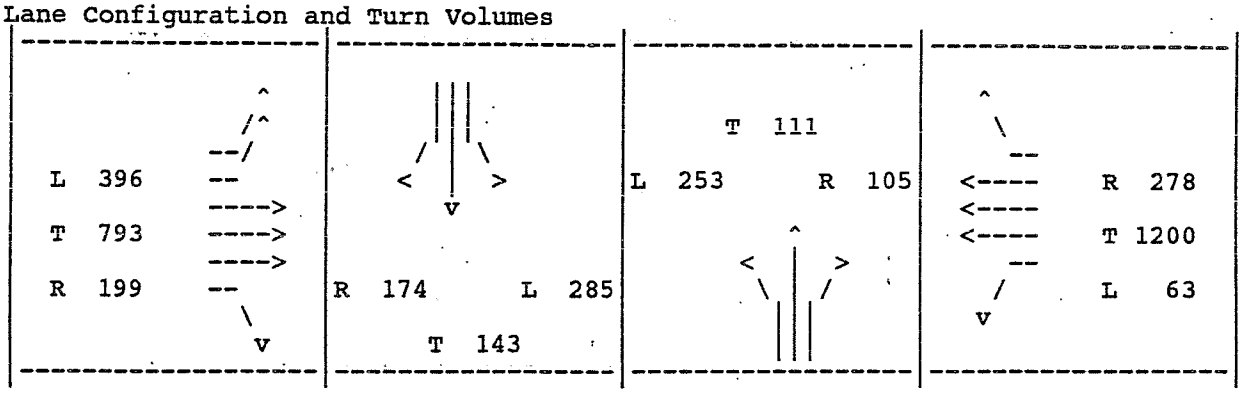
PRC ENGINEERING
08:46:18

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, No Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

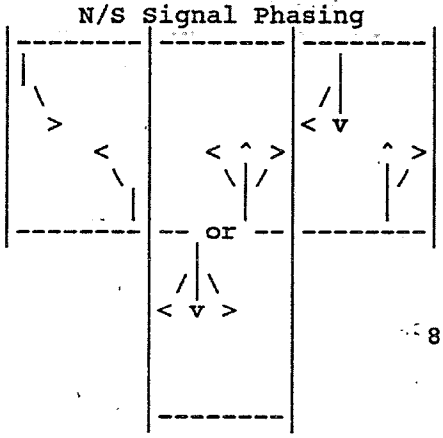


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	253	
	T	1	111	111
	EXR	1	105	
SB	EXL	1	285	285
	T	1	143	
	EXR	1	174	
EB	EXL	2	198	198
	T	3	264	
	EXR	1	199	
WB	EXL	1	63	
	T	3	400	400
	EXR	1	278	
	Total Critical Volume			994

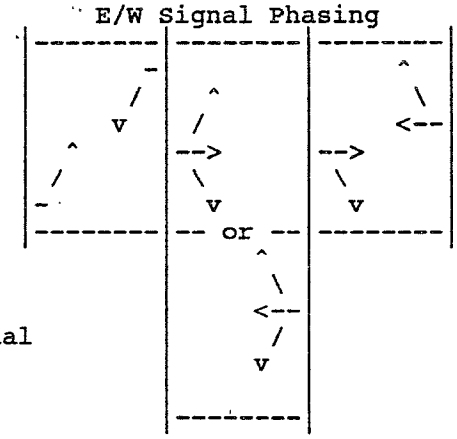
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 994
No of Critical Phases	= 4
Level of Service	= C
Volume/Capacity	= 0.72

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
Am Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	D	0.88	
6	NB SR113 ON & COVELL	B	0.62	

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09-30-1992

Traffic Analysis on Microcomputers

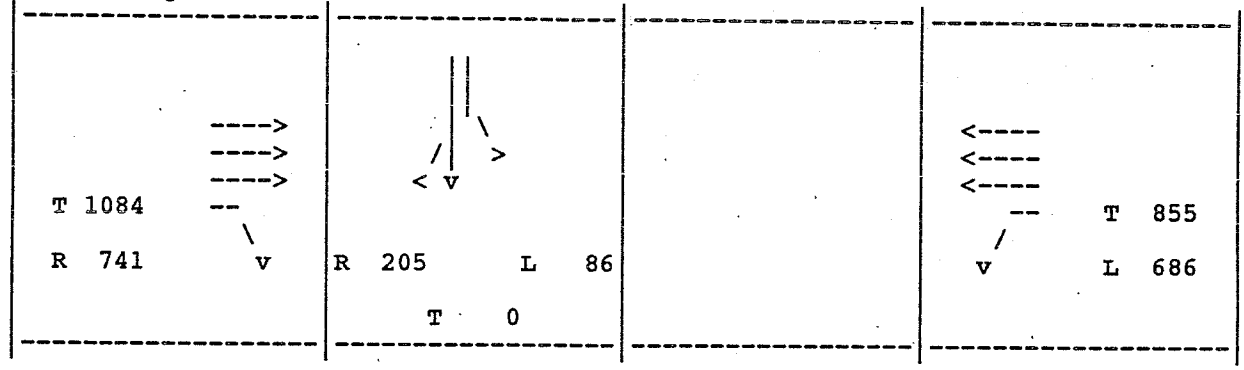
PRC ENGINEERING
08:48:34

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
Am Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

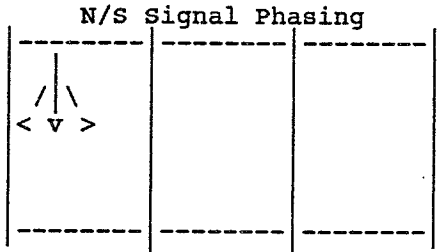


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	86	
	TR	1	205	205
EB	T	3	361	361
	EXR	1	741	
WB	EXL	1	686	686
	T	3	285	
Total Critical Volume				1252

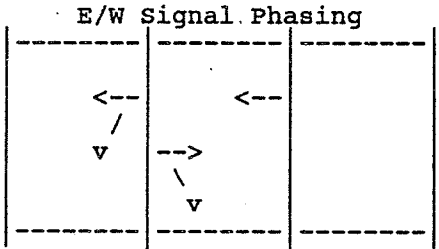
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1252
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.88

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

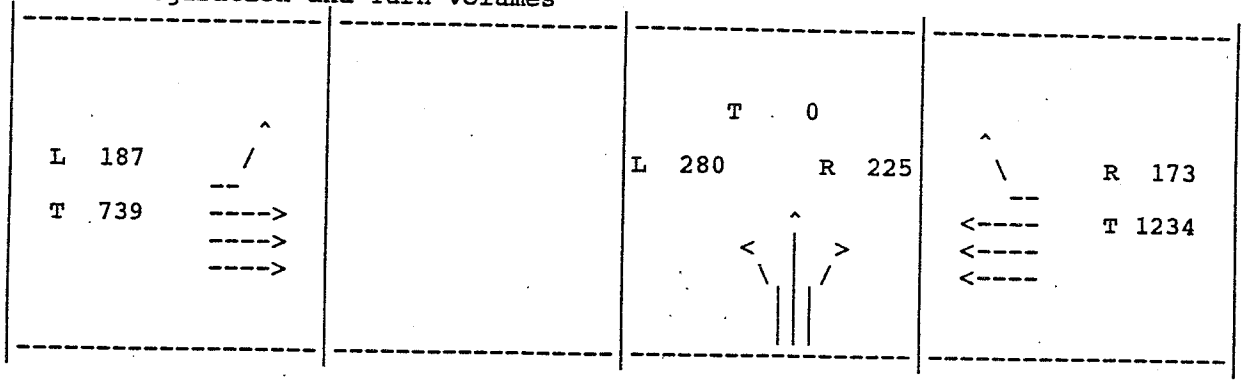
PRC ENGINEERING
08:48:34

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
Am Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



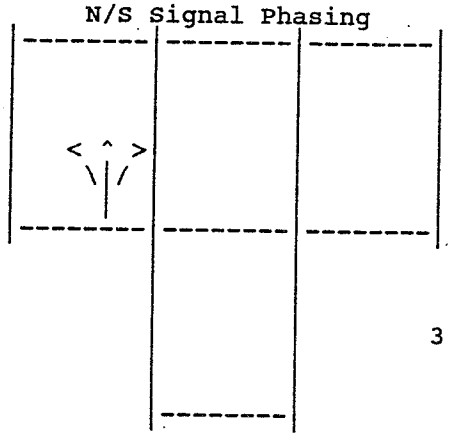
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	280	280
	T	1	0	
	EXR	1	225	
EB	EXL	1	187	187
	T	3	246	
WB	T	3	411	411
	EXR	1	173	
Total Critical Volume				878

Maximum Total Critical Volumes

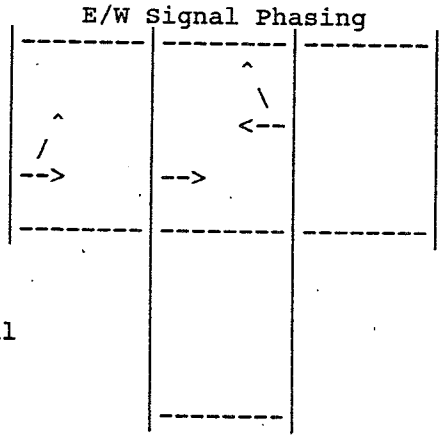
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 878
No of Critical Phases	= 3
Level of Service	= B
Volume/Capacity	= 0.62

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.73	
6	NB SR113 ON & COVELL	E	0.93	1
7	SYCAMORE & COVELL	C	0.77	

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

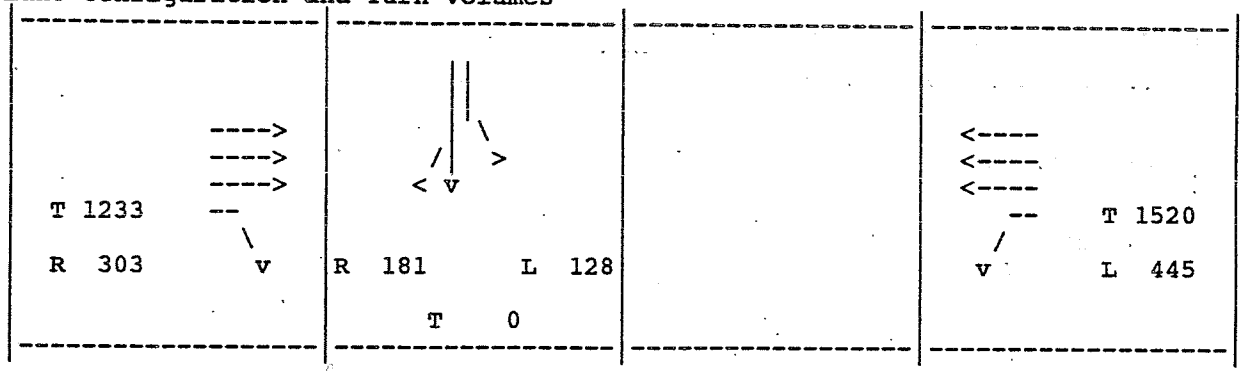
PRC ENGINEERING
08:49:11

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



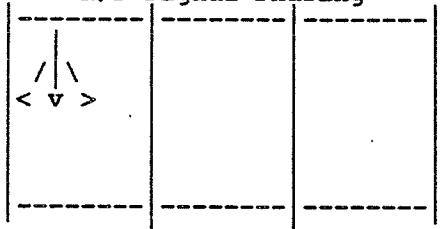
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	128	
	TR	1	181	181
EB	T	3	411	411
	EXR	1	303	
WB	EXL	1	445	445
	T	3	507	
Total Critical Volume				1037

Maximum Total Critical Volumes

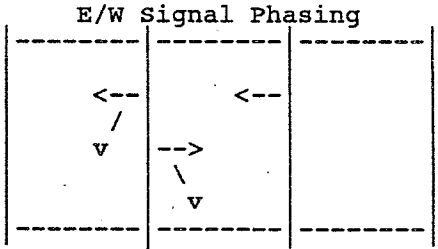
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1037
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.73

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

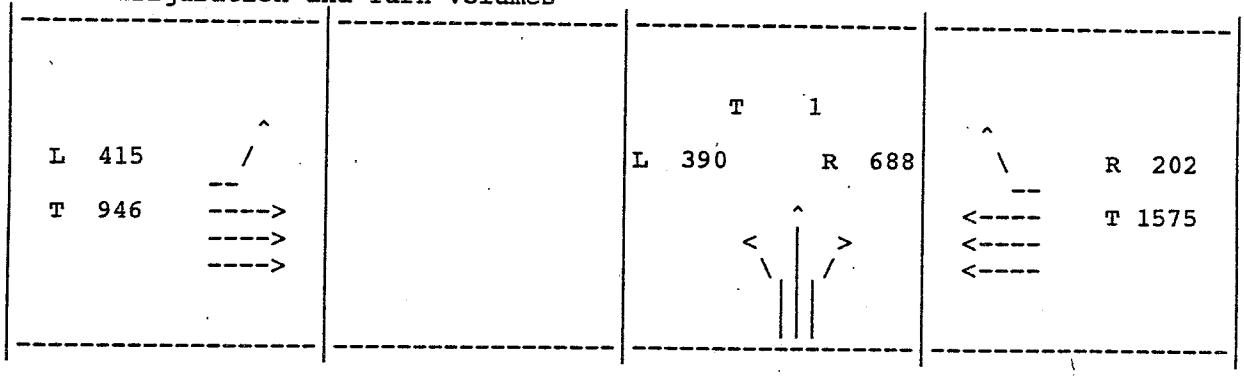
PRC ENGINEERING
08:49:11

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



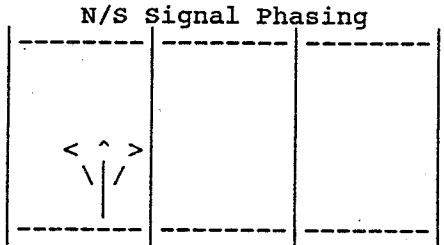
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	390	390
	T	1	1	
	EXR	1	688	
EB	EXL	1	415	415
	T	3	315	
WB	T	3	525	525
	EXR	1	202	
	Total Critical Volume			1330

Maximum Total Critical Volumes

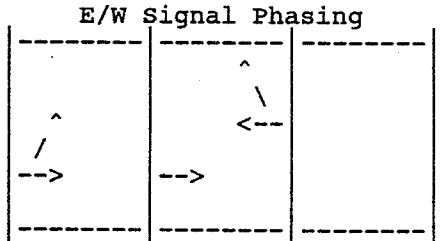
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1330
No of Critical Phases = 3
Level of Service = E
Volume/Capacity = 0.93

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

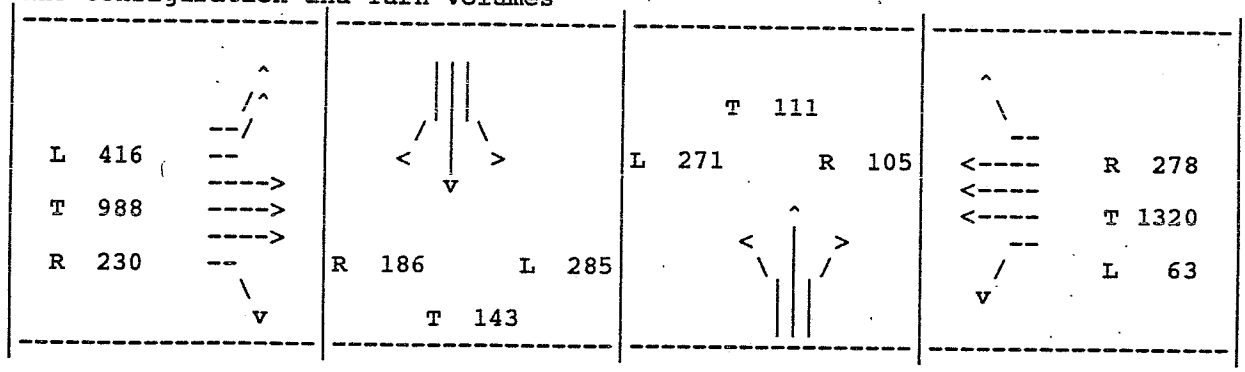
PRC ENGINEERING
08:49:11

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

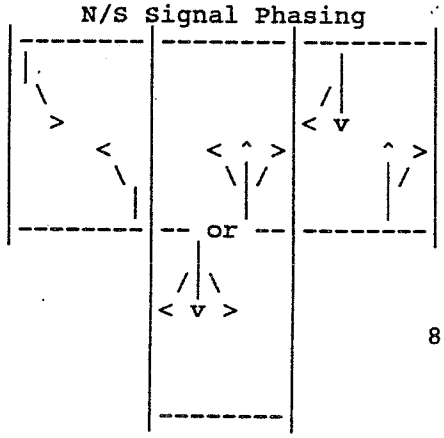


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	271	271
	T	1	111	
	EXR	1	105	
SB	EXL	1	285	
	T	1	143	143
	EXR	1	186	
EB	EXL	2	208	208
	T	3	329	
	EXR	1	230	
WB	EXL	1	63	
	T	3	440	440
	EXR	1	278	
	Total Critical Volume			1062

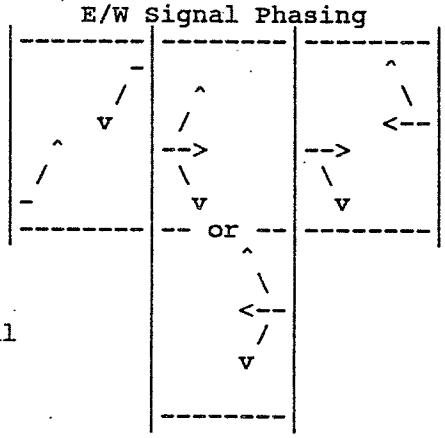
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1062
No of Critical Phases	= 4
Level of Service	= C
Volume/Capacity	= 0.77

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

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With Cumulative Mitigations

Year 2010, Alt 7, No Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	E	0.97	1
6	NB SR113 ON & COVELL	D	0.85	1

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

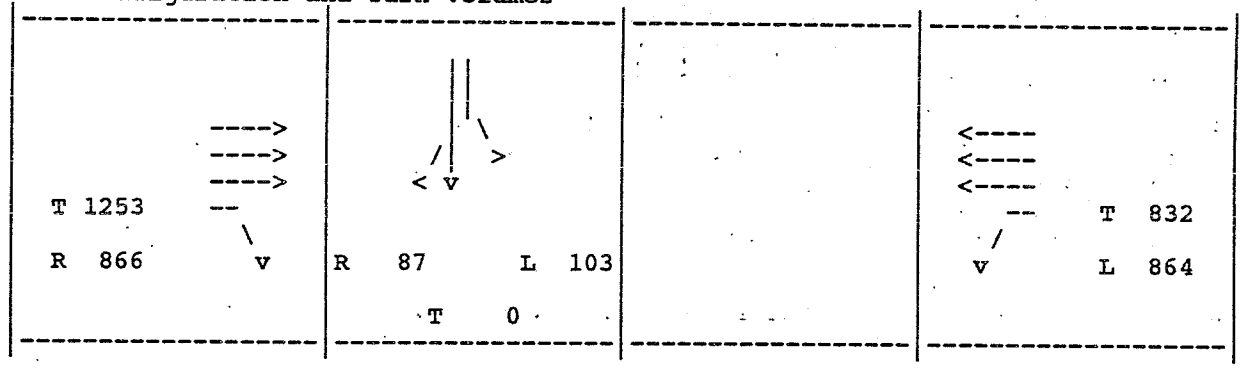
PRC ENGINEERING
08:52:17

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



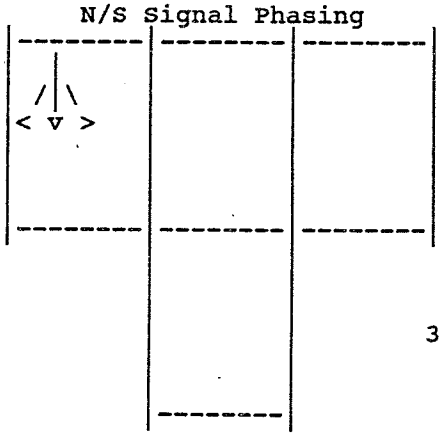
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	103	103
	TR	1	87	
EB	T	3	418	418
	EXR	1	866	
WB	EXL	1	864	864
	T	3	277	
Total Critical Volume				1385

Maximum Total Critical Volumes

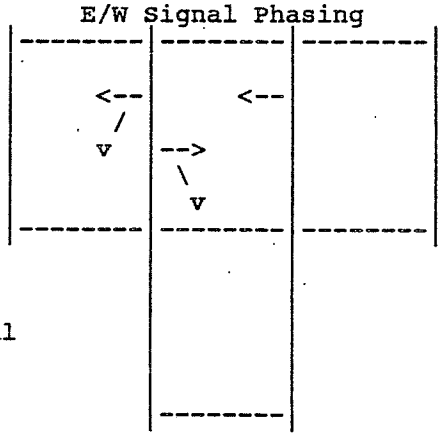
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1385
No of Critical Phases = 3
Level of Service = E
Volume/Capacity = 0.97

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

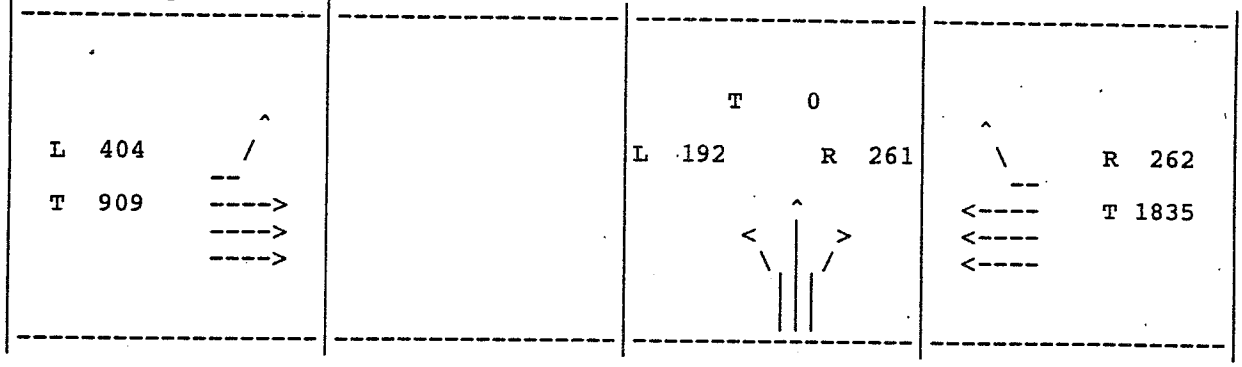
PRC ENGINEERING
08:52:17

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



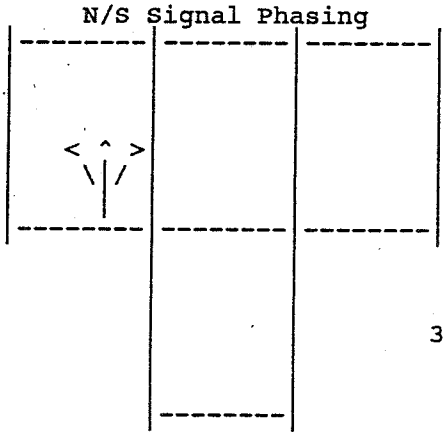
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	192	192
	T	1	0	
	EXR	1	261	
EB	EXL	1	404	404
	T	3	303	
WB	T	3	612	612
	EXR	1	262	
	Total Critical Volume			1208

Maximum Total Critical Volumes

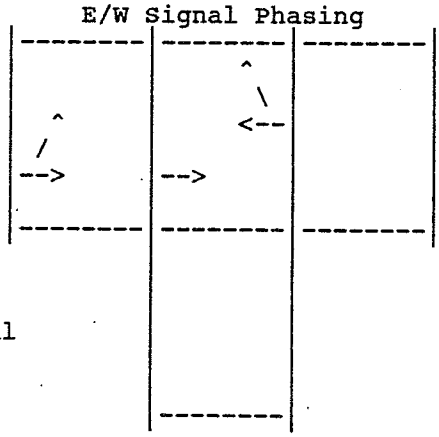
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1208
No of Critical Phases = 3
Level of Service = D
Volume/Capacity = 0.85

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
08:53:05

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
PM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	C	0.76	
6	NB SR113 ON & COVELL	D	0.88	1
7	SYCAMORE & COVELL	D	0.84	

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

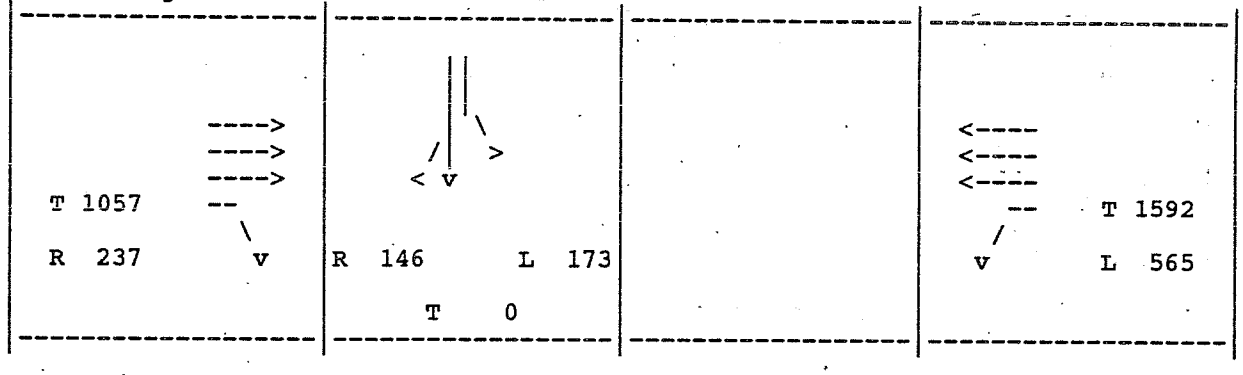
PRC ENGINEERING
08:53:07

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

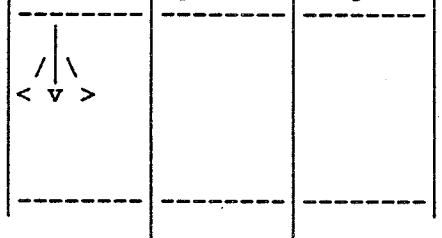


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	173	173
	TR	1	146	
EB	T	3	352	352
	EXR	1	237	
WB	EXL	1	565	565
	T	3	531	
Total Critical Volume				1090

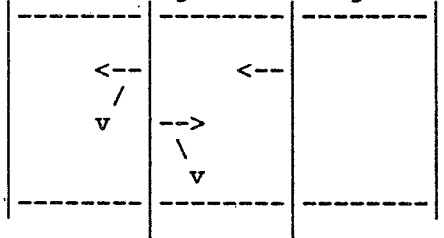
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1090
No of Critical Phases	= 3
Level of Service	= C
Volume/Capacity	= 0.76

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

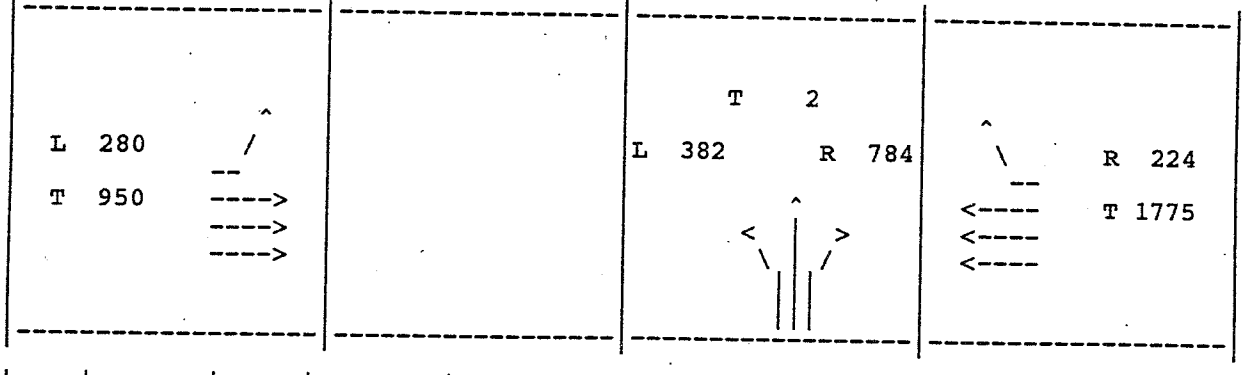
PRC ENGINEERING
08:53:07

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



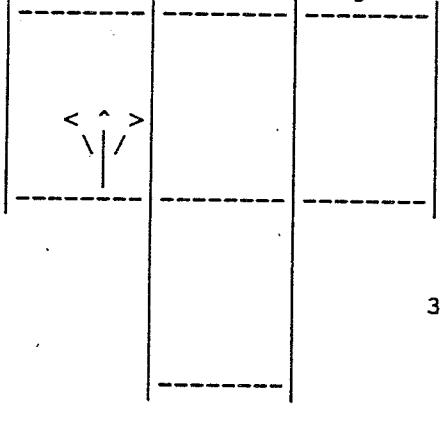
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	382	382
	T	1	2	
	EXR	1	784	
EB	EXL	1	280	280
	T	3	317	
WB	T	3	592	592
	EXR	1	224	
	Total Critical Volume			1254

Maximum Total Critical Volumes

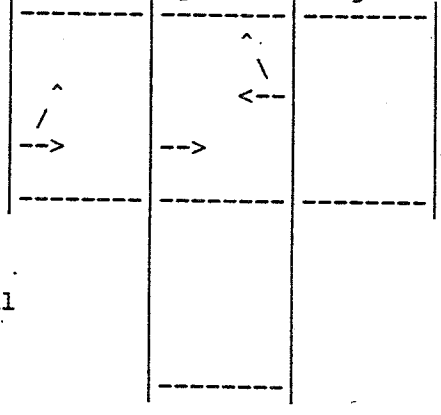
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1254
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.88

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

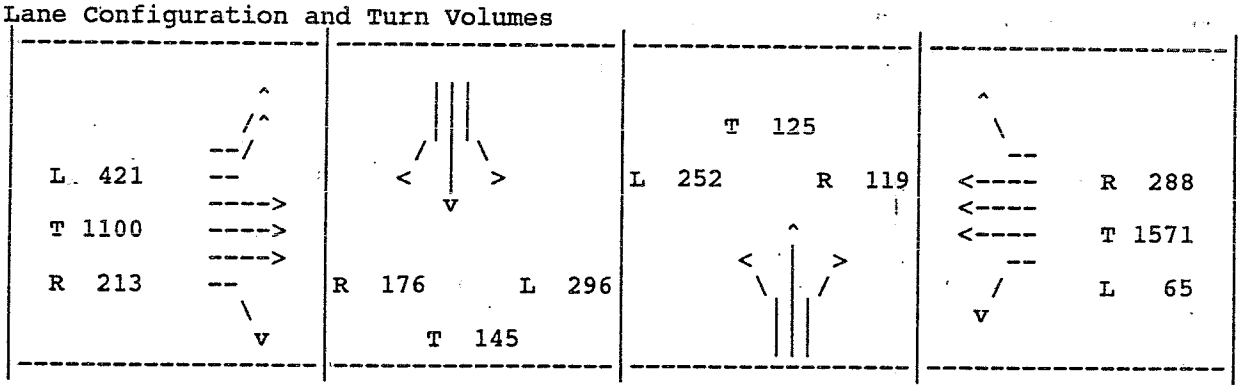
PRC ENGINEERING
08:53:07

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, No Project
PM Peak
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

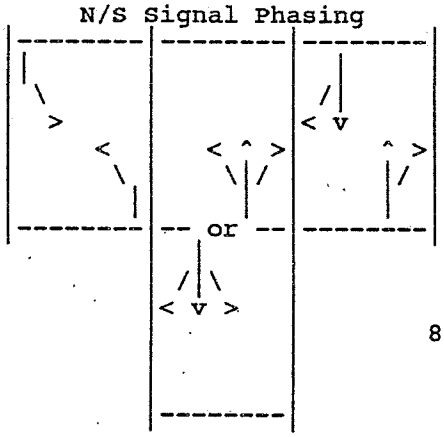


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	252	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	296	296
	T	1	145	
	EXR	1	176	
EB	EXL	2	211	211
	T	3	367	
	EXR	1	213	
WB	EXL	1	65	
	T	3	524	524
	EXR	1	288	
Total Critical Volume				1156

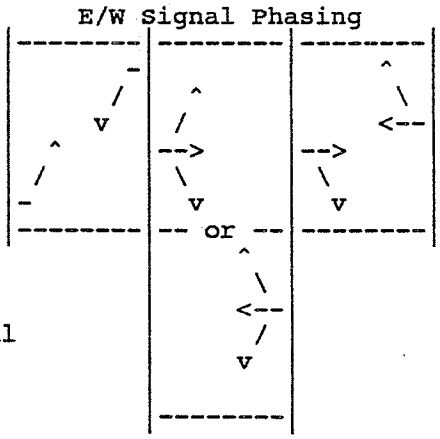
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1156
No of Critical Phases	= 4
Level of Service	= D
Volume/Capacity	= 0.84

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	F	1.06	
6	NB SR113 ON & COVELL	E	0.95	1

Note 1: Left Turn Check Failed for This Intersection

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

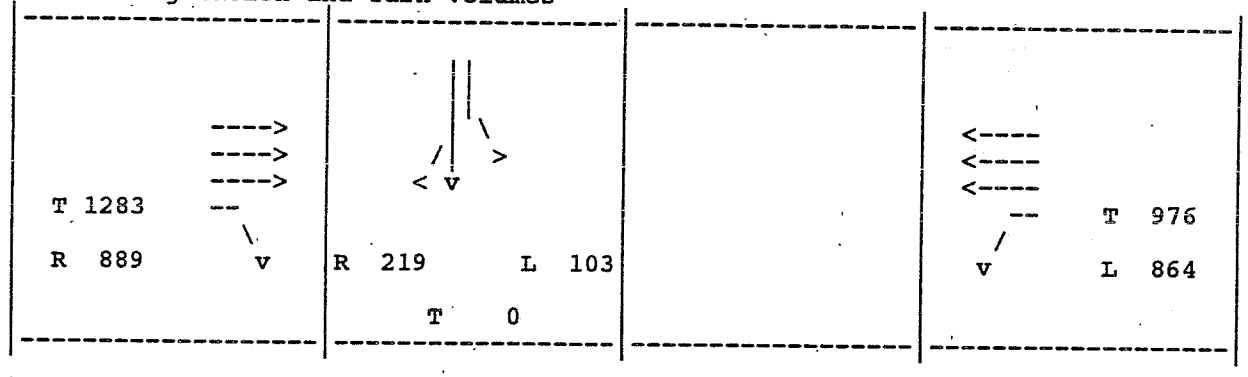
PRC ENGINEERING
08:53:45

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

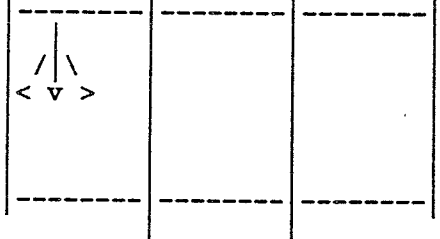


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	103	
	TR	1	219	219
EB	T	3	428	428
	EXR	1	889	
WB	EXL	1	864	864
	T	3	325	
Total Critical Volume				1511

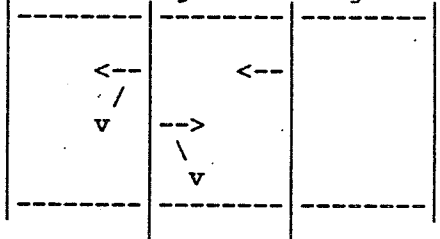
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1511
No of Critical Phases	= 3
Level of Service	= F
Volume/Capacity	= 1.06

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

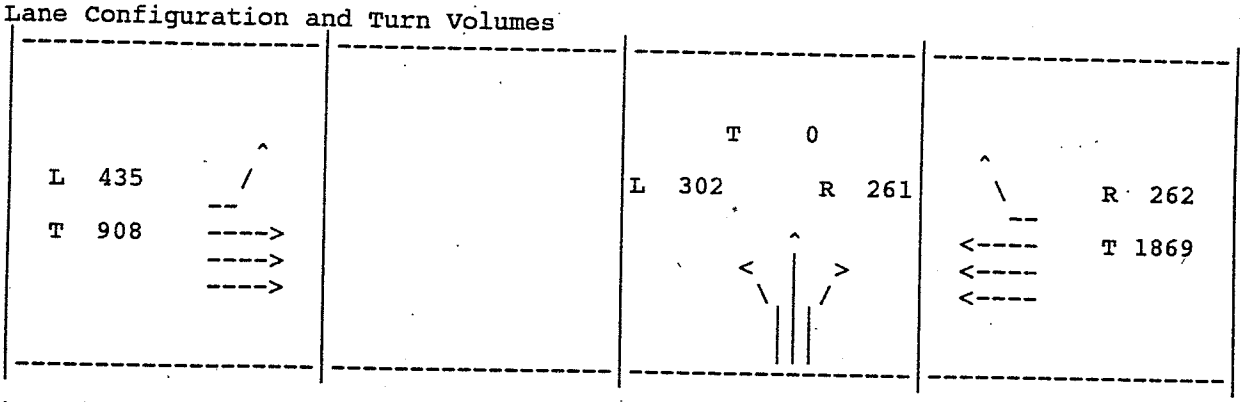
PRC ENGINEERING
08:53:45

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, Alt 7, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



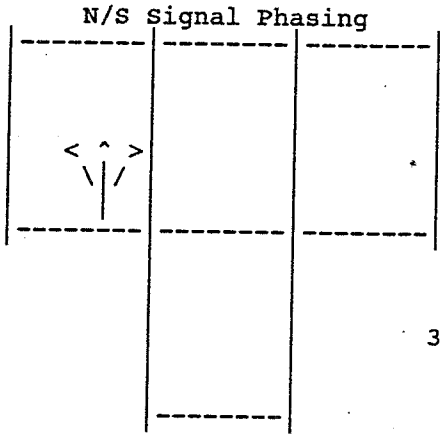
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	302	302
	T	1	0	
	EXR	1	261	
EB	EXL	1	435	435
	T	3	303	
WB	T	3	623	623
	EXR	1	262	
Total Critical Volume				1360

Maximum Total Critical Volumes

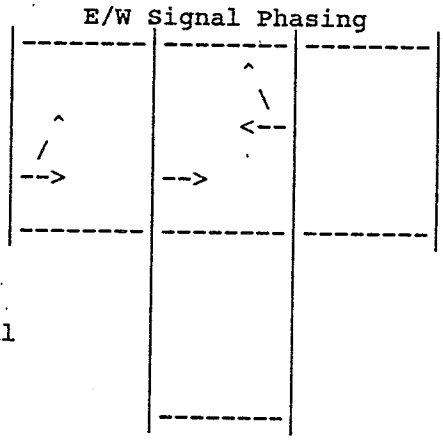
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1360
No of Critical Phases	= 3
Level of Service	= E
Volume/Capacity	= 0.95

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

With Cumulative Mitigations

Year 2010, ALt 7, With Project
PM Peajk

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	D	0.81	
6	NB SR113 ON & COVELL	E	0.99	1
7	SYCAMORE & COVELL	D	0.84	

Note 1: Left Turn Check Failed for This Intersection

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09-30-1992

Traffic Analysis on Microcomputers

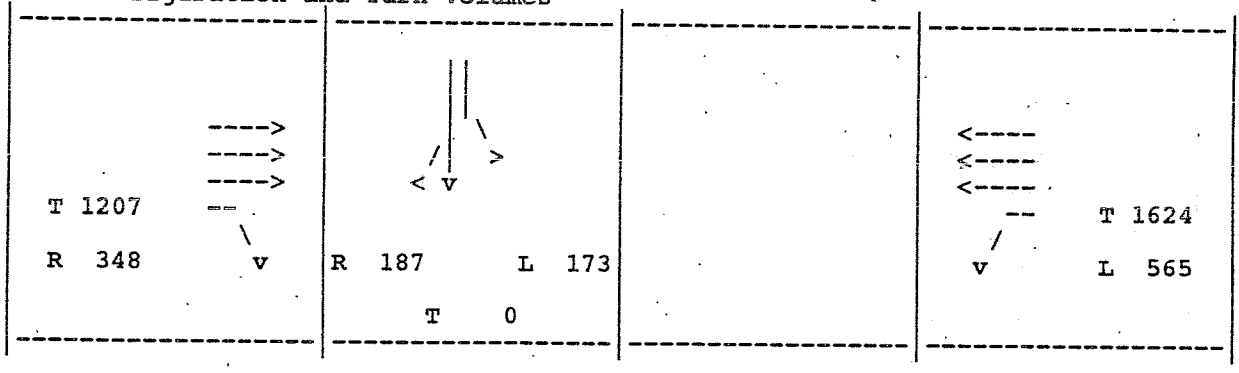
PRC ENGINEERING
08:54:23

Program Licensed To:- Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, ALt 7, With Project
PM Peajk
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes

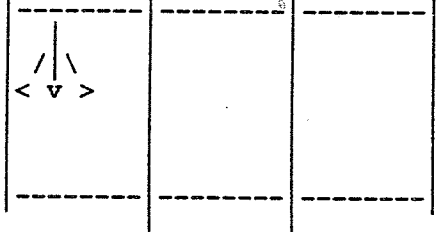


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	173	
	TR	1	187	187
EB	T	3	402	402
	EXR	1	348	
WB	EXL	1	565	565
	T	3	541	
Total Critical Volume				1154

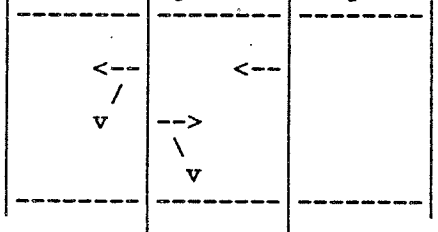
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1154
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.81

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

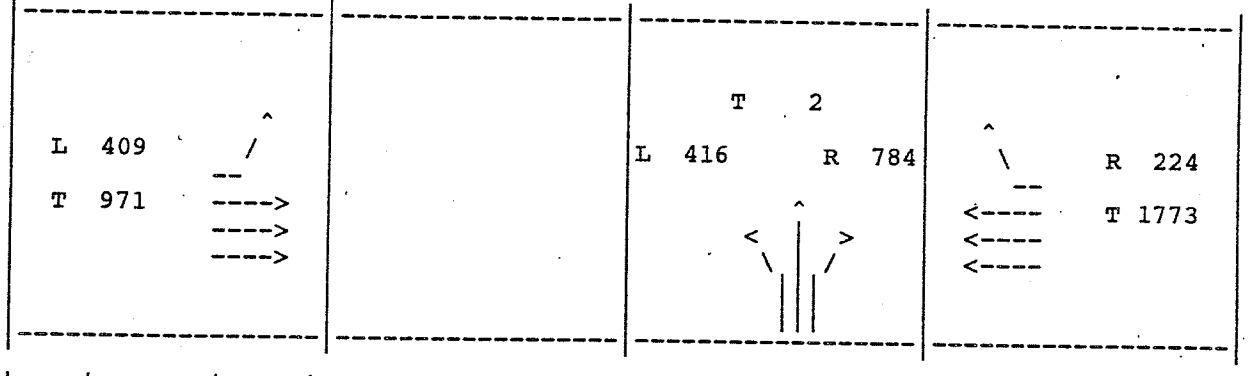
PRC ENGINEERING
08:54:23

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, ALt 7, With Project
PM Peajk
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

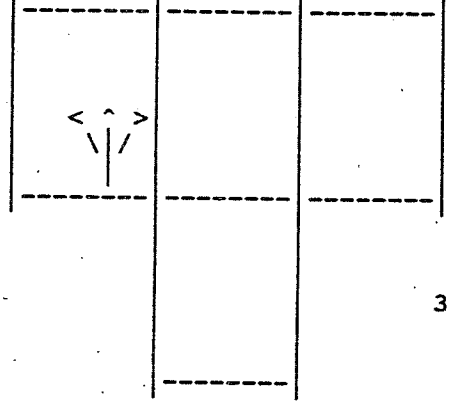


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	416	416
	T	1	2	
	EXR	1	784	
EB	EXL	1	409	409
	T	3	324	
WB	T	3	591	591
	EXR	1	224	
	Total Critical Volume			1416

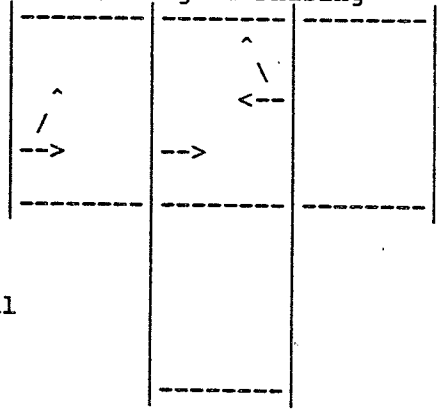
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1416
No of Critical Phases = 3
Level of Service = E
Volume/Capacity = 0.99

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

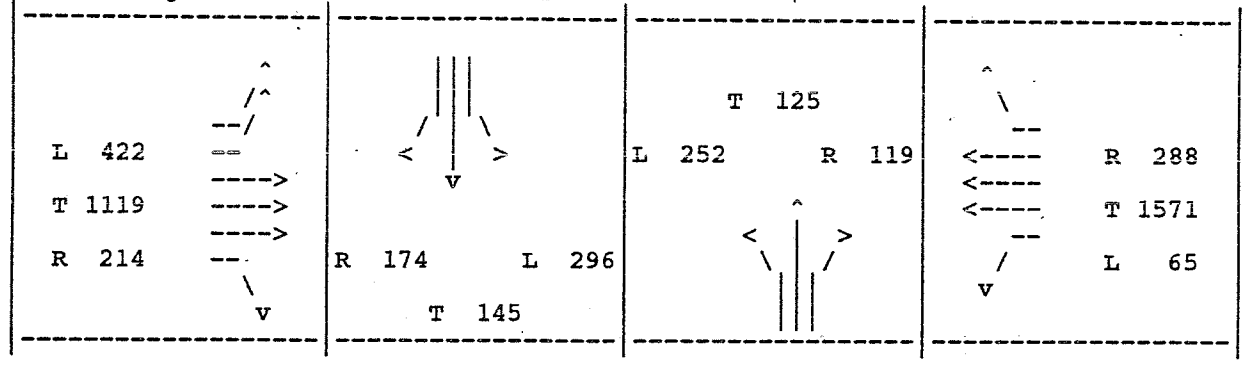
PRC ENGINEERING
08:54:23

Program Licensed To: Korve Engineering Inc.

With Cumulative Mitigations

Year 2010, ALt 7, With Project
PM Peajk
Intersection: 7 SYCAMORE & COVELL

Lane Configuration and Turn Volumes

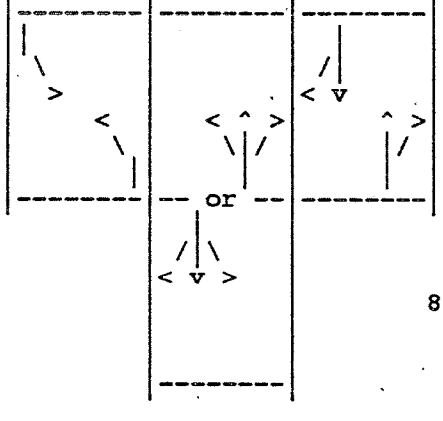


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	252	
	T	1	125	125
	EXR	1	119	
SB	EXL	1	296	296
	T	1	145	
	EXR	1	174	
EB	EXL	2	211	211
	T	3	373	
	EXR	1	214	
WB	EXL	1	65	
	T	3	524	524
	EXR	1	288	
Total Critical Volume				1156

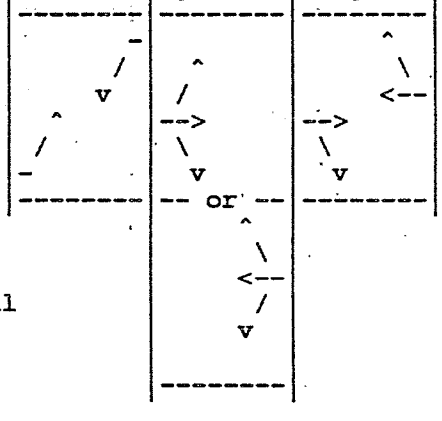
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1156
No of Critical Phases	= 4
Level of Service	= D
Volume/Capacity	= 0.84

N/S Signal Phasing



E/W Signal Phasing



8 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
09:49:43

Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Proect
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	A	0.50	
6	NB SR113 ON & COVELL	A	0.53	

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

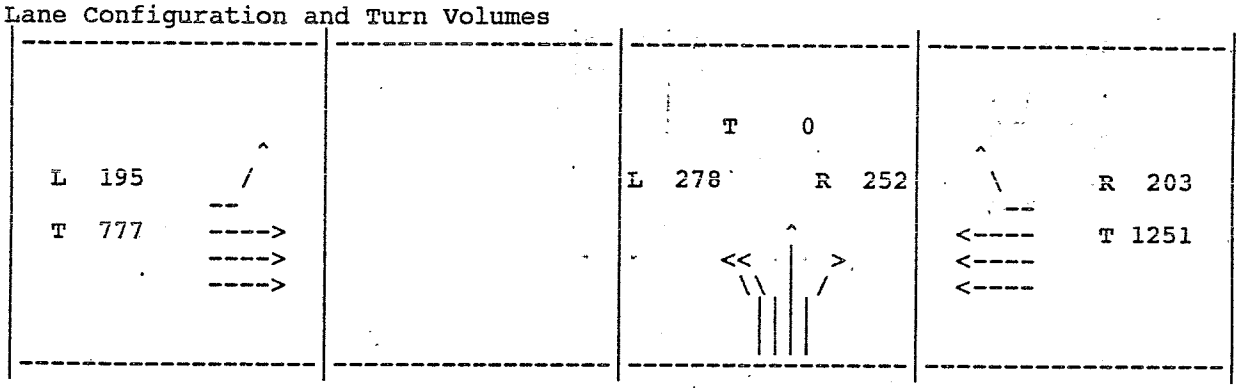
PRC ENGINEERING
09:49:44

Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Proect
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



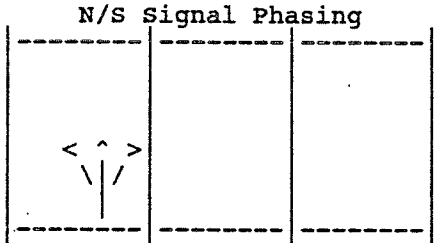
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	2	139	139
	T	1	0	
	EXR	1	252	
EB	EXL	1	195	195
	T	3	259	
WB	T	3	417	417
	EXR	1	203	
Total Critical Volume				751

Maximum Total Critical Volumes

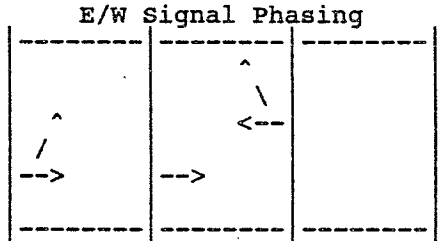
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 751
No of Critical Phases = 3
Level of Service = A
Volume/Capacity = 0.53

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
09:50:41

Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Projec t
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99	A	0.56	
	& CNTY ROAD 29	A	0.48	
5	~~SB SR113 OFF~~	~~A~~	~~0.59~~	
	~~& COVELL~~			
6	NB SR113 ON	D	0.82	
	& COVELL			
~~4~~ 4	~~SYCAMORE~~ 99 D	~~B~~	~~0.84~~	
	& COVELL	A	0.58	

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
09:50:43

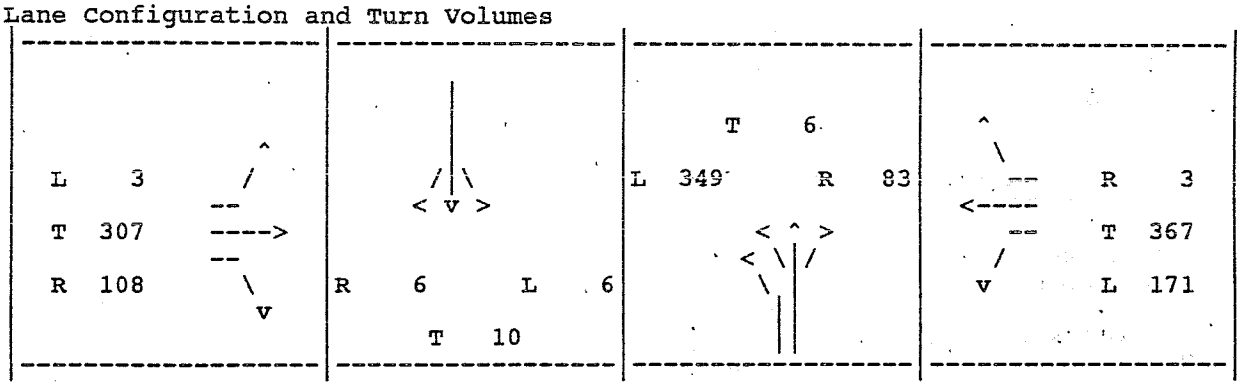
Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Projec t
PM Peak

Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes

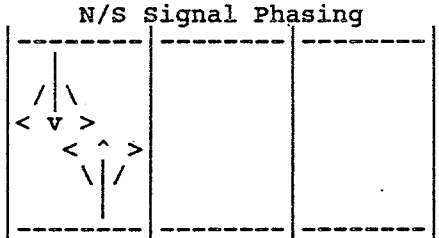


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	349	349
	TR	2	219	
SB	L	0	6	
	TR	1	16	16
EB	EXL	1	3	
	T	1	307	307
	EXR	1	108	
WB	EXL	1	171	171
	T	1	367	
	EXR	1	3	
	Total Critical Volume			843

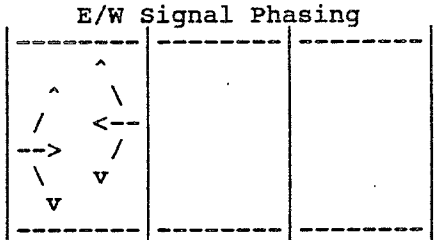
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 843
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.56

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
09:50:43

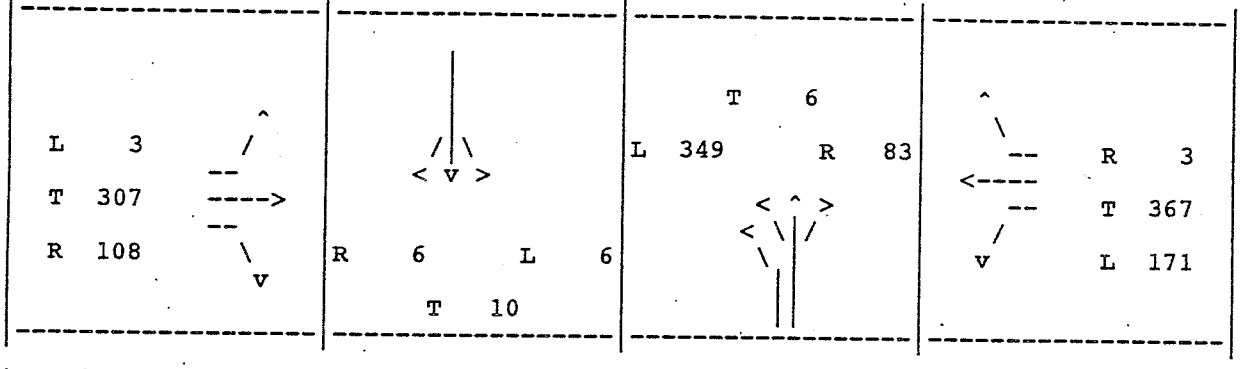
Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Projec t
PM Peak

Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes



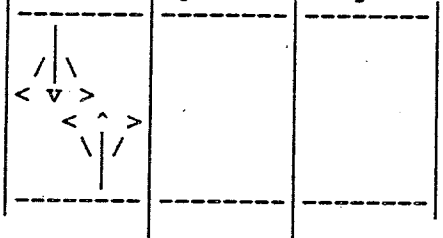
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	2	219	219
SB	LTR	1	22	22
EB	EXL	1	3	
	T	1	307	307
	EXR	1	108	
WB	EXL	1	171	171
	T	1	367	
	EXR	1	3	
Total Critical Volume				719

Maximum Total Critical Volumes

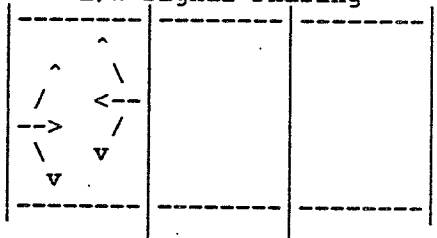
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 719
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.48

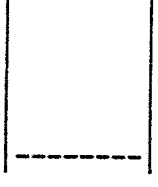
N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal



IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

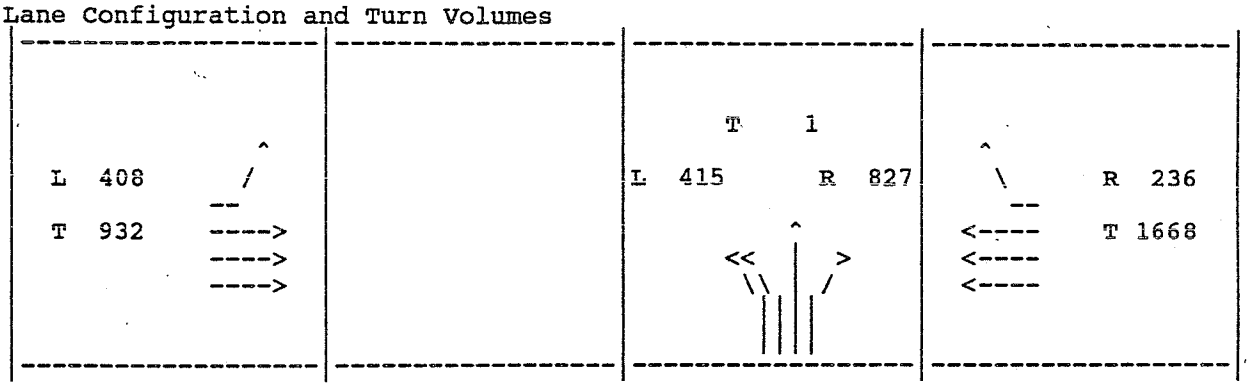
PRC ENGINEERING
09:50:43

Program Licensed To: Korve Engineering Inc.

With Cumulative and Project Mitigations

Year 2010, Alt 1, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

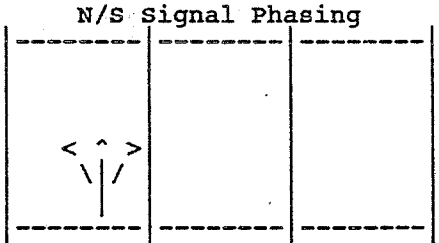


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	2	208	208
	T	1	1	
	EXR	1	827	
EB	EXL	1	408	408
	T	3	311	
WB	T	3	556	556
	EXR	1	236	
	Total Critical Volume			1172

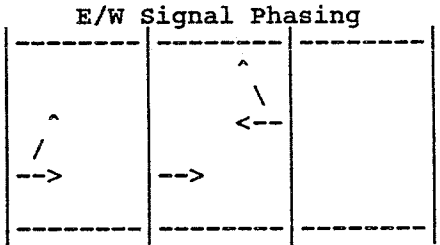
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 1172
No of Critical Phases	= 3
Level of Service	= D
Volume/Capacity	= 0.82

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

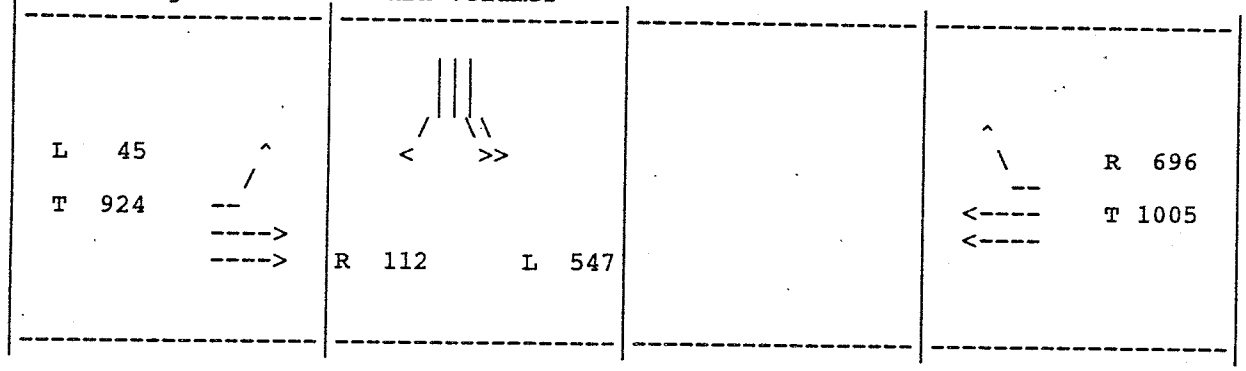
PRC ENGINEERING
09:59:59

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 1, With Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



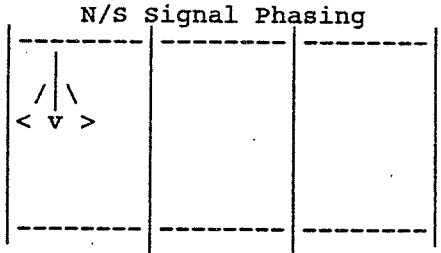
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	2	274	274
	EXR	1	112	
EB	EXL	1	45	45
	T	2	462	
WB	T	2	503	503
	EXR	1	696	
Total Critical Volume				822

Maximum Total Critical Volumes

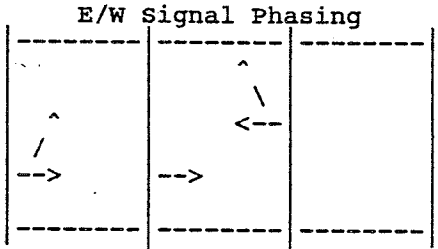
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 822
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.58

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 2, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	A	0.55	
6	NB SR113 ON & COVELL	A	0.52	

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09-30-1992

Traffic Analysis on Microcomputers

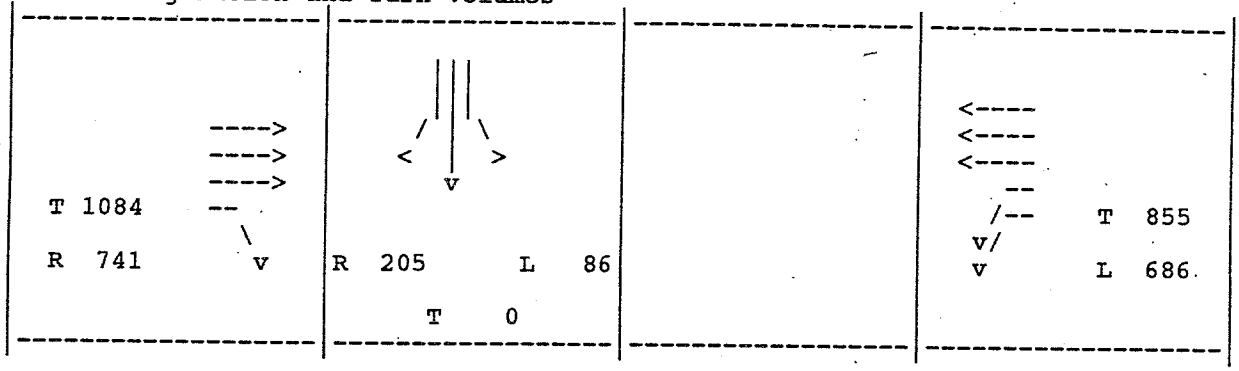
PRC ENGINEERING
10:01:50

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 2, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



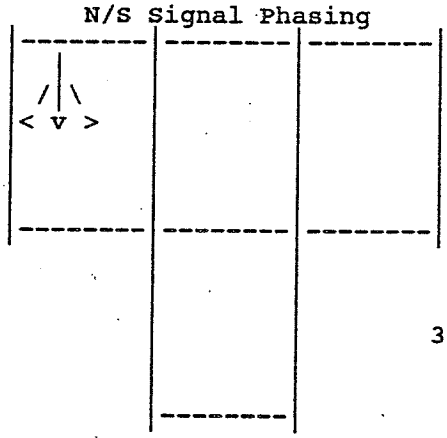
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	86	86
	T	1	0	
	EXR	1	205	
EB	T	3	361	361
	EXR	1	741	
WB	EXL	2	343	343
	T	3	285	
	Total Critical Volume			790

Maximum Total Critical Volumes

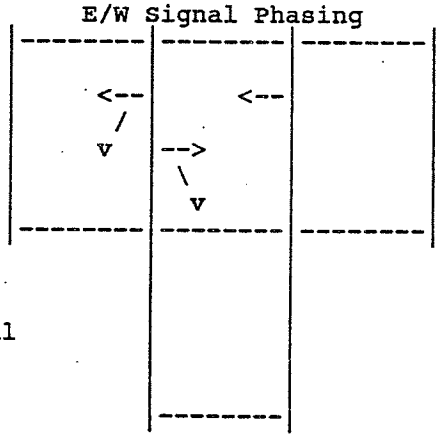
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 790
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.55

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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Traffic Analysis on Microcomputers

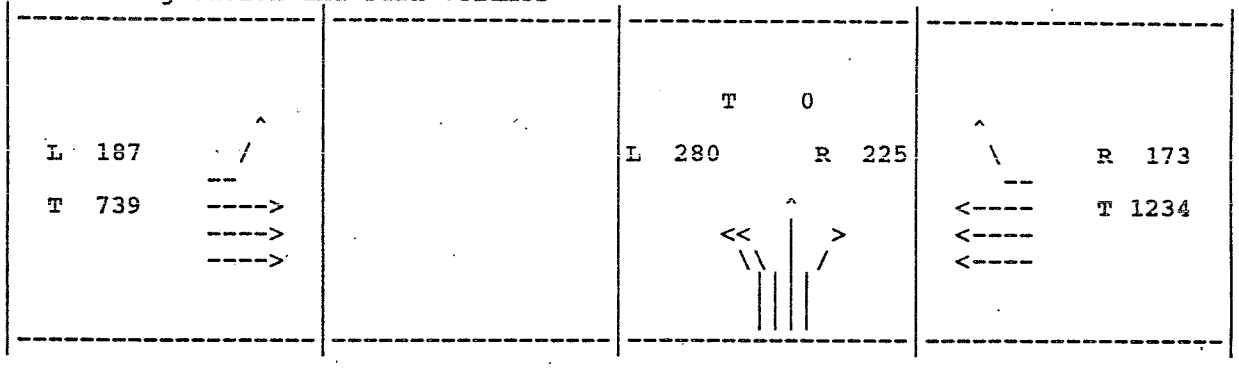
PRC ENGINEERING
10:01:50

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 2, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes

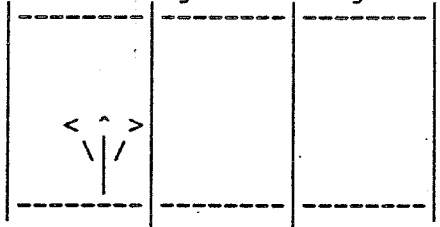


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	2	140	140
	T	1	0	
	EXR	1	225	
EB	EXL	1	187	187
	T	3	246	
WB	T	3	411	411
	EXR	1	173	
	Total Critical Volume			738

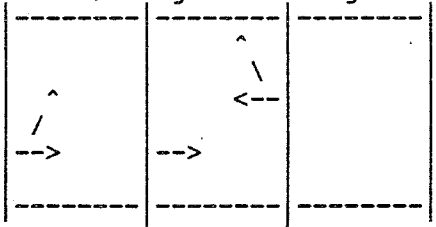
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 738
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.52

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak

Int No	Street Names	LOS	V/C	Note
1	CNTY ROAD 99	A	0.58	
	& CNTY ROAD 29	A	0.49	
4	CNTY ROAD 99	B	0.60	
	& COVELL			
5	SB SR113 OFF	A	0.53	
	& COVELL			
6	NB SR113 ON	C	0.80	
	& COVELL			

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
10:02:35

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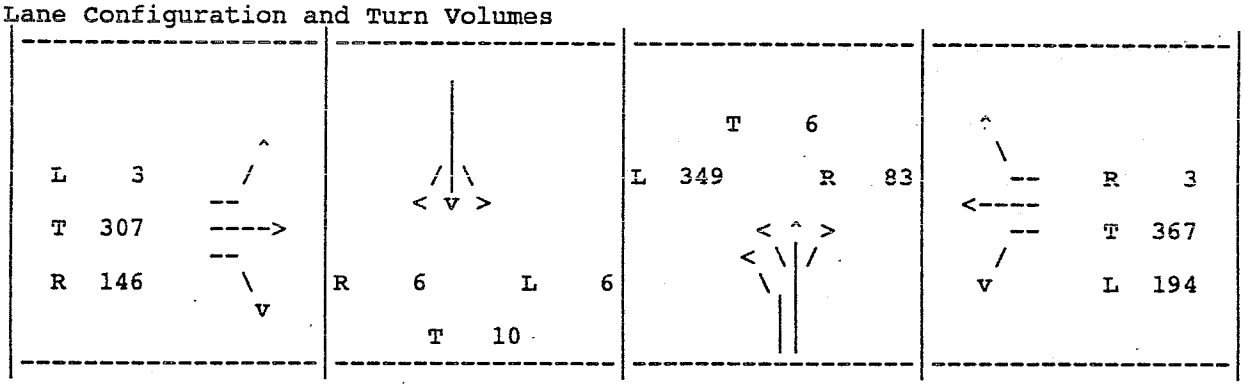
With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (Low Critical Volume Estimate)

Lane Configuration and Turn Volumes

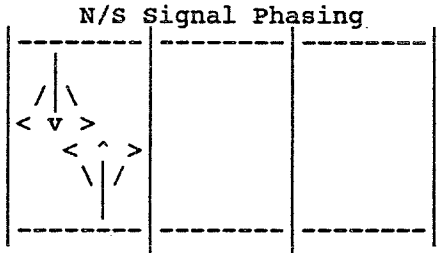


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	349	349
	TR	2	219	
SB	L	0	6	
	TR	1	16	16
EB	EXL	1	3	
	T	1	307	307
	EXR	1	146	
WB	EXL	1	194	194
	T	1	367	
	EXR	1	3	
Total Critical Volume				866

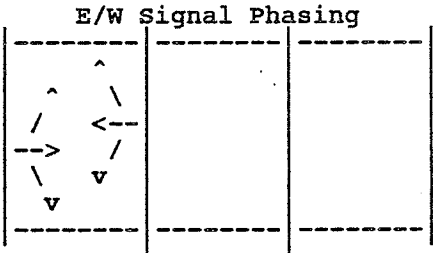
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 866
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.58

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

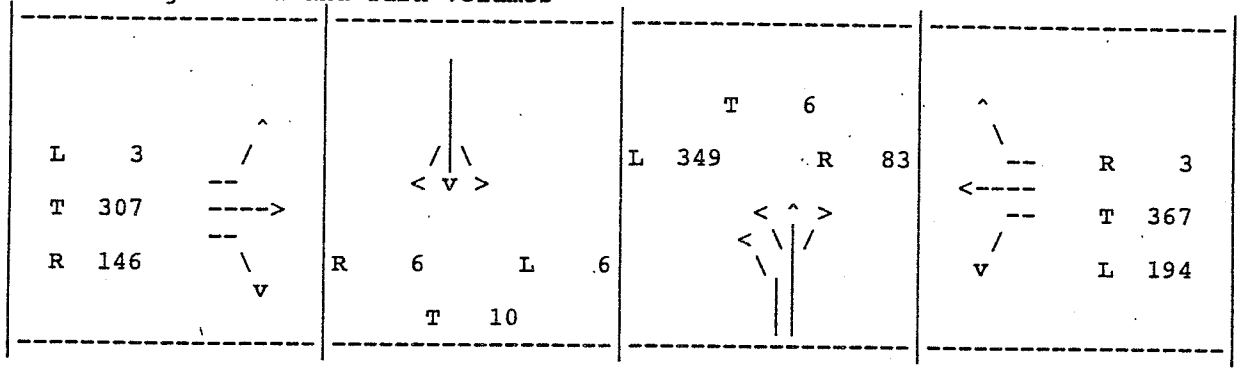
PRC ENGINEERING
10:02:35

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 1 CNTY ROAD 99 & CNTY ROAD 29 (High Critical Volume Estimate)

Lane Configuration and Turn Volumes

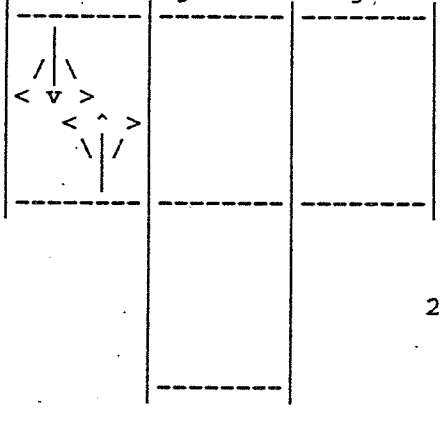


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	2	219	219
SB	LTR	1	22	22
EB	EXL	1	3	
	T	1	307	307
	EXR	1	146	
WB	EXL	1	194	194
	T	1	367	
	EXR	1	3	
Total Critical Volume				742

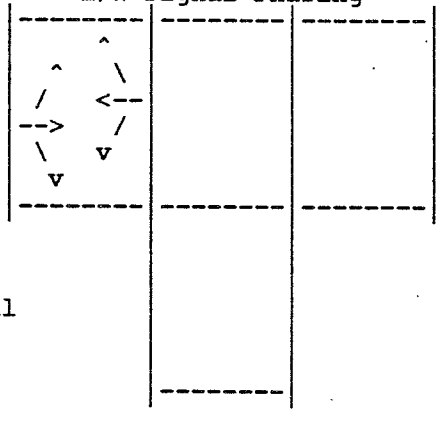
Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 742
No of Critical Phases	= 2
Level of Service	= A
Volume/Capacity	= 0.49

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
10:02:35

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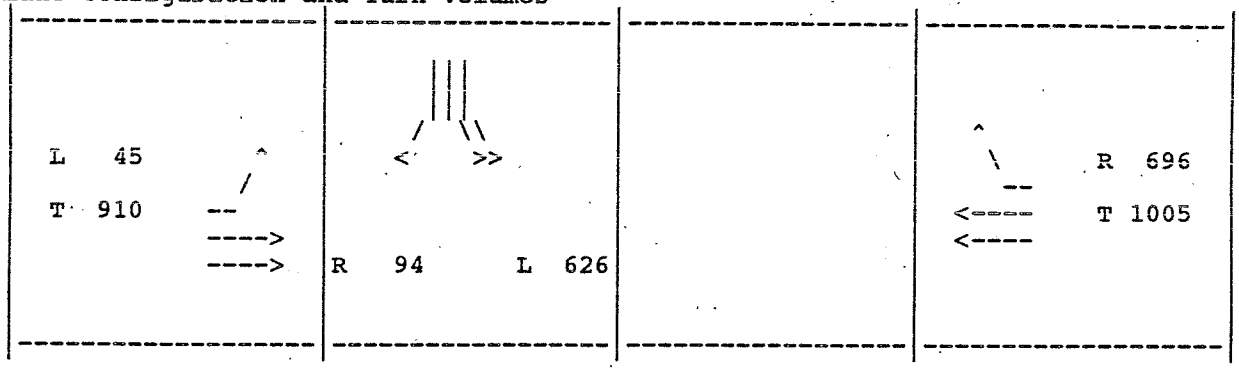
With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 4 CNTY ROAD 99 & COVELL

Lane Configuration and Turn Volumes



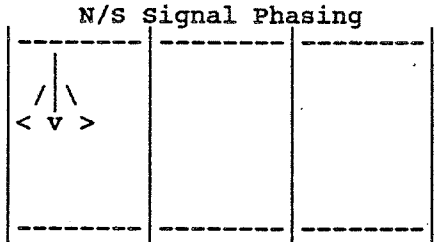
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	2	313	313
	EXR	1	94	
EB	EXL	1	45	45
	T	2	455	
WB	T	2	503	503
	EXR	1	696	
Total Critical Volume				861

Maximum Total Critical Volumes

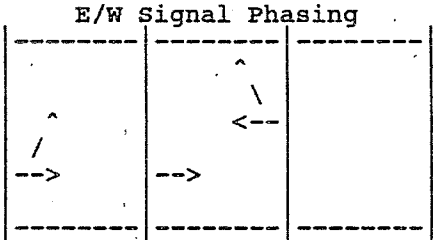
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 861
No of Critical Phases	= 3
Level of Service	= B
Volume/Capacity	= 0.60

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
10:02:35

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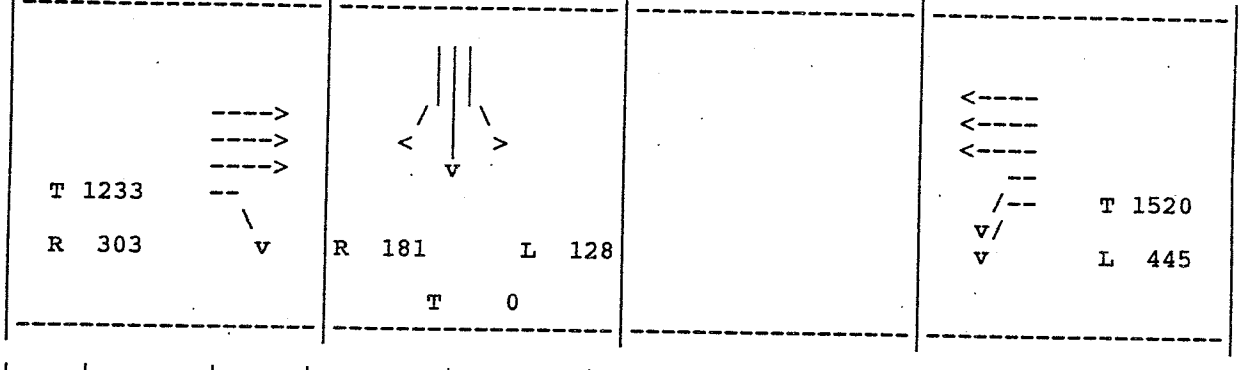
With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



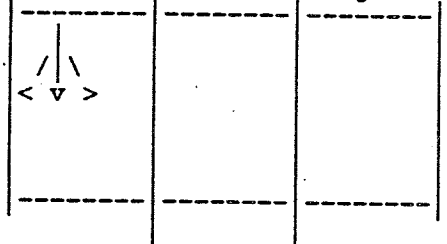
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	128	128
	T	1	0	
	EXR	1	181	
EB	T	3	411	411
	EXR	1	303	
WB	EXL	2	223	223
	T	3	507	
	Total Critical Volume			762

Maximum Total Critical Volumes

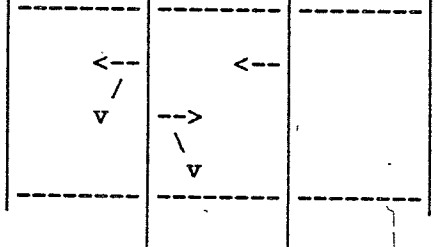
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 762
No of Critical Phases	= 3
Level of Service	= A
Volume/Capacity	= 0.53

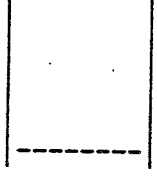
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



IMPAX 2.22
09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
10:02:35

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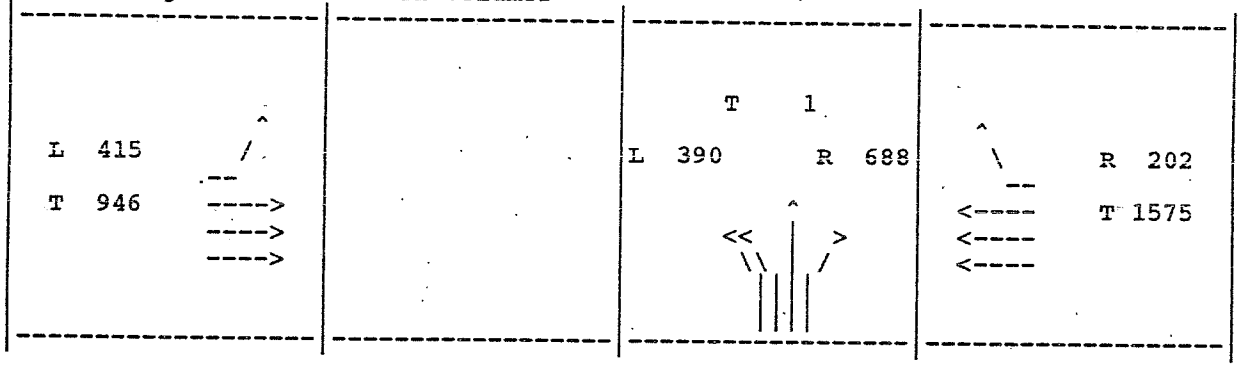
With Project Mitigations

Year 2010, Alt 2, With Project
PM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



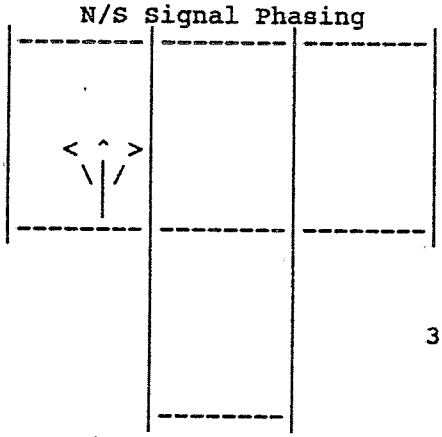
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	2	195	195
	T	1	1	
	EXR	1	688	
EB	EXL	1	415	415
	T	3	315	
WB	T	3	525	525
	EXR	1	202	
	Total Critical Volume			1135

Maximum Total Critical Volumes

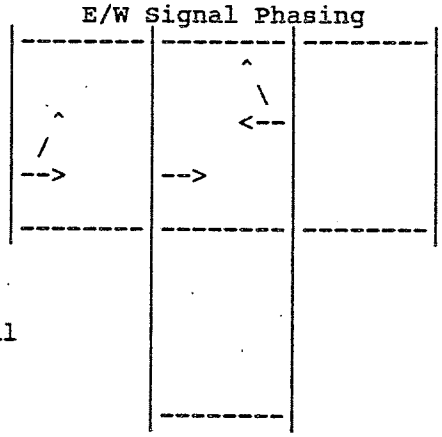
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1135
No of Critical Phases = 3
Level of Service = C
Volume/Capacity = 0.80

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 7, With Project
AM Peak

Int No	Street Names	LOS	V/C	Note
5	SB SR113 OFF & COVELL	B	0.68	
6	NB SR113 ON & COVELL	D	0.85	1

Note 1: Left Turn Check Failed for This Intersection

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09-30-1992

Traffic Analysis on Microcomputers

PRC ENGINEERING
10:03:49

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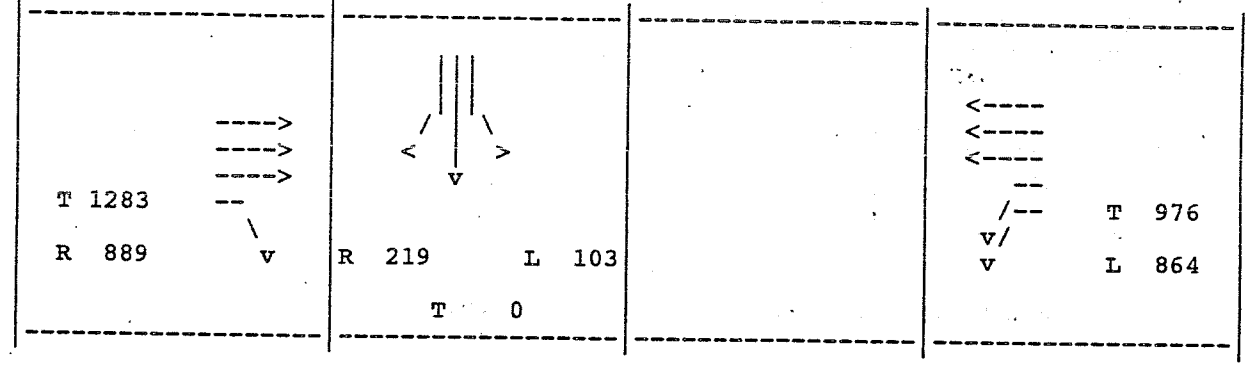
With Project Mitigations

Year 2010, Alt 7, With Project
AM Peak
Intersection: 5 SB SR113 OFF & COVELL

Lane Configuration and Turn Volumes



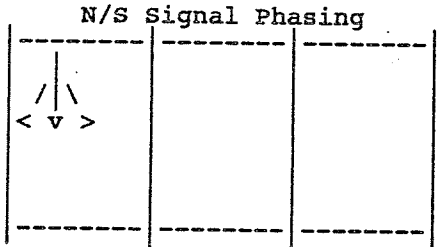
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	EXL	1	103	103
	T	1	0	
	EXR	1	219	
EB	T	3	428	428
	EXR	1	889	
WB	EXL	2	432	432
	T	3	325	
Total Critical Volume				963

Maximum Total Critical Volumes

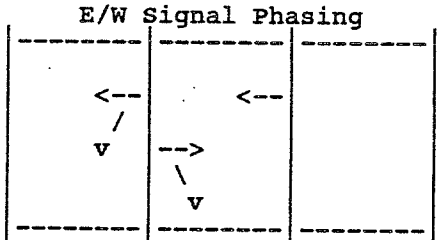
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume	= 963
No of Critical Phases	= 3
Level of Service	= B
Volume/Capacity	= 0.68

N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal

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09-30-1992

Traffic Analysis on Microcomputers

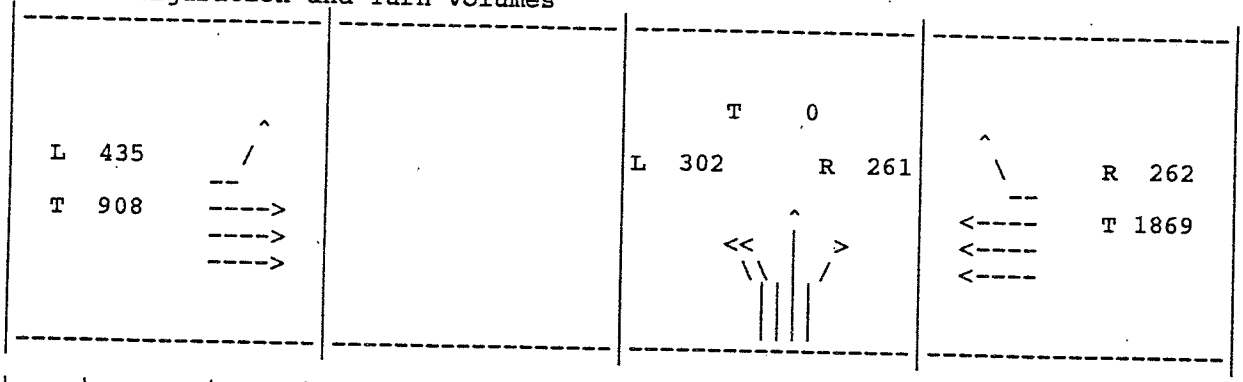
PRC ENGINEERING
10:03:49

Program Licensed To: Korve Engineering Inc.

With Project Mitigations

Year 2010, Alt 7, With Project
AM Peak
Intersection: 6 NB SR113 ON & COVELL

Lane Configuration and Turn Volumes



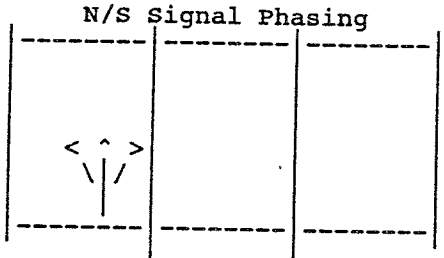
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	2	151	151
	T	1	0	
	EXR	1	261	
EB	EXL	1	435	435
	T	3	303	
WB	T	3	623	623
	EXR	1	262	
Total Critical Volume				1209

Maximum Total Critical Volumes

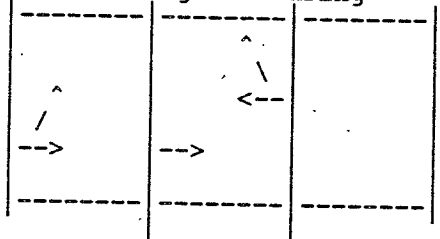
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1209
No of Critical Phases = 3
Level of Service = D
Volume/Capacity = 0.85

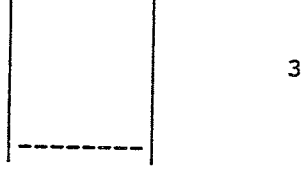
N/S Signal Phasing



E/W Signal Phasing



3 Phase Signal



Prepared

October 15, 1991

PESTICIDE AND HERBICIDE STUDY
SUTTER DAVIS HOSPITAL
Covell Boulevard County Road 99D
Davis, California
L & a No. 91-191

TABLE OF CONTENTS

PESTICIDE AND HERBICIDE STUDY
SUTTER DAVIS HOSPITAL
Covell Boulevard County Road 99D
Davis, California
L & a No. 91-191
October 15, 1991

INTRODUCTION

A Pesticide and Herbicide Study has been completed for a parcel of land located northwest of the intersection of Covell Boulevard and County Road 99D in Davis, California. This study was authorized by Sutter Health Systems; the purpose was to investigate the possibility of pesticides and herbicides being present on the subject property. Reference is made to our Foundation Engineering Study for the Sutter Davis Hospital site (L & a No. 91-191, dated September 19, 1991.

This study included a reconnaissance of the site by a member of our engineering staff, drilling test borings, laboratory testing and historical research including discussions with Yolo County and the State of California. Conclusions and opinions regarding the subject property are included herein. A Vicinity Map and Boring Location Plan of the site are shown on Plate No. 1, attached. Boring Logs are shown on Plate No. 2, attached. An explanation of the soil symbols and classification system used on the logs appears on Plate No.3, attached. A list of known pesticides and herbicides used on the property since 1981 is included in Appendix A. Results of laboratory test results are included in Appendix B.

FINDINGS

Site Description

The Sutter Davis Hospital site is an irregularly shaped parcel of land encompassing approximately 10 acres located northwest of the intersection of Covell Boulevard and State Highway 113 in Davis, California. The site is bordered by Covell Boulevard to the south, County Road 99D to the east, open farm land to the north, and open farm land and barn/sheds to the west. The site has a relatively flat topography (approximate elevation +45 to +46 feet, county datum).

At the time of our initial field reconnaissance, the majority of the site was planted in tomatoes. However, during our drilling and sampling operations for the study, the tomatoes had been harvested and the field was plowed. There are two single-story houses located in the extreme southwest corner of the site. A drainage ditch

approximately 20 feet wide and 10 feet deep runs east-west along the south boundary of the site, adjacent to Covell Boulevard. There are grasses in the ditch approximately 1 to 4 feet high. Power lines running along the western portion of the site are connected to an irrigation system located in the northwest corner of the site.

Pesticide and Herbicide Research

The Yolo County Agricultural Commissioner's Office was contacted and pesticide and herbicide permits for the subject property were reviewed. The permits kept by the Yolo County Agricultural Commissioner's Office dated back to 1981. Permits older than 10 years are not kept. The type of known pesticides and herbicides used on the site are chlorinated hydrocarbons, organophosphates, carbamates, and synthetic pyrethroids. A list of known pesticides and herbicides used on the site since 1981 is included in Appendix A.

Sampling Methods

Four test borings were drilled using a mobile CME-55 drill rig. The four test borings were drilled to a depth of approximately 5 feet, sampling intervals were 6 to 12 inches and 4-1/2 to 5 feet. All sampling equipment and augers were cleaned prior to drilling these test borings. One auger was used at each test boring, therefore cleaning of equipment in the field was not necessary.

Soil samples were obtained using a California modified sampler with two inch diameter by six inch long brass liners. These brass liners were obtained in a sterilized condition from Environmental Microanalysis Laboratory, a State of California Department of Health Services certified laboratory. Soil samples were visually classified in the field, the ends were sealed with aluminum foil and plastic caps, packed in ice, and transported in an ice chest to Environmental Microanalysis Laboratory for testing. Results of laboratory tests performed on soil samples recovered from the test borings are included in Appendix B.

Groundwater

Current groundwater information was not available from the Department of Water Resources at the time of this study. Groundwater was not observed in test borings for this study upon completion of the drilling operation, nor was groundwater observed in test borings to a depth of 40 feet for our Foundation Engineering Study.

CONCLUSIONS AND OPINIONS

Laboratory test results indicate that all the pesticides and herbicides tested for were below detection limits. These results were also well below the Total Threshold Limit Concentration (TTLC) contained in Barkley's California Code of Regulation, Title 22, Article 11 criteria for identification of hazardous and extremely hazardous waste, and below the State of California's Department of Health Services Toxic Substance Control program guide for Preliminary Endangerment Assessment Report soil and ingestion screening values.

Based on laboratory test results it is our opinion that the possibility of contamination from pesticides and herbicides existing on the site is low and no mitigation or remediation is necessary at this time.

LIMITATIONS

This firm's inability to find evidence of contamination other than that mentioned above does not guarantee that contamination from substances that are not currently or in the future defined as hazardous will not be found because of activity not identified in this pesticide and herbicide study or future site activities. Conclusions and opinions presented within this pesticide and herbicide study are based upon site characteristics at the time of our field investigation and information reviewed for this study. We emphasize that this pesticide and herbicide study is only applicable to the Sutter Davis Hospital site as described herein and should not be used for any other site.

LOWRY & associates

Alan R. Bower

ALAN R. BOWER
Staff Geologist

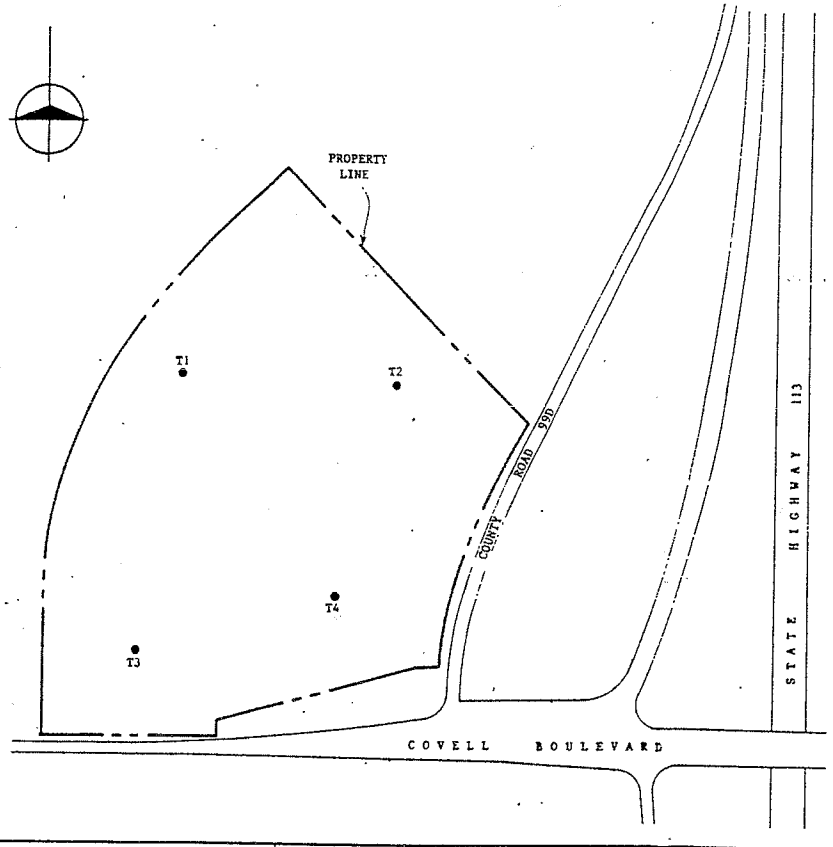
Tyrone M. Clinton

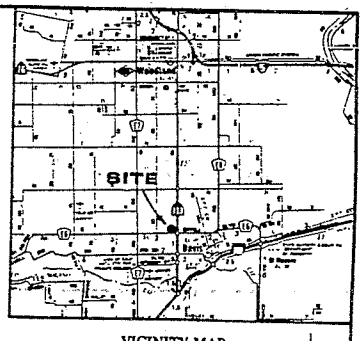
TYRONE M. CLINTON
Registered Geotechnical Engineer
No. 223

ARB:TMC:brt

Attachments

137847





VICINITY MAP
(no scale)

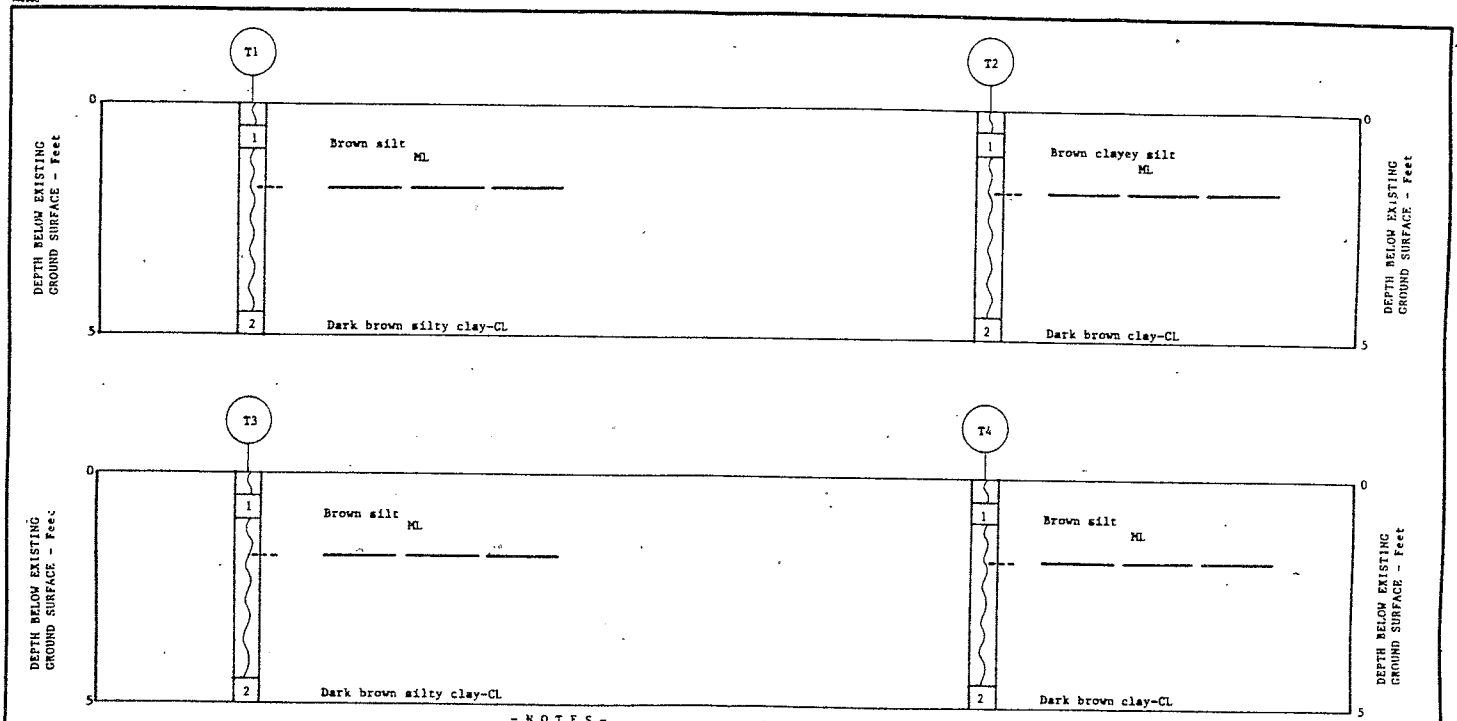
- NOTES -

1) Prepared from "PRELIMINARY SITE PLAN", (scale 1"=100', dated September 14, 1987); prepared by Meridian Consulting Engineers, Inc., 1215-14th Street, Suite 200, Sacramento, California 95814, (916)448-5678.

2) Boring locations are approximate only.

BORING LOCATION PLAN

LOWRY & ASSOCIATES GEOTECHNICAL ENGINEERS	DRAWN BY: G.C. Barmby CHECKED BY: A.R. Bower SCALE: FEET 0 100 200	SUTTER DAVIS HOSPITAL Covell Boulevard and County Road 99D Davis, California	PROJECT NO: 91-191 DATE: 10/91 PLATE NO: 1

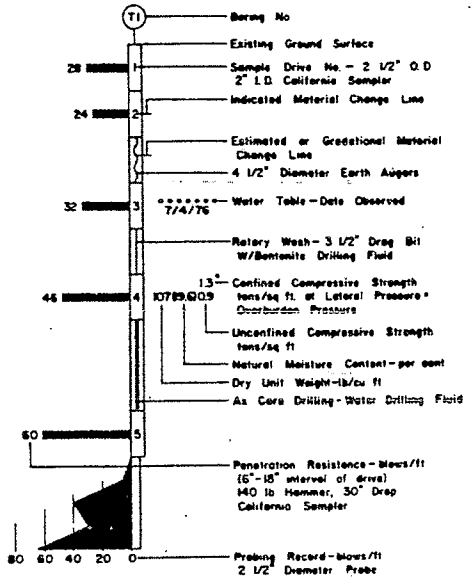


- N O T E S -

1) Explanation of symbols and classification system used on the logs is shown on Plate No. 3.
2) No free groundwater was encountered in the borings.
3) Date of borings: 9/24/91
4) The boring logs show subsurface conditions at the locations and on the dates indicated. It is not warranted that they are representative of such conditions at other locations and times.

BORING LOGS

LOWRY & ASSOCIATES GEOTECHNICAL ENGINEERS	DRAWN BY: G.C. Barmby CHECKED BY: A.R. Bower	SUTTER DAVIS HOSPITAL Covell Boulevard and County Road 99D Davis, California		PROJECT NO: 91-191 DATE: 10/91 PLATE NO: 2



BORING LEGEND

MAJOR DIVISIONS		SYMBOLS	CODE	TYPICAL NAMES
COARSE GRAINED SOILS (More than 1/2 of soil > no. 200 sieve size)	GRAVELS (More than 1/2 of coarse fraction > no. 4 sieve size)	GW		Well graded gravels or gravel-sand mixtures, little or no fines
		GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM		Silty gravels, gravel-sand-silt mixtures
		GC		Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 1/2 of coarse fraction < no. 4 sieve size)	SW		Well-graded sands or gravelly sands, little or no fines
		SP		Poorly graded sands or gravelly sands, little or no fines
		SM		Silty sands, sand-silt mixtures
		SC		Clayey sands, sand-clay mixtures
FINE GRAINED SOILS (More than 1/2 of soil < no. 200 sieve size)	SILTS & CLAYS LL < 50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL		Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS LL > 50	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH		Inorganic clays of high plasticity, fat clays
		OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS		Pt		Peat and other highly organic soils

UNIFIED SOIL CLASSIFICATION SYSTEM

COHESIVE SOILS		GRANULAR SOILS	
Description	Blows/ft.	Description	Blows/ft.
Very Soft	< 3	Very Loose	< 5
Soft	3 - 5	Loose	5-15
Medium (firm)	6 - 10	Medium Dense	16 - 40
Stiff	11 - 20	Dense	41 - 65
Very Stiff	21-40	Very Dense	> 65
Hard	> 40		

CONSISTENCY CLASSIFICATION

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL	3" to No 4	76.2 to 4.76
coarse (c)	3" to 3/4"	76.2 to 19.1
fine (f)	3/4" to No 4	19.1 to 4.76
SAND	No 4 to No.200	4.76 to 0.074
coarse (c)	No. 4 to No 10	4.76 to 2.00
medium (m)	No.10 to No 40	2.00 to 0.420
fine (f)	No 40 to No 200	0.420 to 0.074
SILT & CLAY	Below No 200	Below 0.074

GRAIN SIZE CLASSIFICATION

LOWRY & ASSOCIATES
GEOTECHNICAL ENGINEERS

SUTTER DAVIS HOSPITAL
Covell Boulevard and County Road 99D
Davis, California

PROJECT NO: 91-191
DATE: 10/91
PLATE NO: 3

APPENDIX A

SUTTER DAVIS HOSPITAL SITE
Covell Boulevard and County Road 99D
Davis, California
L & a No. 91-191
October 15, 1991

KNOWN PESTICIDES AND HERBICIDES
USED ON SUTTER DAVIS HOSPITAL SITE 1981-1991

Pesticide	Herbicide
Monitor	Devrinol
Bayleton	Paraquat
Pydrin	Treflan 5
Guthion	Roundup
Methamyl	Banvel
Sevin	2,4D
Daizinon	MCPA
Aluminum Phosphide	Buctril
Parathion	
Thiodan	
Sulfur	
Metasystox	
Disyston	
Nudrin	
Rhodian	
Kelthane	
Lanate	

APPENDIX B

Environmental Micro Analysis Inc.
40 N. East St., Suite B
Woodland, CA 95695
Phone (916) 666-6890 FAX (916) 666-2987

Client: Alan Bower
Lowry & Associates
123 Commerce Circle
Sacramento, CA 95818
(916) 929-9012 FAX:

COPY

Client Sample ID: T1 Drive 1 6" - 12" EMA #: 91092404-01 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alachlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrifos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Approved: Donald A. Patterson Laboratory Director

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COPY

Client Sample ID: T1 Drive 2 4-1/2' - 5' EMA #: 91092404-02 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alalchlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrofos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Date: 10/4/1991 Signed: Donald A. Peterson, Laboratory Director

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Client: Alan Bower
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123 Commerce Circle
Sacramento, CA 95818
(916) 929-9012 FAX:

COPY

Client Sample ID: T2 Drive 1 6" - 12" EMA #: 91092404-03 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alalchlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrofos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Date: Oct 4, 1991 Signed: Donald A. Peterson, Laboratory Director

Environmental Micro Analysis Inc.
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Client: Alan Bower
Lowry & Associates
123 Commerce Circle
Sacramento, CA 95818
(916) 929-9012 FAX:

Client Sample ID: T2 Drive 2 4-1/2' - 5' EMA #: 91092404-04 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alachlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrofos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Date: Oct 4, 1991 Signed: Donald G. Peterson, Laboratory Director

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Client: Alan Bower
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123 Commerce Circle
Sacramento, CA 95818
(916) 929-9012 FAX:

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Client Sample ID: T3 Drive 1 6" - 1' EMA #: 91092404-05 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alalchlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrofos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

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Client Sample ID: T3 Drive 2 4-1/2' - 5' EMA #: 91092404-06 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alachlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benelin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrofos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

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Oct 4 1991 Signed: Donald A. Peterson, Laboratory Director

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Sacramento, CA 95818
(916) 929-9012 FAX:

COPY

Client Sample ID: T4 Drive 1 6" - 12" EMA #: 91092404-07 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alaichlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
Toxaphene, (Attac), Strobane	<2	2
Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
Vinclozolin, (Ronilan)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organophosphate (OP) Screen EPA - 8140/CDFA Method	Amount µg/g	MDL µg/g
Acephate*	<0.05	0.05
Azinphos-methyl, (Guthion)	<0.1	0.1
Bolstar, (Sulprofos)	<0.05	0.05
Carbophenothion, (Trithion)*	<0.05	0.05
Chlorfenvinphos, (Supona)*	<0.05	0.05
Chlorpyrifos, (Dursban)	<0.03	0.03
Clodrin, (Crotophos)*	<0.05	0.05
Coumaphos, (Co-Ral)	<0.1	0.1
Demeton, (Systox) O analogue	<0.05	0.05
Demeton, (Systox) S analogue	<0.05	0.05
Diazinon*	<0.03	0.03
Dicrotophos, (Didrin)*	<0.05	0.05
Dimethoate, (Cygon)	<0.03	0.03
Dioxathion, (Delnav)*	<0.05	0.05
Disulfoton, (Disyston)	<0.05	0.05
EPN	<0.1	0.1
Ethion*	<0.05	0.05
Fenamiphos, (Nemacur)*	<0.05	0.05
Fenitrothion, (Sumithion)*	<0.05	0.05
Fenthion, (Baytex)	<0.05	0.05
Fonofos, (Dyfonate)*	<0.05	0.05
Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
Mevinphos, (Phosdrin)*	<0.05	0.05
Parathion	<0.04	0.04
Phorate, (Thimet)	<0.05	0.05
Phosalone, (Zolone)*	<0.3	0.3
Phosphamidon, (Dimecron)*	<0.08	0.08
Profenofos, (Cruacron)*	<0.1	0.1
Propetamphos, (Safrotin)*	<0.05	0.05
Ronnel, (Fenchlorfos)	<0.05	0.05
Tetrachlorvinphos, (Gardona)*	<0.1	0.1
Thionazin, (Zinophos)*	<0.05	0.05

Date Extracted: 10/1/91
Date Completed: 10/3/91

Organochlorine Herbicides EPA 8150	Amount µg/g	MDL µg/g
2,4-D	<0.05	0.05
2,4-DB	<0.05	0.05
2,4,5-T	<0.05	0.05
2,4,5-TP	<0.05	0.05
Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
Dinoseb	<0.02	0.02
MCPA	<190	190
MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Date: Oct 4 1991 Signed: Russell A. Peterson, Laboratory Director

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40 N. East St., Suite B
Woodland, CA 95695
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COPY

Client Sample ID: T4 Drive 2 4-1/2' - 5' EMA #: 91092404-08 Date Received: 9/24/91 Matrix: Soil

Organochlorine (OC) Screen EPA - 8080/CDFA Method	Amount µg/g	MDL µg/g
a-BHC	<0.02	0.02
Alalchlor, (Lasso)*	<0.05	0.05
Aldrin	<0.02	0.02
b-BHC	<0.04	0.04
Benfluralin, (Balan, Benefin)*	<0.03	0.03
BHC, (Benzahex)	<0.01	0.01
Bifenox, (Modown)*	<0.05	0.05
Chlordane	<0.25	0.25
Chlorobenzilate, (Acaraben)*	<0.4	0.4
Chlorthalonil, (Bravo)*	<0.01	0.01
d-BHC	<0.06	0.06
Dacthal, (Chlorthal)*	<0.03	0.03
DDD	<0.05	0.05
DDE	<0.03	0.03
DDT	<0.05	0.05
Dichlobenil, (Casoron)*	<0.03	0.03
Dichlone*	<0.05	0.05
Dicloran, (Botran)	<0.02	0.02
Dicofol, (Kelthane)	<0.05	0.05
Dieldrin	<0.02	0.02
Dyrene, (Anilazine)*	<0.1	0.1
Endosulfan alpha	<0.01	0.01
Endosulfan beta	<0.01	0.01
Endosulfan sulfate	<0.01	0.01
Endrin	<0.05	0.05
Ethalfluralin, (Sonalan)*	<0.03	0.03
Folpet*	<0.1	0.1
Heptachlor	<0.01	0.01
Heptachlor epoxide	<0.02	0.02
Iprodione, (Rovral)*	<0.05	0.05
Lindane	<0.02	0.02
Methoxychlor	<0.05	0.05
Nitrofen, (TOK)*	<0.05	0.05
Oxadiazon, (Ronstar)*	<0.05	0.05
Oxyfluorfen, (Goal)*	<0.03	0.03
Pentachloronitrobenzene, (PCNB)	<0.04	0.04
Permethrin*	<0.05	0.05
Perthane, (Ethylan)	<0.05	0.05
Profluralin, (Tolban)	<0.03	0.03
Pronamide, (Kerb, Propyzamide)*	<0.02	0.02
Tetradifon, (Tedion)*	<0.05	0.05
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Tridimefon, (Bayleton)*	<0.05	0.05
Trifluralin, (Treflan)	<0.02	0.02
Vegadex, (Diethyldithiocarb. acid)*	<0.05	0.05
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Chlorfenvinphos, (Supona)*	<0.05	0.05
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Dimethoate, (Cygon)	<0.03	0.03
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Hostathion, (Triazophos)*	<0.05	0.05
Imidan, (Phosmet)*	<0.05	0.05
Isofenphos, (Oftanol)*	<0.05	0.05
Malathion	<0.05	0.05
Methamidophos*	<0.01	0.01
Methidathion, (Supracide)*	<0.05	0.05
Methyl Parathion	<0.05	0.05
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Parathion	<0.04	0.04
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Dalapon	<0.1	0.1
Dicamba	<0.05	0.05
Dichloroprop	<0.05	0.05
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MCPP	<200	200

Date Extracted: 10/1/91
Date Completed: 10/3/91

*Chemicals marked with an asterisk are not found in the EPA methods, but are detectable by CDFA methodology and are included for qualitative informational purposes only.

Date: Oct 4 1991 Signed: Donald A. Peterson, Laboratory Director

A CULTURAL RESOURCES STUDY

for

ENVIRONMENTAL IMPACT REPORT
FOR SUTTER-DAVIS HOSPITAL/NORTHWEST PARTNERS/HEAD ANNEXATION
CITY OF DAVIS

Yolo County, California

Prepared for

ENVIRONMENTAL SCIENCE ASSOCIATES, INC
1930 9th Street, Suite 220
Sacramento, CA 95814-7044

by

CULTURAL RESOURCES UNLIMITED
Eleanor H. Derr
2614 Aramon Drive
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October, 1991

4.21 CULTURAL AND HISTORIC RESOURCES

SETTING

The project is located immediately adjacent to the City of Davis, on the north side of Covell Road and the west side of Highway 113, at the 50' elevation. It contains flat farm land, bordered by drainage ditches along the roads, a canal on the northern extremity and adjacent farmlands.

IMPACTS AND MITIGATION

Introduction to the Analysis

This report details the methods and results of a cultural resources survey and literature review for both prehistoric and historic resources for the proposed Sutter Davis/Hospital/ Northwest Partners/Head Annexation project.

One possibly significant historic site, a complex of ranch buildings, was located on the project property, on the extreme southwest corner. Some of these buildings appear to be historic. No evidence for prehistoric resources were located during the archival research or field survey.

It has not been possible to certify the age of the ranch building complex. A road is shown on the 1865 survey map (U.S. Government 1865) extending eastward from the southeast corner of the present property. The land at that time was part of the Jerome C. Davis Ranch and was also designated as Swamp and Overflowed Land (Lot 6, 12/18/1868). Records at the State Lands Commission show the property covering most of Section 5 (current project) and the north half of the northeast of Section 8--483.05 acres (western portion of the J.C. Davis Ranch) was purchased by Daniel Himmelman on January 8, 1868, with sales approval on February 11, 1868. Final payment was made on November 23, 1868, but the certificate of purchase is missing. On February 3, 1869 the land was patented by Isaac Davis. The 1907 Woodland U.S.G.S. quad map shows a building and adjacent driveway in the location of the present house and western driveway. Buildings are consistently shown here on all available subsequent maps (1940, 1947, 1953, 1952/81), however, it is not possible to determine from these maps if the buildings themselves have been replaced over the years.

Interviews with the current and previous owners, as well as long-time Davis residents and local historians, along with archival research indicate the following: Jerome Davis began farming in the Davis area in 1852 and developed a 12,000 acre stock farm (Larkey & Walters, 1987:34). Seven thousand acres of the Davis ranch became the site of Davisville (now the City of Davis) in 1868 and other portions were sold in the same year for the California Pacific Railroad (Larkey & Copley 1969:161-2). Reportedly, portions of the Davis ranch were mortgaged several times, notably to Mrs. Anna Tyron in 1856, in 1859 (person not stated), and in 1861 to Isaac Davis (Larkey & Copley 1969:33).

Records obtained by the current owner (Dan Dowling) indicate previous ownerships (dates unknown) by Tyron, King, Clancy, Machado, and most recently, by Ben and Victoria Williams (1958-85).

Jerome C. Davis first arrived in California in 1845 with Fremont's topographical survey expedition. He returned east (probably in 1847), and again came to California in 1849, where he helped establish Yolo County's first dairy near West Sacramento, as well as a rope ferry across the Sacramento River in partnership with his father-in-law, Joseph Chiles. He moved with his wife (Mary Chiles) to the north bank of Putah Creek (present Davis) prior to 1852. Jerome Davis served as president of the California State Agricultural Society in 1861 and, after moving to Sacramento, was elected Second Trustee of the City of Sacramento in 1880 and also served as Street Commissioner until he died suddenly on October 5, 1881 (Larkey & Copley 1969:161-62).

Isaac Davis, father of Jerome, arrived in Yolo County from Maryland possibly as early as 1850 with son-in-law Joseph Mitchell, bringing out his wife Rachael and daughter Elnora Mitchell in 1852. The Davis, Mitchell and Chiles families worked together in the early development of agriculture in Yolo County. Isaac Davis was appointed Associate Judge of the Court of Sessions in 1851-54, and Yolo County Judge in 1857. He also served as Master of five Masonic lodges in Yolo County and in Sacramento, and was president of the California State Agriculture Society in 1863. He died on October 22, 1869 (Larkey & Copley 1969:159-60).

Mathew Clancy, a native of Ireland, arrived in California in 1862. He moved to the Davis area the same year, where he worked for various farmers. In 1873 he leased 520 acres, raising wheat and livestock. In 1896 he purchased 160 acres in Solano County, south of Davis, also continuing to rent two other ranches, part of which included the lands of College Park (present-day Davis). In 1910 he sold this land and bought 221 acres northeast of Davis, which he farmed until his death in 1925. His daughters continued the farm (Larkey & Copley 1969:156).

(Information retrieved by Dan Dowling indicate Mr. Clancy received the current project land through a lawsuit with a Mr. King in 1901. King had previously purchased the land in 1871 from Mrs Tyron. The house is believed to have been built in the early 1900s (possibly by Mr. Clancy) and remodeled in the 1930s. During the depression it was reportedly taken over by the Bank of Woodland and later sold to Tony and Rose Machado. Reportedly the land was used for dairying, sheep raising and row crops.)

According to Ms. Jane Van Sell Zakarian, the Van Sell family purchased the land east of the ranch buildings from the Machados in 1947, using it for crops. When Highway 113 was enlarged, additional property had to be purchased by CalTrans, who later auctioned an unused portion (now east of the frontage road) to Ernie Head.

Ben and Victoria Williams purchased the house with 75 acres of land from Tony Machado in 1958, where they lived and raised sheep and row crops (V. Williams).

This report recommends the gathering of additional historic data to determine the age of the ranch and buildings. If historic dates are determined, a more complete recording of the property should be accomplished for mitigation of impacts to the buildings.

Significance is based on association with historically important persons and activities and/or on the potential for the site to yield further knowledge important to scientific and regional studies, as delineated by the California Environmental Quality Act (CEQA) Guidelines, Appendix K. A significant impact would be identified if project development or construction resulted in the degradation or destruction of an important archaeological resource, or if human activity resulting from site development had the potential to disrupt the integrity of an identified resource.

Methodology

The project property was intensively surveyed using transects of approximately 25 meters, zigzagging between for better coverage. As the property was recently disced, soil visibility was excellent. Due to low prehistoric potential, a high level of historic disturbance and current habitation use, areas immediately surrounding the buildings were given less intensive coverage.

Archival studies were undertaken in various libraries and government offices to obtain further information on previous land appearances and uses/disturbances (presence of earlier creeks and marshland, documented historic use and ownership).

Impact Statements and Mitigation Measures

Impact

4.21.1 Implementation of the Sutter-Davis Hospital/Northwest Partners/ Head Annexation would result in the loss or degredation of one potentially significant historic site. This would be a significant impact.

4.21.2 Implementation of the Sutter-Davis Hospital/Northwest Partners/ Head Annexation could result in the loss or degredation of unknown potentially significant buried cultural resource sites. This would be a significant impact.

Mitigation Measures

4.21.1a Avoidance

4.21.1b (Data gathering, recording)

4.21.2 If any buried cultural remains are encountered during development and construction, all work within 75 feet of the discovery must be stopped until a professional archaeologist can be called in to determine the significance of the find.

Significance After Mitigation

Less-than significant

BIBLIOGRAPHY

Larkey, Joann L. and Jeanette N. Copley
1969 Davisville '68: the history and heritage of the City of Davis, Yolo county, California. Davis Historical and Landmarks Commission (100th anniversary of the founding of Davisville). Davis.

Larkey, Joann L and Shipley Walters
1987 Yolo County, Land of Changing Patterns. Windsor Publications, Inc. Northridge

United States Government, Department of the Army, War Dept.
1940 Corps of Engineers Map Woodland quad.

United States Government, General Land Office
1865 Survey Plats, Township 8 North, Range 2 East; 1858. Surveyor General's Office, San Francisco. On file, Bureau of Land Management, Sacramento.

United States Government, Department of the Interior
1907 U.S.G.S. Topographical map: Woodland, 15'.

United States Government, Department of the Interior
1947 U.S.G.S. Topographical map: Woodland, 1:50,000'

United States Government, Department of the Interior
1953 U.S.G.S. Topographical map: Woodland, 15'

United States Government, Department of the Interior
1952 U.S.G.S. Topographical map: Merritt, 7.5' P.R. 1981

Interviews

Dowling, Dan
1991 Current owner of the property

Haig, Phyllis
1991 Long-time Davis resident, historian

Head, Ernie
1991 A current owner of project property

Walters, Shipley
1991 Historian.

Williams, Victoria
1991 Previous owner of house and adjacent property

Zakarian, Jane (Van Sell)
1991 Daughter of previous property owner

TECHNICAL APPENDIX

Future roadside carbon monoxide (CO) concentrations were modeled using CALINE4. CALINE4 is a fourth-generation air quality model developed by the California Departnent of Transportation for determining air pollutant concentrations (primarily CO, nitrogen dioxide and particulates) near a roadway. Given the source strength, meteorology, site geometry, and site characteristics, the model can reliably predict pollutant concentrations for receptors located within 150 meters of the roadway. The model allows roadways to be divided into separate segments or multiple links that can vary in traffic volume, emission rates, height, width, etc.. CO projections were made using EMFAC7E composite air pollution emission factors for motor vehicles, worst-case meteorological assumptions, and traffic data provided by Korve Engineering. The worst-case meteorological assumptions were as follows:/1/

- wind speed of 1.0 meters per second (m/s)
- stability category F
- mixing height of 1,000 feet
- wind bearing of 0° (CALINE automatically selects the wind bearing which will produce worst-case conditions)
- surface roughness of 100 centimeters (cm.)
- standard deviation of wind bearing of 10°
- deposition velocity of 0
- temperature of 10° Celsius (C)

Estimated one-hour background CO concentrations used in this analysis were 9.4 parts per million (ppm) in 1992, 9.0 ppm in 1995, and 9.9 ppm in 2010. Estimated eight-hour background concentrations were 4.4 ppm in 1992, 4.2 ppm in 1995, and 4.7 ppm in 2010. The average ambient background concentrations were estimated by taking the average of the second-highest CO concentration for the last three years at the nearest monitoring station, taking the average value, and extrapolating for future years by using percent change in projected CO emission totals. A persistence factor of 0.7, as recommended by Caltrans for urban locations, was used in the calculation of the eight-hour CO concentrations./2/ EMFAC7E emission factors and EMFAC7E idle emission factors were also used in the analysis.

The intersections and road segments were modeled at-grade, with a source height of 0.5 meters and a receptor height of 1.3 meters (breathing zone). Receptors were located at approximately five meters from the edge of the intersections and road segments modeled. The worst-case option in the model was used to determine the maximum possible CO concentrations at roadside receptors.

Notes:

11/ Wind speed and stability category based on written communication from Milton Feldstein, Air Pollution Control Officer, BAAQMD, April 30, 1991 to Preston Kelley, District Director, California Department of Transportation.

/2/ California Department of Transportation, 1988, Air Quality Technical Analysis Notes.

C.3 BIOLOGICAL RESOURCES STUDY

Special Status Species Protection

Special status species include those listed by the Federal or State governments as endangered, threatened, rare, or candidate for listing, or listed by the California Native Plant Society (CNPS) as rare or endangered. These species have varying degrees of legal protection under both Federal and California Endangered Species Acts (FESA and CESA), and the California Environmental Quality Act (CEQA). The United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) share responsibility for management and protection of biological resources in the proposed project area. Under separate State and Federal legislation, each agency conducts a detailed review of any project that could affect a special status plant or animal species. If a species listed as endangered or threatened may be affected, the lead agency must initiate a formal consultation with the USFWS and/or CDFG, as applicable under Federal or State law. See Table C.3-1 for Federal and State listing categories.

Sections 7 and 10(a) of the Federal Endangered Species Act (16 USC 1531 et seq.) requires formal consultation only on those species currently listed as threatened or endangered. The USFWS recommends candidate species also be considered because they may become listed during the design or construction phases of a project. Section 9 of the Act prohibits the "taking" of listed species. If incidental taking might occur from a project, that is, if individuals of a listed species would be inadvertently harmed, harassed, or collected, or would suffer significant habitat modification, consultation with the USFWS is required.

Additionally, a formal consultation process must be initiated with the CDFG for projects the state lead agency has determined may or will have an adverse effect on state-listed species. As with USFWS policy, candidate species are not subject to the same consultation requirements as listed endangered or threatened species. CESA encourages informal consultation for candidate species which may become officially listed prior to completion of the CEQA process.

TABLE C.3-1: SPECIAL STATUS SPECIES PROTECTION CLASSIFICATION

Federal Status	
Endangered	Species in danger of extinction throughout all or significant portion of its range.
Threatened	Species likely to become endangered within foreseeable future throughout all or significant portion of its range.
Category 1	Candidate information now available indicates that listing may be appropriate with supporting data currently on file.
Category 2	Candidate information now available indicates that listing may be appropriate but supporting data is not currently on file.
Category 3a	Non-candidate previously considered candidate but now extinct.
Category 3b	Non-candidate previously considered candidate but now invalid taxonomically.
Category 3c	Non-candidate previously considered candidate but now too widespread or not threatened.
California State Status	
Endangered	Species whose continued existence in California is jeopardized.
Threatened	Species, although not presently threatened with extinction, which is likely to become endangered in the foreseeable future.
CNPS	
List 1	A. Plants presumed extinct in California. B. Plants are rare and endangered in California and elsewhere.
List 2	Plants are endangered in California, but more common elsewhere.
List 3	Plants about which more information is needed.
List 4	Plants of limited distribution (a "watch" list).

SOURCE: Environmental Science Associates, Inc., 1992

In addition to providing formal and informal consultation, the CDFG has established the California Natural Diversity Data Base - RareFind (CNDDB), a program that inventories the State's special status species and natural communities, and also provides information on their current listing status.

The CNPS publishes and regularly updates the *Inventory of Rare and Endangered Vascular Plants of California*[0] . The CNPS gathers information from the CDFG and from amateur and professional botanists throughout the State, and contributes this information to the CNDDB. The Inventory has become the standard reference on California's rare and endangered plants. Plants listed by CNPS on List 1A, 1B, or 2, but not officially listed by the State, nevertheless can receive protection under CEQA; substantial effects to these CNPS-listed species are considered to be significant. See Table A-1 for CNPS listing categories.

In addition to the protected species designations listed in Table C.3-1, the CDFG has developed a list of "Species of Special Concern." These species are defined as having California breeding populations which are of special concern in that they may face extinction within the State in the near future. By so listing a species, the CDFG draws attention to the potential for future designations of such species to a more protected status.

Finally, California Fully Protected Species are bird species which, although not listed as endangered or threatened, are protected by law in California. Under Section 3511 of the Fish and Game Code, it is illegal to take, harass, or possess these species, their nests, or their eggs. These species, as well as other bird species, are afforded further protection under Sections 3503 (protection of nests and eggs), 3503.5 (protection of raptor eggs), and 3513 (protection of migratory birds) of the Fish and Game Code and the Migratory Bird Treaty Act of 1914, respectively.

Wetlands Protection

Section 404 of the Federal Clean Water Act regulates discharge of fill material into "waters of the United States," which include wetlands. The U.S. Army Corps of Engineers (Corps) is responsible for issuance of a permit for any project which proposes filling of between one and ten acres of wetlands. Filling of less than one acre of wetlands requires no formal notification of the Corps, and would be automatically permitted under a Department of the Army Nationwide Permit, provided certain conditions are met. The Environmental Protection Agency (EPA) has an oversight role, and through an involved process, can override a decision by the Corps to issue a permit. Certain activities such as normal farming practices, emergency reconstruction of

existing structures, and construction of irrigation ditches are exempt from Section 404 permit requirements.

On January 22, 1992 the Corps recently reauthorized the Nationwide Permit Program authorizing various activities in the nation's waters and wetlands. Under certain Nationwide Permits, a delineation of Corps' jurisdiction is required prior to initiation of fill.

To determine which wetlands are subject to Corps' jurisdiction (i.e., jurisdictional wetlands), a wetlands delineation must be performed. Three criteria are considered: (1) evidence of inundation or saturation by surface or groundwater for at least two weeks during an average rainfall year (hydrology), (2) a prevalence of wetland vegetation (hydrophytes) if the site is undisturbed, and (3) typical wetland (hydric) soils, that is, soils formed under saturated, anaerobic conditions.

In 1987 the Corps published a manual which standardized the manner in which wetlands were to be delineated nationwide. While the manual was effective in most circumstances, conflicts arose in certain instances when the Corps' delineation of a wetland conflicted with that of other federal agencies which had their own wetland definitions. Consequently the Corps, EPA, Soil Conservation Service (SCS) and the U.S. Fish and Wildlife Service (USFWS) in 1989 published a new "unified" method for wetland delineation. Under the 1989 methodology an area meeting the minimum soils criteria and supporting plant species able to survive occasional saturation was considered a jurisdictional wetland if the soil, six to 18 inches below the surface, showed evidence of saturation for as little as seven consecutive days during the year.

Public and legislative "backlash" concerning the 1989 methodology led to a new effort to refine the delineation approach. As a result, on August 14, 1991 a proposed new wetland delineation manual was published in the Federal Register for public review. The proposed manual, sponsored by the same four agencies, is intended to replace the 1989 manual. The proposed manual would substantially increase the standards necessary to meet the wetland hydrology test by requiring that an area be inundated or saturated to the surface for at least 15 and 21 consecutive days, respectively. Most recently, the Corps has provided guidance through its Districts that, effective August 17, 1991, that the 1987 manual is to be used to identify and delineate wetlands potentially subject to Section 404 regulation.

As it is possible that development of this site may affect potential jurisdictional areas, it is necessary to determine the extent to which "waters of the United States" exist on the property. Using this information, a written request would be made to the Chief of the Regulatory Section, Corps of Engineers, accompanied by a description of the property and a map documenting the findings of a preliminary wetland delineation. The Corps would analyze this information,

conduct their own field visit to confirm the preliminary wetland delineation, and formally identify the extent of Corps' jurisdiction subject to Section 404 permit requirements on the site. The extent of potential jurisdictional features presented in Section 4.6 is subject to modification pending the Corps' official review and determination.

Once the official extent of Corps' jurisdiction is known, the next step is to determine whether there are practicable alternatives, either on- or off-site, which would avoid filling wetlands or minimize filling wetlands, such as project alteration (see Mitigation Measure 4.6.6a). Only as a last resort would the Corps and EPA accept creation of new wetlands or enhancement or restoration of existing wetlands as mitigation[1] . This sequencing of mitigation is generally in keeping with the current Federal policy of "no net loss" of wetland acreage.

The Corps' current Nationwide permit program, specifically Nationwide Permit No. 26 (33 CFR Section 330.5), provides a mechanism for processing and review of activities which would affect fewer than ten acres of wetland and other waters in areas that lie "above the headwaters." Headwaters are defined as having a mean annual flow of five cubic feet per second or less (33 CFR Parts 320 through 330), or a flow of less than five cubic feet per second more than 50 percent of the time.

If one to ten acres of wetland fall within this definition, the Corps must be notified of any proposed action that would fill a wetland. The Corps may elect to process an individual permit or allow the proposed wetland fill to proceed under the Nationwide Permit. Generally, the closer the proposed fill area is to one acre, the greater the probability that a Nationwide Permit may be issued. For filling of wetlands which fall outside this definition and/or are greater than ten acres, an application for an individual permit must be filed with the Corps, requiring a thorough environmental and public interest review and public notice prior to the issuance or denial of a permit. The Corps would issue a public notification allowing for a 40-day comment period for the appropriate agencies and for the public. If less than one acre "lies above the headwaters" and meets the other conditions of the Nationwide permit program, no formal notification to public agencies or public review is required.

The Regional Water Quality Control Board (RWQCB) can require a project proponent to obtain a Section 401 (Clean Water Act) water quality certification for Nationwide permits granted by the Corps. For less than one acre, the Board issues a waiver, provided the applicant is also applying to the California Department of Fish and Game for a Stream Alteration Agreement as noted below. The RWQCB has 60 days to issue this waiver. Between one and two acres, a waiver could also be issued but only after a thorough review of any agency or public comments during the 40-day comment period on the Corps' public notice (assuming that the Corps has required an individual permit). For more than two acres of wetland removal, the RWQCB

requires a mitigation plan, a public hearing, and approval of the water quality certification by the State Water Resources Control Board as an item on their agenda.

In addition to Corps regulatory authority over "waters of the United States," CDFG has authority to oversee work in streams pursuant to Fish and Game Code Sections 1601 to 1603. A landowner or agency proposing to substantially divert the natural flow of a stream, substantially alter its bed or bank, or use any material from the streambed, must first enter into a "Streambed Alteration Agreement" (SAA) with CDFG. The CDFG, while being able to impose reasonable conditions on the agreement, may not decline to enter into an agreement. A SAA will only be entered into by the CDFG once all other project permits and certifications are obtained. Construction cannot be initiated on the site until a SAA is executed.

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0 California Native Plant Society, *Inventory of Rare and Endangered Vascular Plants of California*, September 1988.

1 Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404 (b)(1) Guidelines, 1990.

C.4 CULTURAL RESOURCES STUDY

C.5 PUBLIC HEALTH AND SAFETY