~~COAH~~ Ringwood. December 1983

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E- Traffic engineering report for the Ringwood Borough planning board covering develop. of 9 sites and their effect on the roadway system.

(includes maps + exhibits)

Prepared by Traffic + Transportation engineer.

pg. 145 double sided.

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TRAFFIC ENGINEERING REPORT

FOR THE

RINGWOOD BOROUGH PLANNING BOARD

COVERING THE DEVELOPMENT OF NINE SITES

AND THEIR

EFFECT ON THE ROADWAY SYSTEM

PREPARED BY

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INTRODUCTION

This report has been prepared to determine the effects of two scenarios of site development on the roadway system in Ringwood Borough. The first scenario is the development of nine sites as currently zoned. The second scenario is the development of the same nine sites in a higher density manner, or with different types of development. The nine sites are described in the SUMMARY section of this report beginning on page 4-1.

The major roadways in Ringwood Borough have been included in the study. These include:

Skyline Drive
Greenwood Lake Turnpike
Sloatsburg Road
Margaret King Avenue
West Brook Road
Stonetown Road

Other roadways are included where they intersect with the above named roadways.

Twenty-five intersections are included in the study. Obviously, there are more than 25 intersections along these roadways. The more important intersections and the study site created intersections are the only ones included in order to keep the study to a manageable size.

The possible construction of Interstate Highway 1-287 in the area was noted. Potential interchanges in the area will be at the foot of Skyline Drive in Oakland and to the south in Wanaque off Ringwood Avenue. The location of the interchange in Oakland is understood to be definite and to include the improvement of the West Oakland Avenue - Skyline Drive intersection. It is understood that an interchange in Wanaque is not definite and that if one is constructed it will be off of Ringwood Avenue near Union Avenue.

Traffic counts were conducted as part of this study. Observations of traffic flows were made. Measurements of existing roadways were made*

A computerized traffic Tableau was used to manage the traffic generation and distribution portions of the study. Computer ized methods for intersection capacity were also used.

The site descr iptions and site development was obtained from the Planning Board, and their planning consultant . The traffic generation factors are from ZRLE__GEN.KBAZLQE, 1982, by the Institute of Transportation Engineers.

The following directions of travel were assumed on the roadways in this study:

Skyline Drive North-south except at Erskine Road and at Greenwood Lake Turnpike.

Qc.S.8.aw.Q.o.Q\ __Lake_ Turnptfrg North-south except at Sloatsburg Road.

Sloatsburg Road North-south.

Margaret K\nQ Avenue East-west

West Brook Road East-west

SX.aae.lQ.WQ__RQ.Q.Q\ North-south except at Greenwood Lake Turnpike

CONCLUSIONS

It can be concluded that

1, With the "As Zoned" scenario

a. Skyline Drive -will need extensive widening to five lanes in width from Greenwood Lake Turnpike to the south of Site I.

b, Greenwood Lake Turnpike will need to be widened to four lanes in width for its entire length within Ringwood, except possibly between Sloatsburg Road and Stonetown Road$_t$ with wider sections at the major intersections.

c. Margaret King Avenue will need to be widened to five lanes from Greenwood Lake Turnpike to Peters Mine Road and then four lanes to Sloatsburg Road,

d, Sloatsburg Road will need to be widened to four lanes for its entire length with wider sections at some inter sect ions.

2, With the "Full Development" scenario

a, All of the above improvements for the "As Zoned" scenario plus the following:

b, Skyline Drive should be widened to five lanes from Knollwood Drive easterly to Countryside (Site 1) near the water tower. The center lane should be 16 to 20 feet wide with painted channelization, and reserved for left turns into and out of the side streets, in order that left turning traffic from side streets entering Skyline Drive has to contend with only one direction of through traffic at a time.

c. The same roadway treatment as described for Skyline Drive in Item 2.b. above would be needed for Margaret King Avenue from Greenwood Lake Turnpike to Peters Mine Road.

d. Some intersections would need additional improvements beyond those needed in the "As Zoned" scenario.

e. A careful analysis should be made to determine if the roadway improvements needed for either scenario can be constructed, considering the rights-of-way available, slope rights, damages to the abutting properties, and within reasonable costs.

METHOD

This study originally started for one site off of Skyline Drive. As such, the emphasis was placed on the A.M. (morning) Peak Traffic flow liour. While data has been collected in both the A.M. and P.M. peak hours, not all inter sect ions were counted during the P.M. hours.

Traffic counts were conducted at the following locations. The counts were conducted using a hand held telly count board with 16 reg isters. All turning movements were counted.

Skyline Drive at Conkl intown Road
Skyline Drive at Fieldstone Drive
Skyline Drive at Erskine Road
Fieldstone Drive at the Fieldstone Shopping Center Driveway
Greenwood Lake Turnpike at Skyline Drive
Greenwood Lake Turnpike at Sky I anas Road
Greenwood Lake Turnpike at Sloatsburg Road
Greenvjood Lake Turnpike at Stonetown Road
Greenwood Lake Turnpike at Margaret King Avenue
Greenwood Lake Turnpike at West Brook Road
Ringwood Avenue at Skyline Lakes Drive
Ringwood Avenue at Conkl intown Road
West Brook Road at Stonetown Road
Conkl intown R.oad at Canterbury Road
Sloatsburg Road at Carletondcle Road
Sloatsburg Road at Margaret King Avenue
Partial counts at Skyline Drive and Edward Drive
Partial counts at Skyline Drive and James Drive

In addition, machine traffic counts were conducted on Skyline Drive south of Conkl intown Road near the water tower.

The above traffic counts were ad justed to a compos i te form and are shown in the Traffic Distr ibut ion Tableaus for intersect ions in the column labeled EXISTING GRKD CNT (Existing Ground Count) in the Appendix.

The count data was used to estimate the directional travel of the generated site traffic. The best indicator of travel desires would be the existing traffic flows as they leave the area. Care was used not to include the through traffic from the north on Greenwood Lake Turnpike which returned to the north on Sloatsburg Road with no trip end in Ringwood. Some site traffic was considered to remain within Ringwood.

A computerized three-stage traffic distribution tableau was used to manage and present the data. Nine developable sites, 11 cordon (boundary) points, and 25 intersections are included in the Tableau. With this Tableau, the size of the various developments and the percent traveling to any cordon point can be easily changed. The most lengthy part of making a change would be loading the program into the computer. After loading the program, a series of changes in site development, travel factors, and directional factors could be made in a matter of minutes. After changing the data, the program will recalculate all intersection volumes in about five minutes. Therefore, should you desire changes in the site development used in this analysis it can easily be made.

Standard trip generation rates from the Institute of Transportation (ITE) publication TRIE__G£NE&iIlQN, 1975, as updated in 1979 and 1982, was used to determine the volumes of vehicle trips to and from the study sites. The reasonableness of the ITE trip generation rates for the area was verified by manual and machine traffic counts made on Fieldstone Drive. The single family homes off Fieldstone Drive have only one way in and out for everyday traffic. The ITE factors related well to the traffic counts.

The method for determining the Level of Service for en Unsignalized Intersection contained in GLRCLLLAR-Z12., a 276 page publication by the Transportation Research Board, National Academy of Science, January 1980, was used. This method has been placed into a computer program. Note that there is an impedance factor determined by the left turns from the major roadway that reduces the capacity of the left turns and through movements from the side street. This impedance factor is to account for the differences in the gap distribution of the major roadway traffic

^flow caused by a vehicle waiting to turn left. In the case of all of the "JT" type intersections, a three lane conf iguration with a left turn stacking lane is assumed. Since left turning trafffic from the major roadway will not block following through major roadway traffic, the effect of the impedance factor has been reduced by two thirds.

The critical inter sect ions within the study area were analyzed by the Critical Movement Analysis (CMA) for Signal ized Inter sect ions as programmed for an Apple Computer by the University of Florida. This program is for s ignal i zed intersections and allows a series of different intersection geometric and operational features of an inter sect ion to be analyzed for capacity in a moderate amount of time. The CMA method is referred to as a planning method. It approximates the Level of Service that coulc be obtained if the inter sect ions were operated efficiently. It does not give details such as the signal t iming.

Traffic at a traffic signal operates quite differently depending on whether or not left turn movements are protected from the opposing traffic flow. The original Florida parameters were tested at Route 46 and New Road in Parsippany with April 1983 P.M. peak hour traffic counts supplied by the New Jersey Department of Transportat ion. The left turns are protected at the Route 46 - New Road inter sect ion. The traffic flow is at scturation in the P.M. peak hour. Using a peak hour factor of 1.0, the CMA program calculated a Level of Service E at 102% saturat ion. This concurs with the actual conditions observed at the intersection. Note that a peak hour factor of 1.0 reflects constant demand during the hour while lower factors reflect unevenness in the traffic flow.

The existing background traffic was expanded at 3% per year for ten years to 1993 to reflect growth at other sites in Ringwood not included in the study, and traffic growth caused by development of the surrounding areas. This expans ion factor does not affect the volume of traffic generated by the sites included in the study.

Site I. - Block 752 Lot 1, known as Countryside Properties. This site has frontage on the east side of Skyline Drive near the water tower. The site is 66 acres in size with 81% of its area on slopes over 15%. Access is proposed by others for both an ir.tersection with. Skyline Drive (Intersection 1) and by a connection to the existing Cheshire Lane (Intersection 2). The site roadway to Skyline Drive is called Countryside. In the analysis of the "As Zoned" scenar io, 20 single family homes are used. Development of 280 townhouses within this site was used in the analysis of the "Full Development" scenario.

Site 2. - Block 877 Lot 16, also known as Countryside Properties. Site 2 is on the east side of Skyline Drive immediately south of Fieldstone Drive. This site is G3 acres in area with 67% lying on slopes of over 15%. It is proposed to use the 28 acres nearest Skyline Drive for conmercial development . A shopping center with 140,000 gross square feet was assumed in both scenarios. The remaining 34 acres is proposed by others for resident ial development, rental or condominiums, with a total of 400 to 500 units. Four hundred and fifty units were used in the analysis of the "Full Development" scenar io . Thirty-four single family homes were used in the "As Zoned" scenar io. Access was tested to Fieldstone Drive at Intersection 13 in order that one traffic control signal coulc protect traffic exiting onto Skyline Drive (inter sect ion 4) from the new as well as the existing shopping centers in the "Full Development" scenario. In the "As Zoned" scenario access was assumed to be from a site roadway to Skyline Drive (Intersection 5) with no access to Fieldstone Drive. Dctc is given in the "Full Development" scenario for both access directly to Skyline Drive or to Fieldstone Drive.

Site 3. - Block 80 OA Lot 3, off Alto Vista Drive. This site lies to the west of Skyline Drive. It was assumed that access vjould be by an extension of Fielastone Drive to the west and to Alto Vista Drive. Alto Vista Drive was not included in the computer traffic tableau because of size I imitat ion. The percentage of traffic to Fieldstone Drive is reduced to reflect the volume of Site 3 traffic using Also Vistc Drive instead of Intersection 4 in the tableau. A shopping center with 150,000 square feet gross floor area was used in both scenar ios.

Site 4. - Block 100 Lot 16. This site is off the west side of Stonetovm Road south of Magee Road. It is 95 acre>s in size with 19% on slopes of 15% or more. A 20,000 square foot neighborhood shopping area and 95 townhouses on the site were used in the traffic analysis for the "Full Development" scenario. In the "As Zoned" scenar io 83 single family homes were assumed. This site was assumed to have its own roadway to Stonetovm Road. (Intersect ion 11).

Site 5. - Block 201 Lot 31. This site is off the west side of Stonetovm Road north of Magee Road. It is 314 acres in size.with 41% lying on slopes of 15% or greater. Three hundred and f our teen townhouses were used in the traffic analysis for the "Full Development" scenario and 217 townhouses in the "As Zoned" scenario. Access was assumed to be via Magee Road to Stonetown Road (Inter sect ion 12).

Site 6. - Block 601 Lot 12 & 13. This site is off the north side of Margaret King Avenue and is owned by Ringwood Borough. This site is 203 acres in size with 68% on 15% or greater slopes. An access roadway to Margaret King Avenue was assumed (Inter sect ion 18). Thirty acres for industr ial use and 53 two family res ident ial units were assumed for the "Full Development" scenario. Six acres for industr ial use and 53 two family res ident ial units vjere assumed for the "As zoned" scenar io.

Site 7. - Block 508 Lot 2. This site is off the south side of Margaret King Avenue (Intersection 19). This site is 122 acres in area with 21% being on slopes of 15% or greater. A mobile home tract is proposed by others on this site. For the "Full Development" scenario, 732 residential mobile home units (six per acre) were assumed. For the "As Zoned" scenario, industrial uses on 48 acres was assumed.

Site 3. - Block 800 Lot 2. This site has access to Skyline Drive via Knollwood Drive (Intersection 6). Lot 2 is owned by the Borough and contains 45 acres, with 59% on 15% or greater slopes. Municipal offices including a library, a Department of Public Works building, Police Headquarters, and a park-ride lot with 60 spaces were used in the analysis for both scenarios.

Site 9. - Sterling Forest. This site is on the north side of Margaret King Avenue just east of Greenwood Lake Turnpike. Site 9 contains 1300 acres of which 60% is on slopes of 15% or more. For the traffic analysis, the following development was used in the traffic analysis:

U.S.K	"FULL DEVELOPMENT" SCENARIO	"AS ZONED" SCENARIO
Single Family Residence	193 units	453 units
Townhouse	226 units	
Apartment	300 units	
Commercial	100,000 sq. ft.	
Office Lab	250,000 sq. ft.	250,000 SQ. ft.

Two roaways to Margaret King Avenue were assumed. The one labeled Sterling Forest Com. (Intersection 16) is to the west of the roadway labeled Sterling Forest Res. (Intersection 17).

COMPUTER TRAFFIC TABLEAU

A traffic generation-network-distribution tableau was used to combine the facets of a traffic tableau for the study area. The Visicars (1) program for an Apple Computer was used for this purpose. The program develops a three part tableau which overlays into the Standard Visicalc (2) software pogram. A large capacity (192K) is needed for this program as conf igured for this study.

The program is limited to 9 sites with 5 uses on each site, 16 cordon points, and 30 average inter sect ions. In this case, 25 intersections were used to prevent exceeding the capacity of the program.

The first part of the Visicars tableau is a descr i pt ion of the sites, the uses on each site, and the cordon points. When completed and loaded into V is icalc, the sizes of each use and generat ion factors are added. Therefore, the various combinat ion of site uses, sizes, and generat ion factors, are easily changed.

Included in the first part of the tableau when loaded into the Visicalc is the percentage of traffic from each use on each site to/from each cordon point. This percentage is easily changed in the tableau.

The second part of the computer traffic tableau is built by descr ibing each included inter sect ion. Each inter sect ion is named and also given a number followed by a decimal point. The numbers following the decimal point, from 01 through 12, refer to movements. The numbers always begin with a left turn movement, the straight through traffic and then right turns with the following sequencing of approaches: Northbound, southbound, eastbound, westbound. Once completed, no changes may be made to this part of the tableau except by editing. Editing the final tableau is c[1] i f f icul t and time consuming .

(1) V i s icar s is the trade name for the computer traffic tableau deveI oped by Garmen Assoc i ates.

(2) Visicalc is a trademark of Pesonal Software Inc.

Building the third part of the Visicars tableau involves routing traffic along paths through the intersections from each site to each cordon point, and then from each cordon point to each site. Multiple branching of paths is possible clong with the assignment of a percentage. This decision on a percentage for a particular branch of paths is made while building the tableau. Once put in the paths tableau, a pecentage may only be changed by editing the final Visicalc tableau. That editing is a lengthy process*

Once the three parts of the program are completed and loaded into Visicalc, and various combinct ions of site development , generation factors, percentages to/from cordon points are loaded in, the Visicalc program will calculate the volumes of traffic to and from each site as it passes through each inter sect ion. To these site generated volumes the existing volumes, or the existing volumes expanded at an annually compounded percentage rate of your choice for the number of years desired, may be added.

The graphics included with the program allow the presentat ion of traffic volumes at each inter sect ion in a diagramatic fashion. These traffic volume diagrams are included as en Appendix of this report. The intersection numbers correspond to the inter sect ion numbers used for the traffic tableau.

Once the tableau is completed it is used for whatever var iat ions in time period, site development, generat ion factors, traffic distr ibution percents, and background traffic, by editing headings and inserting the desired date. The prepared tableau without site or traffic factors and data is called up into the computer from a master storage disk. The various desired data is keyed in, calculat ions performed, printed, and saved on a different storage disk. This process is repeated in whole or part to get the desired scenar ios for the study. Pr int-outs of the various tcbleaus are included under separate cover.

* The site development in the tableau is from data supplied to me from the Planning Board and their Consul ting Professional Planner. The traffic generation factors are from ZRLE GE.NEBAZLQ.bL, 198 2, by the Institute of Transportation Engineers. The percentages of site traffic to each cordon point was developed from the counts of existing traffic flows. The computer program expands the existing background traffic to a future year at a chosen percent per year rate as part of its calculctions. In this case, 1993 was chosen at an annual growth rate of 3 percent.

When completed, the computer traffic tableau is using the best available data to give the best estimate of future traffic flows through the twenty-five intersections included in the study.

UH2R&ECX1&LJCAPAGITY_MALZ&LS.

Two types of intersection capacity analyses were performed. The first was the unsignal ized intersection method from Circular 212. The second was a signal ized intersection method called CMA for Critical Movement Analysis based on Circular 212. The computer program for the CMA analysis was developed by the Transportation Research Institute of the University of Florida.

The unsignal ized intersection analysis assumes randomness in the traffic flows arriving at the intersection. Today this assumption is valid as there are no traffic signals in the study area. In the future there will be traffic signals which will change the approach characteistics of the traffic on the major roadways. The traffic signal will form queues in the major roadway traffc flows. In most cases the Level of service will be increased by nearby signals.

There are two facets to the Level of service reported by the unsignal ized intersection capacity method. The first is delay to the average vehicle making the movement reported on and the second is the demand for the movement related to the capacity for that movement. You may see a Level of service 4 (D) reported where less than 5% of the capacity is utilized. This tells you that there will be substant ial average delay for each vehicle making that movement although there will not be standing lines of waiting traffic. As the percentage of capacity utilized goes up, congestion would develop and increase.

In the unsignalized intersection analysis, three traffic lanes are considered in the approaches to the inter sect ion. The extra* lane, which for the most part does not exist today, is for left turn stacking lanes. The effect of the impedance factor has been reduced in the calulat ions to reflect the left turn stacking lane's beneficial effect on capacity.

« The Level of service is stated in the results of the unsignal ized intersection analysis in terms of delay. As set up in the program the letter "F" has been substituted for a second letter "E" that uses a different type setting in Circular 212, The delay descr iption is in the following chart:

LEZEL-.QE.-ZKR1LGZ	EXEZQZEQ-XRAZELG-QZLAZ
A	Little or no delay
B	Short traffic delays
C	Average traffic delays
D	Long traffic delays
E	Very long traffic delays
F	Failure - extreme congest ion

The Critical Movement Analysis (CMA) based on Circular 212 as developed for the Apple Computer by the University of Florida was used for signal ized intersections. With this program it is necessary to enter left turns from the stem of a "T" type intersection as straight through traffic for calculations, Left turns in the CMA program only relate to directly opposing through traffic in a different type of check and would not reflect the green signal time needed for the movement. Each imput and calculat ion for an inter sect ion var iat ion takes about five minutes. Therefore, many var iat ions of inter sect ion parameters can be tested in a reasonable amount of time. This CMA method is referred to as a Planning Method, One caution to anyone using this method is to always save data before making calculations, never after, and to always call for a new problem before retrieving data. The year 1993 is used in the CMA capacity analyis.

The following descriptions of level of service has been copied from page 130 of the 1965 dLGUEAZ GAEAGLZY. MA&U.AL- This descr iption of the interpretation of the various levels of service is appropr iate for this study.

At level of service A there are no loaded cycles (ie., the load factor is 0.0) and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation, their only concern being the chance that the light will be red, when they approach.

Level of service B represents stable operation, with a load factor of not over 0.1; an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restr icted within platoons of vehicles. Under typical rural condit ions this frequently will be suitable operct ion for rural design purposes.

In level of service C stable operation continues. Loading is still intermittent, but more frequent, with the load factor ranging from 0.1 to 0.3. Occasionally drivers may have to wait through more than one red signal indication, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not object ionably so In the absence of local condit ions dictating otherwise, this is the level typical ly associated with urban design practice.

Level of service D encompasses a zone of increas ing restriction approaching instability in the limit when the load factor reaches 0.70. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excess ive back-ups.

t *Capacity occurs at level of service E. It represents the most vehicles that any particular intersection approach can accommodate. Although theoretically a load factor of 1.0 would represent capacity, in practice full utilization of every cycle is seldom attained, no matter how great the demand, unless the street is highly friction-free. A load factor range of 0.7 to 1.0 is more realistic. In the absence of a local determination, use of 0.85 is reommended for isolated intersections. For interconnected signals a higher factor may be appropriate, as discussed in Chapter Ten. At capacity there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).*

Level of service F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. No load factor can be established, because utilization of the approach is prevented by outside conditions.

The actual intersection capacity analyses are on the folIowng pages.

CAPACITY ANALYSIS FOR SKYLINE DRIVE & COUNTRYSIDE INTERSECTION 1

This intersection is south of Conkl intown Road near the water tower. It does not exist today. It will be at a poor location for a possible traffic signal because of grades and hor i zontal curvature of the roadway. Therefore, only an unsignal ized intersection capacity analysis was performed.

During the AM. peak hour with the "As Zoned" scenario, the unsignalized intersection capacity analysis shows a Level of service A (1) for left turns into and right turns out of Countryside and a Level o'f service E for left turns out of Countryside using only 3 of the 25 vehicle capacity. This would indicate severe delay for these few vehicles making left turn exits from Site 1 at this intersection. With the "Full Development" scenario the level of service for the left turn exit from Site 1 onto Skyline drops to an F with the demand exceeding the capacity,

During the P.M. peak hour, the analysis shows a Level of service E for both right and left turns from Countryside and left turns into Countryside for the "As Zoned" scenar io, The "Full Development" scenario also shows Level of service E for these movements but note that the available reserve capacity is lower, meaning that there will be greater interact ion among vehicles waiting to make the same movement.

Unsignalized "T" Int *Cap* Calc

Location Skyline Dr. ?< Countryside Intersection 1

Count Data:Zone development of sites included in the study

Date 1993

Day Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	473
A Right	2
B Left	1
B Through	1891
C Left	3
C Right	3

RIGHT TURN FROM C

Conflicting Flows=	474
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	560
Shared Lane-go to L.T.	
No shared Iane-Y=l,N=0	1
Demand(C right)=	3
Available Reserve*	557
Delay ?< L.O.S. Table 3=	1
(A=1,B=2,C=3,D=4,E=5.F=6)	

LEFT"TURN"FROM"i

Conflicting Flows=	475
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	730
Demand(B left)=	1
Capacity used (in */.)=	.1369863
Impedance factor, fig 3=	1
Available reserve^	729
Delay ?< L.O.S. Table 3=	1
(A=1,B=2,C=3,D=4,E=5,F=6)	

LEFT TURN FROM~C

Conflicting Flows=	2366
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	25
Adjustment for Impedance[2]	25
-No Shared Lane,Y=l,N=0	1
Demand=	3
Available Reserve[3]	22
Delay S< L.O.S. Table Z=	5
(A=I,B=2,C=3.D=4,E=5.F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.35
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6 - S A

C

Unsignalized "T" Int Cap Calc

Location	Skyline Dr & Countryside Intersection 1
Count Data:	Full development of sites included in the study
Data	1993
Day	Weekday
AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	506
A Right	10
B Left	4
B Through	2217
C Left	27
C Right	27
RIGHT TURN FROM C	
Conflicting Flows*	511
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop-4, Yld*3)	4
Critical Sap Table 2 T=	6
Capacity, from fig 2*	530
Shared Lane-go to L.T.	
No shared lane-Y*l,N*O	1
Demand(C right)[3]	27
Available Reserve"	503
Delay & L.O.S. Table 3*	1
(A*l,B-2,C«3.D-4.E»5,F»6>	
LEFT TURN FROM B	
Conflicting Flows*	516
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T*	5
Capacity, from fig 2*	695
Demand(B left)*	4
Capacity used (in 5C)*	.5755396
Impedance factor, fig 3*	1
Available reserve*	691
Delay & L.O.S. Table 3*	1
<A=1,B«2,C»3.D-4,E*5,F*6)	
LEFT TURN FROM C	
Conflicting Flows*	2732
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop*4, Yld=3>	4
Critical Gap Table 2 T*	7.5
Capacity, from fxg 2=»	25
Adjustment for Impedance*	25
-No Shared Lane,Y*i,N*0	I
Demand*	27
Available Reserve*	-2
Delay ?< L.O.S. Table 3=	6
<A=*1,B=2,C*3,D*4,E=5,,F=6)	

Table 2A

190	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-5 B

Unsignalised "T" Int *Cap* Calc

Location Skyline *Dr.* Se Countryside Intersection 1

Count Data: Zone development of sites included in the study

Date 1993

Day Weekday

AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	2364
A Right	6
B Left	3
B Through	839
C Left	2
C Right	2
RIGHT TURN FROM C	
Conflicting Flows=	2367
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	40
Shared Lane-go to L.T.	
No shared~lane-Y=l,N=0	1
Demand(C right)=	2
Available Reserve[3]	38
Delay & L.O.S. Table 3=	5
(A=1,B=2,C=3.D=4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows=	2370
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	50
Demand(B left)=	3
Capacity used (in 7.)=	6
Impedance factor, fig 3=	.97
Available reserves	47
Delay ?< L.O.S. Table 3=	5
<A=1,B=2,C=3,D=4,E=5,F=6>	
LEFT TURN FROM C	
Conflicting Flows=	3209
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control <stop=4, Yld=3>	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	25
Adjustment for Impedances	24.75025
-No Shared Lane,Y=t.N=0	1
Demand[3]	2
Available Reserve	22.75025
Delay ?< L.O.S. Table Z=	5
(A=l,B=2.C-3,D=4.E=5.F=6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Fiqure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.Z-Z:-
SO	'.27
85	•*.
90	.14
95	.08
100	0

6-5 C

Unsignalized "T" Int Cap Calc

Location Skyline *Dr.* & Countryside Intersection 1

Count Data: Full development of sites included in the study

Date	1993
Day	Weekday
AM or PM Analysis?	PM
Hourly Demand Volumesz	
A Through	2655
A Right	51
B Left	21
B Through	985
C Left	12
C Right	14
RIGHT TURN FROM C	
Conflicting Flows'*	2680.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop«4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2-	40
Shared Lane-go to L.T.	
No shared lane-Y=i,N=0	1
Demand(C right)»	14
Available Reserve*	26
Delay & L.O.S. Table 3=»	5
(A-1,B-2,C-3,D-4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows*	2706
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, -from fig 2=	50
Demand(B left)=	21
Capacity used (in '/.)=	42
Impedance factor, fig 3=	.69
Available reserve**	29
Delav & L.O.S. Table Z=	5
<A»l,B«2.C»3,D»4,E»5,F*6>	
LEFT TURN FROM C	
Conflicting Flows™	3686.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4. Yld=3)	4
Critical Gap Table 2 T»	7.5
Capacity, from fig 2=	25
Adjustment for Impedance[8]	22.41925
-No Shared Lane.Y=l.N»0	1
Demand=	12
Available Reserve-	10.41925
Delav & L.O.S. Table 3=	5
(A=l,B»2.C»3,D»4,E=5.F»6)	

Table 2A

130	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
no	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	9
360	7
440	9
480	a
660	0
980	10

Figure 3

0	1
5	.97
10	.93
15	.39
20	.85
25	.31
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.32
90	.*27
35	.2
90	.14
95	.08
100	0

6 - 5 J?

^CAPACITY ANALYSIS FOR SKYLINE DRIVE & CONKLINTOWN ROAD - ^INTERSECTION 2

The unsignalized intersection capacity analysis for the current traffic volumes shows a Level of service E for right turns and D for left turns from Conkl intown Road in the A.M. peak hour. The capacity for the right turn from Conkl intown Road nearly equals the capacity for that movement. Adding traffic from the sites in this study would have the effect of having the demand for the movements from Conkl intown Road both exceed the avaiI able capacity, necessitating further roadway widening and traffic signals.

The CMA analysis shows that with future development of the study sites the P.M. peak hour will be the more critical . In the 1993 "Full Development" scenario, a Level of service E with a saturation rate of 90% is indicated by the CMA analysis with Skyline Drive widened to 5 lanes and Conkl intown Road to 4 lanes. Note that the 194 vehicles turning left from Conkl intown Road are placed in the computer analys i s as through traffic. With the same intersection geometry, a Level of service D at a saturation rate of 80% would result in 1993 from development of the study sites "As Zoned". In the 1993 A.M. peak hour, this geometry would give a sat is factory Level of service C at a saturation rate of 69% with the "Full Development" scenar io.

The next test was to add another through lane for northbound traffic on Skyline Drive. Skyline Drive would then have 3 lanes for through northbound traffic, one lane for northbound left turns and 2 lanes for southbound traffic. As before, Conkl intown Road would have 2 lanes for left turns and one lane for right turns entering the intersection and one lane exiting the intersection. With this geometry the CMA indicates a satisfactory Level of service C at a saturation rate of 66% for the "Full Development" scenario and a Level of servie B at a saturation rate of 59% for the "As Zoned" scencr io.

From the above it can be seen that the "Full Development" scenario would be one Level of service below the "As Zoned" scenario. It should be noted that the added lane would have to be of a signif icant length to add to the capacity as indicated by the CMA analysis. A full width lane 800 feet or more long before and after the inter sect ion would be desirable.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE OR ft CONKLINTOUN RO

DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE E
SATURATION 30
CRITICAL N/S VOL 1434
CRITICAL E/W VOL 118
CRITICAL SUM 1552

****

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	13.0	RT.	13.0	R..	13.0	...	....
2	T..	1£.0	T..	12.0	T..	12.0	...	....
3	L..	12.0	...	....	T..	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	327	0	**0**	**0**
THRU	2342	896	**194**	**0**
RIGHT	**0**	237	**107**	**0**

	TRUCKS <%>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	**5**	0	.3
SOUTHBOUND	5	0	***.3***
EASTBOUND	5	0	***.9***
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 3 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	**1434**	672	118	0
LEFT	**351**	0	**0**	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	327	0	0	0
ADJUSTED VOL	351	0	0	0
CAPACITY	0	0	U S	0
MOVEMENT	N/A	N/O	OK	OK

6-6A

JOHN E- CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & CONKLINTOWN RD

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE D
SATURATION 80
CRITICAL N/S VOL 1262
CRITICAL E/W VOL 109
CRITICAL SUM 1371

LANE SEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	13.0	RT.	13.0	R..	13.0	...	....
2	T..	12.3	T..	1£.0	T..	12.0	...	....
3	L..	12.0	...	....	T..	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	305	0	0	0
THRU	2061	751	178	0
RIGHT	0	229	87	0

	TRUCKS <*)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	0	0	1

PHASING : N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W . i. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1262	579	109	0
LEFT	324	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	305	0	0	0
ADJUSTED VOL	324	0	0	0
CAPACITY	0	0	109	0
MOVEMENT	N/A	N/A	OK	OK

6-6B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & CONKLINTOWN RD

DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 69
CRITICAL N/S VOL 1134
CRITICAL E/W VOL 50
CRITICAL SUM 1184

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	13.0	RT.	13.0	R..	13.0	...	....
2	T..	12.0	T..	12.0	T..	12.0	...	....
3	L..	12.0	...	....	T..	12.0	...	....
4	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	32	0	0	0
THRU	480	1769	33	0
RIGHT	0	70	452	Z

	TRUCKS <%>	LOCAL BUSES (#/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	S	0	.9
WESTBOUND	0	0	1

PHASING **N/S** :4. **BOTH TURNS** PROTECTED (WITH OVERLAP)
E/W il. **NEITHER TURN** PROTECTED
PEDESTRIAN ACTIVITY i I. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : **90** SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	293	1120	50	3
LEFT	14	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	S2	0	0	0
ADJUSTED VOL	14	0	0	0
CAPACITY	0	0	50	0
MOVEMENT	N/A	N/A	OK	OK

6-<^ <2

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & CONKLINTOWN RD

DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 66
CRITICAL N/S VOL 1023
CRITICAL E/W VOL 118
CRITICAL SUM 1141

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	13.0	RT.	13.0	R. .	13.0	...	....
2	T. .	12.0	T. .	12.0	T. .	12.0	...	....
3	T. .	12.0	...	....	T. .	12.0	...	....
4	L. .	12.0	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
©	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	327	0	0	0
THRU	2342	896	194	0
RIGHT	0	237	107	0

	TRUCKS <*>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU*-RIGHT	1001	672	118	0
LEFT	351	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	327	0	0	0
ADJUSTED VOL	351	0	0	2
CAPACITY	0	0	118	0
MOVEMENT	N/A	N/A	OK	OK

4

6-6D

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & CONKLINTOWN RO

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 39
CRITICAL N/S VOL 903
CRITICAL E/W VOL 109
CRITICAL SUM 1012

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	13.0	RT.	13.0	R..	13.0	...	....
2	T..	12.0	T..	12.0	T..	12.0	...	....
3	T..	12.0	...	....	T..	12.0	...	....
4	L..	12.0	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	305	0	0	0
THRU	2061	731	178	0
RIGHT	0	229	87	0

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.3
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN.PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	881	579	109	0
LEFT	324	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	305	0	0	0
ADJUSTED VOL	324	0	13	13
CAPACITY	0	0	109	0
MOVEMENT	N/A	N/A	OK	OK

6-6E

Unsignalised "T" Int Cap Calc

Location Skyline Dr & Conklintown Rd Intersection 2

Count Data: Existing Ground Count

Date 1983

Day Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	900
A Right	25
B Le-ft	25
B Through	100
C Le-ft	35
C Right	300
RIGHT TURN FROM C	
Conflicting Flows=	912.5
Major road lanes <2 or 4)	2
Major road spd (30 or 55)	30
Control (stop«4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	305
Shared Lane-go to L.T.	
No shared lane-Y=77N=O	1
Demand(C right)=	300
Available Reserve[3]	5
Delay *it* L.O.S. *Table* 3=	5
<A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM~i	
Conflicting Flows=	925
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	440
Demand (B left)-	25
Capacity used (in '/.)=	5.6S1818
Impedance factor, fig 3=	.97
Available reserve-	415
Delay & L.O.S. Table 3=	1
(A=1,B=2.C=3.D=4,E=5,F=6)	
LEFT TURN FROM C	
Conflicting Flows-	1037.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 *T*-	7.5
Capacity, from fig 2=	150
Adjustment for Impedance-	148.5015
-No Shared Lane,Y=l.N=0	1
Demand[55]	35
Available Reserve-	113.5015
Delay ?< L.O.S. Table 3=	4
(A=1,B=2,C=3.D=4,E=5,F=6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
SSO	7

Table 3

-300	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
440	9
660	9
880	10

Figure

0	1
5	.^T
10	.93
15	.S?
20	.35
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
SO	.27
85	,2
90	. 14
95	.08
100	0

6-6F

Unsignalized "T" Int Cap Calc
Location Skyline Dr & Conklintown Rd Intersection 2

Count Data:	Existing Ground Count
Date	1983
Day	Weekday
AM~~or~PM"*Analysis?	PM
Hourly Demand Volumes:	
A Through	200
A Right	70
B Left	200
B Through	1250
C Left	40
C Right	50
RIGHT TURN FROM C	
Conflicting Flows*	235
Major road lanes (2 or 4)	2
Major road sod (30 or 55)	30
Control (»top«4, Yld»3)	4
Critical Gap Table 2 T=»	6
Caoacity. from fig 2[s]	760
Shared Lane—go to L.T.	
~No shared Iane-Y*I7N=0	1
Demand(C right)[3]	50
Available Reserve*	710
Delay & L.O.S. Table 3« (A-l.B-2,C*3,D»4.E-5.F«6>	1
LEFT~TURN"FROM~B	
Conflicting Flows"	270
Major road lanes<2 or 4)	2
Major road sod(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	920
Demand(B left)*	200
Capacity used (in *'.)*	21.73913
Imoedance factor, fig 3»	.85
Available reserve*	720
Delay & L.O.S. Table 3=» (A»1.B-2,C»3,D»4,E=5.F*6)	1
LEFT TURN FROM C	
Conflicting Flows*	1685
Major road lanes(2 or 4)	2
Major road spd<30 or 55)	30
Control (stop»4. Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	50
Adjustment for Impedance*	47.5025
-No Shared Lane.Y=l,N=0	1
Demand[3]	40
Available Reserve^	7.5025
Delay ?< L.O.S. Table 3= (A=1.B=2.C=3.D=4.E=5.F=6)	5

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.91
10	.93
15	.89
20	.35
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

6-6 G

Unsignalised "T" Int Cap Calc

Location Skyline Dr & Conklintown Rd Intersection 2

Count Data: Zone development of sites included in the study

Date 1983

Day Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	1141
A Right	42
B Left	36
B Through	397
C Left	68
C Right	338
RIGHT TURN FROM C	
Conflicting Flows=	1162
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop'4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	200
Shared Lane-go to L.T.	
No"shared~lane-Y=l7N=0	1
Demand(C right)=	338
Available Reserve*	-138
Delay *it* L.O.S. Table 3=	6
(A=1,B=2,C=3,D=»4,E=5,F=6)	
LEFT~TURN~FROM~B	
Conflicting Flows-	1183
Major road lanes(2 *or* 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig *2-*	320
Demand(B left)=	36
Capacity used (in !'.)=	11.25
Impedance factor, fig 3=	.93
Available reserve*	284
Delay ?< L.O.S. Table 3=	3
<A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT~fURN~FROM~C	
Conflicting Flows*	1595
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4. Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	50
Adjustment for Impedance*[1]	48.8345
-No Shared Lane, Y=»l, N=0	1
Demand*	68
Available Reserve-	-19.1655
Delay ?< L.Q.S. Table 3=	6
(A=l,B-2.C=3,D=4.E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	?
480	8
660	9
380	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-64

Unsignalized "T" Int Cap Calc

Location Skyline Dr S< Conklintown Rd Intersection 2

Count"Data!Zone development of sites included in the study

Oat* 1983

Day Weekday

AM or PM Analysis?	PM
Hourly Demand Volumesi	
A Through	682
A Right	205
B Left	236
B Through	1631
C Left	164
C Right	70
RIGHT TURN FROM C	
Conflicting Flows*	784.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop-4. Yld*3)	4
Critical Gap Tabla 2 T=	6
Capacity, from -fig 2s	380
Shared Lane-go to L.T.	
No"shared~Tane-Y»77N*O	1
Demand(C right)3	70
Available Reserve*	310
Delay & L.O.S. Table 3* (A-l,B-2,C*3,D*4,E«5,F»6)	2
LEFT TURN FROM B	
Conflicting Flows*	887
Major road lanes(2 or 4)	2
Major road spd(30 or 35)	30
Critical Gap Table 2 T»	5
Capacity, from fig 2=*	460
Demand(8 left)*	236
Capacity used (in '/.)=	51.,30435
Impedance factor, fig 3*	.6
Available reserve*	224
Delay Si L.O.S. Table 3* (A*i.B-2,C-3.D»4,E*5,F«6)	3
LEFT TURN FROM C	
Conflicting Flows*	2651.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop*4. Yld»3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2*	25
Adjustment for Impedance*	21.67
-No Shared Lane,Y*l.N*0	1
Demand*	164
Available Reserve*	-142.33
Delay & L.O.S. Table 3* (A*l,B«2.C*3,D*4.E«5,F»6)	6

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	a
660	?
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.32
80	.27
85	.2
90	.14
95	.08
100	0

Unsignalised "T" Int Cap Calc
Location Skyline Dr & Conklintown Rd Intersection 2
Count Data: Full development of sites included in the study
Date 1983
Day Weekday

AM or PM~Analysis?	AM
Hourly Demand Volumes:	
A Through	1459
A Right	61
B Left	44
B Through	446
C Left	71
C Right	349
RIGHT TURN FROM C	
Conflicting Flows-	1489.5
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control <stop=4, Yld=3>	4
Critical Gap Table 2 T=	6
Capacity, -from fig 2=	130
Shared Lane-go to L.T.	
No shared lane-Y=l,N=0	1
Demand(C right)=	349
Available Reserve-	-219
Delay & L.O.S. Table 3-	6
(A=1.B=2.C=3,D=4,E=5,F=6)	
LiFT~TURN~FROM~i	
Conflicting Flows=	1520
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	150
Demand(B left)=	44
Capacity used (in'/.)-	29.33333
Impedance factor, fig 3=	.81
Available reserve*	106
Delay ?< L.O.S. Table 3=	4
<A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM C	
Conflicting Flows=	1979.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4, Yld«3>	4
Critical Gap Table 2 T=	8
Capacity, from fig 2=	20
Adjustment for Impedance-	18.7346
-No Shared Lane,Y=l,N=0	1
Demand[5]*	71
Available Reserve=	-52.2654
Delay !< L.O.S. Table 3=»	6
(A=i,B=2.C=3,D=4,E=5,F«6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
4S0	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-6

Unsignalized "T" Int Cap Calc

Location Skylin< Dr & Conklintown Rd Intersection 2

CountDataTful1 development of sites included in the study

Data	1983
Day	Weekday
AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	827
A Right	213
B Left	258
B Through	1912
C La-ft	180
C Right	89
RIGHT TURN FROM C	
Conflicting Flows*	933.5
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control (stop-4. Yld*3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2»	290
Shared Lane-go to L.T.	
No shared 1ane-Y-i.N-0	1
Demand<C right)=*	89
Available Reserve*	201
Delay & L.O.S. Table 3* <A»l,B*2.C-3,D»4,E-5,F-6)	3
LEFT TURN FROM B	
Conflicting Flow**	1040
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical Gap Table 2 T*	5.5
Capacity* from fig 2*	310
Demand(B left)*	258
Capacity used (in X)*	83.22581
Impedance factor, fig 3=	.27
Available reserve*	52
Delay & L.O.S. Table 3* <A»l,B-2,C*3,D*4,E-5.F«6)	5
LEFT TURN FROM C	
Conflicting Flows*	3103.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop»4, Yld*3)	4
Critical Gap Table 2 T»	8
Capacity, from fig 2*	20
Adjustment for Impedance*	15.1382
-No Shared Lane.Y»l,N»0	1
Demand*	180
Available Reserve-	-164.862
Delay & L.O.S. Table Z=* <A*1,B«2.C-3,D»4,E»5,F»6)	6

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	yr
300	2
400	1
10000	0

Table 2B

60	5
no	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
ZZO	8
36.0	;7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.39
20	.85
25	.81
ZO	.77
-e;	.;0_
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
7 B	.33
SO	.27
35	.2
"0	.14
95	.08
100	0

6-6 K

CAPACITY ANALYSIS FOR SKYLINE DRIVE &. CHESHIRE LANE - INTERSECTION 3

This currently existing intersection is a short distance north of Conklintown Road. It is proposed by others that Site 1 have part of their access by this intersection. Because of this intersection's location with respect to Conklintown Road, a traffic signal capacity analysis was not done.

During the A.M. peak hour, the unsignal ized intersection analysis for the "As Zoned" scenario shows a Level of service A for vehicles making right turns out of and left turns into Cheshire Lane, and a Level of service E for vehicles making left turns from Cheshire Lane. The left turns from Cheshire Lane onto Skyline Drive use 17 of the 25 vehicle available capacity indicat ing inter act ion between vehicles waiting to make that movement. With the "Full Development" scenario during the A.M. peak hour, the Level of service for the left turn from Cheshire Lane falls to an F with the demand (44) exceeding the capacity (20) by 24 vehicles, indicating extremely long delays.

During the P.M. peak hour, the unsignalized intersection capacity analysis shows a Level of service E for both left and right turns out of Cheshire Lane and for left turns into Cheshire Lane for the "As Zoned" scenario. In the "Full Development" scenario the Level of service for left turns from Cheschire Lane fails to an F with the capacity exceeded.

Unsignalized "T" Int Cap Calc
Location Skyline Dr & Cheshire La. Intersection 3
Count Data*Zone development of sites included in the study

Data	1993
Day	Weekday
AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	504
A Right	7
B Left	8
B Through	1484
C Left	17
C Right	15
RI6HT TURN FROM C	
Conflicting Flows-	507.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop-4, Yld»3)	4
Critical Sap Table 2 T«	6
Capacity, from fig 2-	530
Shared Lane-go to L. T.	
No shared lane-Y-l,N«0	1
Demand(C right)-	15
Available Reserve-	515
Delay & L.O.S. Table 3-	1
(A-l,B-2,C»Z,D-4,£-5,F-6)	
LEFT TURNFROMI	
Conflicting Flows*	511
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T»	5
Capacity, from fig 2-	695
Demand(B left)"	8
Capacity used (in /£)•	1.151079
Impedance factor, fig 3*	1
Available reserve-	687
Delay it L.O.S. Table 3*	1
(A»l,B«2,C«3,D«4,E»5,F*6)	
LEFT TURN FROM C	
Conflicting Flows-	1999.5
Major road lanes<2 or 4)	4
Major road spd(30 or 55)	30
Control (stop»4, Yld»3)	4
Critical Gap Table 2 T»	7.5
Capacity, from fig 2*	25
Adjustment for Impedance-	25
-No Shared Lane,Y=l.N»0	1
Demand[9]	17
Available Reserve-	8
Delay ?< L.O.S. Table 3=	5
(A=l, 8-2, C=Z, D-4.E-5,F-6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	y.
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	,55
60	.5
65	.45
70	.39
75	.33
80	.*27
85	, 2
90	. 14
95	.08
100	0

6 - -7 A

Unsignalised "T" Int Cap Calc
Location Skyline Dr ?< Cheshire La. Intersection 3
Count Data:Full development of sites included in the study
Date 1993
Day Weekday

AM or PM AnaFysFs?	AM
Hourly Demand Volumes:	
A Through	556
A Right	8
B Left	11
B Through	1795
C Left	44
C Right	33
RIGHT TURN FROM C	
Conflicting Flows=	560
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control <stop=»4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	500
Shared Lane-go to L.T.	
~No~shared~lane-Y~T7N=0	1
Demand(C right)=	33
Available Reserve*	467
Delay & L.O.S. Table 3=	1
(A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM i	
Conflicting Flows=	564
Major road lanes(2 or 4)	4
Major road spd(30 *or* 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	575
Demand(B left)=	11
Capacity used (in '/.)=	1.913043
Impedance factor, fig 3=	1
Available reserve*	564
Delay ?< L.O.S. Table 3=	1
<A=1,B=2,C=3,D=4,E=5,F=6>	
LEFT~TURN"FROM C	
Conflicting Flows=	2366
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	8
CaQacity, from fig 2=	20
Adjustment for Impedance=	20
-No Shared Lane,Y=l.N=O	1
Demand=	44
Available Reserve=	-24
Delav !< L.O.S. Table Z=	6
(A=1.B=2.C=3,D=4.E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	?
880	10

Figure -

0	1
5	.97
10	.93
15	.89
20	**.85**
25	.81
30	.77
35	.72
40	.*69
45	.64
50	.6
c ^ wtwJ	erer
60	.5
65	.45
70	.39
75	***.Z-Z***
80	**.27**
95	**.2**
90	.14
95	.08
10O	0

6-7 B

Unsignalized "T" Int Cap Calc
Location Skyline Dr *it* Cheshire La. Intersection 3
Count Data;Zone development of sites included in the study

Date	1993
Day	Weekday
AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	2191
A Right	21
B Left	17
B Through	972
C Le-ft	9
C Right	8
RIGHT TURN FROM C	
Conflicting Flows-	2201.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop»4. Yld»3>	4
Critical Gap Table 2 T-	6
Capacity, from fig 2-	40
Shared Lane-go to L.T.	
No shared lane-Y=1.N=0	1
Demand (C right)-	8
Available Reserves	32
Delay & L.O.S. Table 3=	5
(A-i,B-2,C-3.D-4,E-5.F-6)	
LiFT~TURN~FROM~i	
Conflicting Flows-	2212
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T»	5
Capacity, from fig 2=	50
Demand(B left)-	17
Capacity used (in %)=»	34
Impedance factor, fig 3**	.77
Available reserve-	33
Delay % L.O.S. Table 3*	5
'.A«l.B-2,C-3,D-4,E-5,F-6)	
LEFT~TURN"*FROM~'C	
Conflicting Flows-	3190.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop»4. Yld-3)	4
Critical Gap Table 2 T=	7.5
Capacity, from -fig 2-	25
Adjustment for Impedance-	23.08525
-No Shared Lane.Y-l.N-0	1
Demand-	9
Available Reserve-	14.08525
Delay ?< L.O.S. Table 3-	5
(A-l,B-2,C-3,D-4,E-5,F-6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table

-800	6
[illegible]	5
100	4
200	**3**
300	**2**
400	**1**
10000	0

Table 2B

60	**5**
110	**5.5**
120	**5.5**
220	**6**

Table 2C

180	6.5
240	**7.5**
330	8
360	7
440	9
480	3
660	0
880	10

Figure

0	**1**
5	.97
10	.93
15	.89
20	**.85**
25	.81
30	**.77**
35	.72
40	.69
45	.64
50	**.6**
55	**.55**
60	**.5**
65	.45
70	.39
75	.33
80	**.27**
85	**.2**
90	**.14**
95	.08
100	0

6 - 7" C

Unsignalized "T" Int Cap Calc

Location Skyline Dr & Cheshire La. Intersection 3

Count Data: Full development of sites included in the study

Date 1993

Day Weekday

AM~or~FM~AnaTysi"s? PM

Hourly Demand Volumes:

A Through	2485
A Right	24
B Left	42
B Through	1112
C Left	20
C Right	17

RIGHT TURN FROM C

Conflicting Flows=	2497
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 T=»	6
Capacity, from fig 2=	40
Shared Lane-go to L.T.	
No""shared~Tane-Y=l7N=0	1
Demand(C right)=	17
Available Reserve*	23
Delay & L.O.S. Table 3=	5
(A=1,B=2,C=3,D=4,E=5,F=6)	

LEFT TURN FROM B

Conflicting Flows=»	2509
Major road lanes(2 or 4)	4
Maior road sod (30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	45
Demand(B left)=	42
Capacity used (in "/.)=	*9Z.ZZZZZ*
Impedance factor, fig 3=	.14
Available reserve*	3
Delay ?< L.O.S. Table 3=	5
(A=t,B=2,C=3,D=4,E=5,F=6)	

LEFT"TURN FROM~C

Conflicting Flows=	3651
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4. Yld=3)	4
Critical Gap*Table 2 T=	8
Capacity, from fig 2=	20
Adjustment for Impedance[3]	14.2724
-No Shared Lane.Y=l.N=0	1
Demand=	20
Available Reserve[8]	-5.7276
Delay ?< L.O.S. Table 3=	6
(A=l,B=2.C=Z,D=4,E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
HO	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880 "	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-7D

CAPACITY ANALYSIS FOR SKYLINE DRIVE & FIELDSTONE DRIVE - INTERSECTION 4

Intersection 4 is one of the two right angle four approach intersections in the study, and the only one existing today. The basic analysis assumes that Site 2 will have its own access road to Skyline Drive at Intersection 5. A CMA analysis was also calculated assuming Site 2 having its access to Fieldstone Drive at Intersection 13 instead of at Intersection 5. The P.M. peak hour will be the critical peak hour because three major shopping areas will use Intersection 4 as part of their access system. Therefore, the P.M. peak hour is the only time period tested.

The first test with CMA was for an intersection with Skyline Drive 5 lanes (62 feet) wide and Fieldstone Drive also 5 lanes wide. In the "Full Development" scenario the CMA analysis indicates a poor Level of service D at a saturation rate of 82%. The CMA indicates a Level of service C at saturation rate of 75% for the "As Zoned" scenario with the same geometry.

The second test was to add a lane for northbound traffic resulting in Skyline Drive being 6 lanes (74 feet) wide. Then the CMA analysis indicates a Level of service C at a saturation rate of 76% for the "Full Development" scenario. With this geometry the "As Zoned" scenario also has a Level of service C but at a saturation rate of 69%. Note that Level of service C ranges from a saturation rate of 66% to 79%.

The third test was to add a lane for southbound Skyline Drive to make the intersection symmetrical. Then Skyline Drive would be 7 lanes (86 feet) wide. The CMA indicates a Level of service B at a saturation rate of 65% for the "Full Development" scenario, and also a Level of service B but at 57% saturation for the "As Zoned" scenario. Note that Level of service B ranges from a saturation rate of 55% to 65%.

The fourth test was to eliminate Intersection 5 from the tableau, assuming access to Site 2 to be via Intersection 13 on Fieldstone Drive. This changes the volumes of traffic for the various movements at Intersection 4. The test was only for the "Full Development" scenario with Skyline Drive 7 lanes (86 feet) wide. The CMA anlaysis indicates a Level of service E at a saturation level of 105%. Therefore, it can be seen that if Site 2 is to be developed as in the "Full Development" scenario, having its only access to Fieldstone Drive would not be successful from a traffic standpoint.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & FIELDSTONE DR (INT#A)W»5
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION SS
CRITICAL N/S VOL 1120
CRITICAL E/W VOL 2B7
CRITICAL SUM 1487

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	12.»a	RT.	13.0	RT.	13.0	RT.	13.0
2	T..	12.0	T..	12.0	L..	12.0	L..	12.0
3	L..	12.0	L..	12.0	L..	12.0	L..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
&	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	339	130
THRU	1759	1044	22	31
RIGHT	77	251	198	59

	TRUCKS (S>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1117	770	230	33
LEFT	191	-3	192	57

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	333	130
ADJUSTED VOL	191	3	366	110
CAPACITY	0	0	0	0
MOVEMENT	N/A	N/A	N/A	N/A

6~3 A

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & FIELDSTONE DR (INT#4)W#5

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 75
CRITICAL N/S VOL 965
CRITICAL E/W VOL 274
CRITICAL SUM 1239

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	RT.	13.0	RT.	13.0
2	T..	12.0	T. .	12.0	L..	12.0	L..	12.0
3	L..	12.0	L. .	12.0	L..	12.0	L..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	323	121
THRU	1507	876	22	31
RIGHT	76	249	189	59

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	962	667	221	93
LEFT	191	3	181	51

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	323	121
ADJUSTED VOL	191	3	346	99
CAPACITY	0	0	0	0
MOVEMENT	N/A	N/A	N/A	N/A

6-8 B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE OR * FIELOSTONE DR <INT#4)W#5
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 76
CRITICAL N/S VOL 961
CRITICAL E/W VOL 287
CRITICAL SUM 1248

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	RT. 13.0	RT. 13.0	RT. 13.0	RT. 13.0
2	T.. 12.0	T.. 12.0	L.. 12.0	L.. 12.0
3	T.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0
4	L.. 12.0	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	333	130
THRU	1739	1044	22	31
RIGHT	77	231	138	59

	TRUCKS <%>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	m9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	779	770	£30	93
LEFT	191	3	132	57

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	339	130
ADJUSTED VOL	191	3	366	110
CAPACITY	0	0	0	0
MOVEMENT	N/A	N/A	N/A	N/A

6-£>r

C

JOHN £. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & FIELDSTONE DR (INT#4)W#5
DATE PM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 69
CRITICAL N/S VOL 858
CRITICAL E/W VOL 274
CRITICAL SUM 1132

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	RT.	13.13	RT.	13.0
2	T..	12.0	T..	12.0	L..	12.3	L..	12.0
3	T..	12.0	L..	12.0	L..	12.3	L..	12.0
4	1	12.0	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	323	121
THRU	1507	876	22	31
RIGHT	76	249	189	59

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	670	667	221	33
LEFT	191	3	181	51

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	323	12*
ADJUSTED VOL	191	3	346	39
CAPACITY	0	0 -	0	0
MOVEMENT	N/A	N/A	N/A	N/A

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR * FIELDSTONE DR <INT#4)W#3
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE B
SATURATION 65
CRITICAL N/S VOL 782
CRITICAL E/W VOL 287
CRITICAL SUM 1069

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	RT.	13.0	RT.	13.0
2	T..	12.0	T..	12.0	L..	12.a	L..	12.0
3	T..	12.0	T..	12.0	L..	12.0	L.-	12.3
4	L..	12.0	L..	12.0	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	339	1313
THRU	17S9	1044	22	31
RIGHT	77	251	198	59

	TRUCKS (X)	LOCAL BUSES <*/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S s4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : i. 0-99 (#PE:DS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	779	534	230	93
LEFT	191	3	192	57

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	339	130
ADJUSTED VOL	191	3	366	110
CAPACITY	0	0	0	
MOVEMENT	N/A	N/A	N/A	N/A

6-8E

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & FIELDSTONE DR <INT#4)W#5
DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 57
CRITICAL N/S VOL S73
CRITICAL E/W VOL 274
CRITICAL SUM 947

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	RT.	13.0	RT.	13.0
2	T..	12.0	T..	12.0	L..	12.0	L..	12.0
3	T..	12.0	T..	12.0	L..	12.0	L..	12.0
4	L..	12.0	L..	12.0	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	196	43	323	121
THRU	1507	S76	22	31
RIGHT	76	249	189	59

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	670	461	221	93
LEFT	191	3	iai	51

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	196	43	323	121
ADJUSTED VOL	191	3	346	99
CAPACITY	0	0	0	0
MOVEMENT	N/A	N/A	N/A	N/A

6-8 F

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DRIVE4FIELDST0NE WITHOUT INT#5
DOTE 1992 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE E
SATURATION 105
CRITICAL N/S VOL 1116
CRITICAL E/W VOL 609
CRITICAL SUM 1725

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
I	RT.	12.0	RT.	12.0	RT.	13.0	RT.	13.13
2	T. .	12.0	T. .	12.0	L. .	12.0	L. .	12.3
3	T..	12.0	T. .	12.0	L. .	12.0	L. .	12.3
4	L..	12.0	L. .	12. 0	. . . . .		...	....
5	. . . . .		...	....	...	.....	. . .	....
W	...	....	. . «	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	193	361	339	301
THRU	1453	726	28	34
RIGHT	£92	251	191	364

	TRUCKS <X)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	3	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	723	398	229	417
LEFT	187	393	192	167

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	193	361	339	301
ADJUSTED VOL	187	393	366	319
CAPACITY	0	0	0	0
MOVEMENT	N/A	N/A	N/A	N/A

£-8 &

CAPACITY ANALYSIS FOR SKYLINE DRIVE & SITE 2 DRIVEWAY - INTERSECTION 5.

Intersection 5 does not currently exist, A quick perusal of the traffic data shows that when developed the intersect ion volumes will far exceed those that can sucessfully be handled by STOP sign control. The P.M. peak hour will be the critical peak hour .

The CMA analysis indicates . a Level of service D with a saturat ion rate of 80% with 6 lanes in Skyline Drive and 2 lanes available for left turns from Site 2 during the P.M. peak hour with the "Full Development" scenario. The six lanes in Skyline Drive would be divided evenly with 3 lanes for southbound traffic and 3 lanes for northbound traffic. With the same geometry the CMA yields a Level of service B at a saturat ion rate of 65% for the "As Zoned" scenar io.

Constructing Skyline Drive to a six lane vjidth with a cartway 72 feet wide plus shoulders and a graded utility strip would be difficult because of the ruggedness of the terrain. It is doubtful that a greater roadway width in Skyline Drive could be practically constructed to achieve a better level of service. Therefore, if the "Full Development" scenario is allowed, more complex solutions such as an addit ional access point to Fieldstone Drive or an English style intersection, using a large access width and interchange area within the site should be invest igated.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & SITE 2 DR <INT#3>
DATE 1393 PM PEAK FULL DEVELOPMENT

****

LEVEL OF SERVICE D
SATURATION 80
CRITICAL N/S VOL 1168
CRITICAL E/W VOL 206
CRITICAL SUM 1374

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	T..	13.0	...	....	RT.	12.0
2	T..	12.0	T..	12.0	...	....	T..	12.0
3	T..	12.0	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	332	0	0
THRU	1721	1037	0	177
RIGHT	216	0	0	311

	TRUCKS <%>	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	3	0	.3

PHASING N/S i4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY i 1. 0-99 <#PEDS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	811	635	0	£06
LEFT	0	357	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	332	0	0
ADJUSTED VOL	0	357	0	0
CAPACITY	0	0	0	206
MOVEMENT	N/A	N/A	OK	OK

G-10 A

C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & SITE 2 DR (INT#5)
DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 65
CRITICAL N/S VOL 965
CRITICAL E/W VOL 156
CRITICAL SUM 1121

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	T. .	13.0	...	....	RT.	13.0
2	T..	12.0	T. .	12.13	...	....	T. .	12.0
3	T..	12.0	L. .	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	266	0	0
THRU	1505	919	0	134
RIGHT	130	0	0	269

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	689	562	0	156
LEFT	0	276	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	266	0	0
ADJUSTED VOL	0	276	0	0
CAPACITY	0	0	0	156
MOVEMENT	N/A	N/A	OK	OK

6-10B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE **OR** * SITE 2 DR (INT#S>

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE D
SATURATION 83
CRITICAL N/S VOL 1265
CRITICAL E/UI VOL 156
CRITICAL SUM 1421

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	T..	13.0	...	....	RT.	13.0
2	T..	12.0	T..	12.0	...	....	T..	12.0
3	...	....	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	£66	Ø	Ø
THRU	1S05	919	0	134
RIGHT	130	0	0	269

	TRUCKS <%>	LOCAL BUSES <#/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.3
EASTBOUND	0	0	1
WESTBOUND	5	0	.3

PHASING N/S i4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	989	562	121	156
LEFT	0	276	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	266	0	0
ADJUSTED VOL	0	276		0
CAPACITY	0	0		156
MOVEMENT	N/A	N/A	OK	OK

6-10C

CAPAITY ANALYSIS FOR SKYLINE DRIVE & KNOLLWOOD DRIVE - INTERSECTION 6

The unsignalized intersection shows that with either the "As Zoned" scenario or "Full Development" scenario with 1983 background traffic during the P.M. peak hour the demand for left turns from KnolIwood Drive will exceed the capacity. Therefore, the capacity of a traffic signal was investigated.

For the CMA analysis five lanes were assumed in Skyline Drive with the middle lane a left turn stacking lane for northbound traffic. KnolIwood Drive was assumed to be three lanes wide. With these geometries the CMA analysis shows a Level of service A at a saturation rate of 47% for the "As Zoned" scenaio and a Level of service B at a saturation rate of 56% during the A.M. peak hour. During the P.M. peak hour the CMA anlaysis shows a Level of service B at a saturation rate of 65% for the "As Zoned" scenario and a Level of service C at a saturation rate of 75% for the "Full Development" scenario.

V

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & KNOLLWOOD DR

DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE A
SATURATION 47
CRITICAL N/S VOL 787
CRITICAL E/W VOL 21
CRITICAL SUM 808

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	T.. 13.0	RT. 13.0	RT. 12.3	... .
2	T.. 12.0	T.. 12.0	T.. 12.0	... .
3	L.. 12.0	... .	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	34	0	0	0
THRU	£80	1237	23	0
RIGHT	0	57	14	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.9
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	416	787	21	0
LEFT	0	0	0,	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	34	0	0	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	0	2.X	0
MOVEMENT	N/A	N/A	OK	OK

6-11 A

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & KNOLLWOOD DR
DATE 1333 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE B
SATURATION 56
CRITICAL N/S VOL 333
CRITICAL E/W VOL £3
CRITICAL SUM 362

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	13.Θ	RT.	13.0	RT.	13.0	...	....
2	T. .	1£.Θ	T. .	1£.Θ	T. .	12.0	...	....
3	L. .	12.Θ	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	41	0	0	0
THRU	775	1473	2£	0
RIGHT	0	70	15	0

	TRUCKS (%>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 3 3 <#PEDS/HR>
CYCLE LENGTH : 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	474	338	23	0
LEFT	1	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	41	0	0	0
ADJUSTED VOL	1	0	0	0
CRPGCITY	0	0	33	0
MOVEMENT	N/A	N/A	OK	OK

6-11B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR 4 KNOLLWOOD DR

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 65
CRITICAL N/S VOL 1024
CRITICAL E/W VOL 87
CRITICAL SUM 1111

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUNO MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	13.0	RT.	13.0	RT.	13.0	...	....
£	T. .	12.0	T. .	12.0	T. .	12.0	...	....
3	L. .	12.0	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	47	0	0	(3
THRU	1673	1267	91	0
RIGHT	0	67	61	0

	TRUCKS (54)	LOCAL BUSES C#/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	0	0	1

PHASING N/S S 4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W : 1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY S 1. 0 - 39 <#PEDS/HR)
CYCLE LENGTH S 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1024	an	37	0
LEFT	a	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	47	0	0	0
ADJUSTED VOL	a	0	0	0
CAPACITY	0	0	a7	0
MOVEMENT	N/A	N/A	OK	OK

6 - S/C

C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & KNOLLWOOD DR
DATE 1393 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 75
CRITICAL N/S VOL 1139
CRITICAL E/W VOL 36
CRITICAL SUM 1235

LANE BEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	13.13	RT.	13.13	RT.	13.0	...	....
2	T..	12.0	T..	12.13	T..	12.13	...	....
3	L..	12.a	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	51	13	0	a
THRU	1359	1456	93	a
RIGHT	0	70	68	a

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	H	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	0	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-39 (#PEDS/HR)
CYCLE LENGTH : 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1133	328	36	0
LEFT	13	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	51	0	0	0
ADJUSTED VOL	13	0	0	0
CAPACITY	0	13	36	0
MOVEMENT	N/A	N/A	OK	OK

6-11 D

Unsignalized "T" Int Cap Calc

Location Skyline Dr & Knollwood Dr. Intersection 6

Count Data Zone development of sites included in the study

Data 1983

Day Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	1003
A Right	57
B Left	34
B Through	583
C Left	23
C Right	14
RIGHT TURN FROM C	
Conflicting Flows*	1031.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop-4, Yld-3)	4
Critical Gap Table 2 T*	6
Capacity, from fig 2*	260
Shared Lane-go to L.T.	
No shared lane-Y»l.N=«0	1
Demand<C right)"	14
Available Reserve*	246
Delay & L.O.S. Table 3* (A*l,B-2,C-3,D-4,E-5,F*6)	3
LEFT~TURN"FROM~B	
Conflicting Flows*	1060
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical *Gap* Table 2 T*	5.5
Capacity, from fig 2*	300
Demand(B left)*	34
Capacity used (in %)*	11,3
Impedance factor, fig 3*	.93
Available reserve*	266
Delay & L.O.S. Table 3* (A=l,B-2,C*3,D-4,E-5,F-6)	3
L1EFT~TURN~FROM~C	
Conflicting Flows*	1648.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop*4, Yld=3)	4
Critical Gap Table 2 T=	3
Capacity, from fig 2=»	40
Adjustment for Impedance*	39.0676
·No Shared Lane.Y*l,N=0	1
Demand*	23
Available Reserve*	16.0676
Delay & L.O.S. Table 3 * (A*l,B«2.C*3.D*4,E*5,F*6)	5

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

G-11 E

Unsignalised "T" Int Cap Calc

Location Skyline Dr ?< Knollwood Dr. Intersection 6

Count Data:Full development o-f sites included in the study

Date 1983

Day Weekday

~AM""or~PM AnalysTs?	AM
Hourly Demand Volumes:	
A Through	1239
A Right	70
B Left	41
B Through	678
C Left	26
C Right	15
RIGHT TURN FROM C	
Con-f1icting Flows=	1274
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control (stop=»4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, -from -fig 2=	180
Shared Lane-go to L.T.	
No shared lane-Y=l,N=0	1
Demand (C right)=»	15
Available Reserve-	165
Delay ?< L.O.S. Table 3=	4
(A=1.B=2,C=3,D*4,E=5,F=6>	
LEFT~TURN FROM~*B	
Conflicting Flows-	1309
Major road lanes(2 or 4)	4
Major road spd<30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	210
Demand(B left)=	41
Capacity used (in '/.)=	19.52381
Impedance factor, fig 3=	.89
Available reserve-	169
Delay S< L.O.S. Table 3=	4
(A=1,B=2,C=3,D=4,E=5.F=6)	
LEFT~TURN FROM~C	
Conflicting Flows-	1993
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	3
Capacity, from fig 2=	20
Adjustment for Impedance[3]	19.2674
-f*4o Shared Lane, Y=l, N=0	1
Demand-	26
Available Reserve=	-6.7326
Delay !< L.O.S. Table 3=	6
(A=l,B=2.C=3,D=4,E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	•Z^
80	.27
85	.2
90	. 14
95	.08
100	0

G-11F

Unsignalized "T" Int Cap Calc

Location Skylirue Dr *it* Knollwood Dr. Intersection 6

Count Data: Zone development of sites included in the study

Data 1983

Day "" TTTT Weekday

AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	1163
A Right	67
B Left	47
B Through	1443
C Left	91
C Right	61
RIGHT TURN FROM C	
Conflicting Flows-	1196.5
Major road lanes (2 or 4)	2
Major road spd (30 or 35)	30
Control (stop-4. Yld»3>	4
Critical Gap Table 2 T-	6
Capacity, from -fig 2=	195
Shared Lane-go to L.T.	

No shared 1ane-Y«l,N»0	1
Demand(C right)"	61
Available Reserve-	134
Delay & L.O.S. Table 3=	4
<A-l.B«2,C«3,D«4,E-5.F-6)	

LEFT TURN FROM B	
Conflicting Flows*	1230
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical Gap Table 2 T-	3.5
Capacity, from fig 2=	240
Demand (B left)-	47
Capacity used (in %> =	19.58333
Impedance factor, fig 3*	.89
Available reserve*	193
Delay *it* L.O.S. Table 3=	4
(A-l,B-2,C»3,D*4,E-5.F-6)	

LEFT TURN FROM C	
Conflicting Flows-	2686.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop»4, Yld-3)	4
Critical Gap Table 2 T=	8
Capacity, -from fig 2=	20
Adjustment -for Impedance[3]	19.2674
-No Shared Lane,Y»l.N«0	1
Demand[3]	91
Available Reserve-	-71.7326
Delay & L.O.S. Table 3=	6
<A-l.B-2.C=Z,D-4,E«5,F=»6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.2
240	7.5
330	3
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-11G

Unsignalized "T" Int *Cap* Calc

Location Skyline Dr & Knollwood Dr. Intersection 6

Count Data: Full development of sites included in the study

Date 1983

Day Weekday

AM~or~PM~Ana7ys7s?	PM
Hourly Demand Volumes:	
A Through	1352
A Right	70
3 Left	51
B Through	1729
C Left	99
C Right	68
RIGHT TURN FROM C	
Conflicting Flows*	1337
Major road lanes (2 or 4)	4
Major road spd <30 or 55>	30
Control (stop*4, Yld=3>	4
Critical Gap Table 2 T=	6
Capacity, -from fig 2=	150
Shared Lane-go to L.T.	
No shared Tane-Y*7,N=0	1
Demand(C right)=	68
Available Reserve*	82
Delay *it* L.O.S. Table 3=	5
(A=1,B=2.C=3.D=4,E=5.F=6)	
LiFT~TURN"FR0M~i	
Conflicting Flows*	1422
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	180
Demand(B left)=	51
Capacity used (in "/.)*	*23.ZZZ3Z*
Impedance factor, fig 3=	.81
Available reserve*	129
Delay ?< L.O.S. Table 3=	4
(A=1.B=2.C=3,D=»4.E=5.F=6)	
LEFT~TURN FROM~C	
Conflicting Flows*	3167
Major road lanes(2 or 4)	4
Major road spd<30 or 55)	30
Control (stop=4, Yld=3)	4
Critical GaD Table 2 T=	8
Capacity, from fig 2=	20
Adjustment for Impedance*	18.7346
-No Shared Lane,Y=l.N=0	1
Demand*	99
Available Reserve*	-80.2654
Delay ?< L.O.S. Table 3=	6
(A=1.B=2,C=3,D=4.E=5.F=6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

u	1
5	.97
10	.93
15	.89
20	.85
25	.91
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.3^
80	.27
35	.^2
90	.14
95	.08
100	0

G-11 H

CAPACITY ANALYSIS FOR SKYLINE DRIVE AND ERSKINE ROAD - INTERSECTION 7

This intersection exists with the west approach of Skyline Drive and the Eskine Road approach being the "thru" approaches with a STOP sign facing westbound Skyline Drive traffic. For this study the STOP sign is assumed to face southbound Erskine Road traffic, with the eastbound and westbound Skyline Drive approach the "through street". In the CMA analysis Erskine Road is again considered to be the stem of the "T" type intersection.

The unsignalized intersection anlaysis indicates that the demand for left turns from Erskine Road to Skyline Drive will exceed the capacity to make that movement in either the "As Zoned" or "Full Development" scenarios even with 1983 background. Therefore, roadway improvements and a traffic control signal will become necessary as the area develops.

Skyline Drive was assumed to be 5 lanes wide and Erskine Road 3 lanes wide for the CMA signalized intersection analysis. The five lanes in Skyline Drive would be divided into 3 lanes eastbound and 2 lanes westbound. The middle lane in the roadway would be a left turn stacking lane for eastbound traffic on Skyline Drive. Erskine Road would have two lanes turning left into Skyline Drive. The right turn from Erskine Road would be a free right turn and not enter the analysis.

The CMA analysis indicates that with this geometry a Level of service A at a saturation rate of 51% for the "As Zoned" scenario and a Level of service B at 60% staturation for the "Full Development" scenario during the A.M. peak hour. During the P.M. peak hour, the CMA analysis indicates that there would be a Level of service C at a saturation rate of 73% for the "As Zoned" scenario and a Level of service D at a saturation rate of 83% for the "Full Development" scenario. An additional westbound through lane would be needed to raise the Level of service to a C level for the "Full Development" scenario.

C

Unsignalized "T" Int Cap Calc
Location_____.______Skyline *Dr* ?< Erskine Road Intersection 7
Count Data: Zone development o-f sites included in the study
Date_____1983
Day_____Weekday

~AM~or~PM~AnaFys7s?	AM
Hourly Demand Volumes:	
A Through	536
A Right	65
B Left	35
B Through	790
C Left	200
C Right	80
RIGHT TURN FROM C	
Conflicting Flows=»	568.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	490
Shared Lane-go to L.T.	

No shared lane-Y=i,N=0	1
Demand<C right)=	80
Available Reserve*	410
Delay *it* L.Q.S. Table 3=	1
(A=l,B=2,*C=Z,* D=4,E=5,F=*6)	

LEFT TURN FROM B	
Conflicting Flows*	601
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	550
Demand(B left)=	35
Capacity used (in '/.)=	6.363636
Impedance factor, fig 3=	.97
Available reserve*	-515
Delay ?< L.O.S. Table 3=	1
(A=l,8=2,C=3.D=4,E=5,F=6)	
---------- ----- ---- -	
LEFT~TURN~FROM~C	
Conflicting Flows=	1393.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 T=	8
Capacity, from fig 2=	60
Adjustment for Impedance[5]*	59. 4006
-No Shared Lane,Y=l,N=0	1
Demand*	200
Available Reserve[2]	-140.599
Delay S< L.O.S. Table 3=	6
(A=l,B=2,C=3,D=4,E=5.F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
[illegible]	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
440	9
480	3
660	9
380	10

Figure 3

0	1
[illegible]	.97
10	.93
15	.89
20	.35
25	.81
30	.77
35	[illegible]
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

G-12.

Unsignalized "T" Int Cap Calc
Location Skyline Dr it Erskine Road Intersection 7
Count DataTzone development of sites included in the study
Date 1983
Day Weekday

AH or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	1322
A Right	212
B Left	59
B Through	1133
C Le-ft	97
C Right	40
RIGHT TURN FROM C	
Conflicting Flows-	142B
Major road lanes (2 or 4)	2
Major road spd (30 or S3)	30
Control (stop-4, Yld»3)	4
Critical Gap Table 2 T»	6
Capacity, from fig 2*	140
Shared Lane-go to L.T.	
~No snared Tane-Y»1^N»O	1
Demand(C right)-	40
Available Reserve*	100
Delay & L.O.S. Table 3-	4
(A-l,B-2,C»3,D-4,E»5,F-6)	
LEFT TURN~FROM~i	
Conflicting Flows*	1534
Major road lanes(2 or 4)	4
Major road spd(30 or 35)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2s	250
Demand(B left)*	59
Capacity used (in 7.)-	23.6
Impedance factor, fig 3*	.85
Available reserve-	191
Delay & L.O.S. Table 3*	4
(A«t.B»2,C«3,D«4,E-5,F-6)	
LEFf~fURN~FR6fi~C	
Conflicting Flows-	2620
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop»4, Yld-3)	4
Critical Gap Table 2 T-	8
Capacity, -from fig 2=	20
Adjustment for Impedance-	19.0O1
-No Shared Lane.Y»t,N«O	1
Demand-	97
Available Reserve-	-77.999
Delay ?< L.O.S. Table 3-	6
(A-l,B»2,C=3,D=4,E»5.F»6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Tabie 2C

180	6.5
240	7.5
330	8
360	7
440	0
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-12 B

Unsignalised "T" Int Cap Calc

Location Skyline Dr & Erskine Road Intersection 7

Count Data: Full development of sites included in the study

Date 1983

Day Weekday

AM oV~PM~AnaTysTs?	AM
Hourly Demand Volumes:	
A Through	635
A Right	65
B Left	35
B Through	1039
C Left	200
C Right	80
RIGHT TURN FROM C	
Conflicting Flows=	667.5
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	430
Shared Lane-go to L.T.	
No shared 1ane-Y=l,N=0	1
Demand(C right)=	80
Available Reserve=	350
Delay S< L.O.S. Table 3=	2
(A=l,B=2,C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM~B	
Conflicting Flows=	700
Major road lanes(2 or 4)	4
Major road spd<30 or 55)	30
Critical Gap Table 2 T=	5.5
Capacity, from fig 2=	490
Demand(B left)=	35
Capacity used (in 7.)=	7.142857
Impedance factor, fig 3=	.97
Available reserve[8]	455
Delay & L.O.S. Table 3=	1
(A=l,B=2,C=3,D=4,E=5,F=6>	
LEFT~fuRN~FROM~C	
Conflicting Flows=	1741.5
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	8
Capacity, from fig 2=	20
Adjustment for Impedance*	19.8002
-No Shared Lane,Y=l,N=0	1
Demand=	200
Available Reserve*	-180.200
Delay & L.O.S. Table 3=	6
(A=1,B=2.C=3,D=4,E=5,F=6~)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

130	6.5
240	7.5
330	8
360	7
440	9
480	8
660	p
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.32
80	.27
85	.2
90	.14
95	.08
100	0

6-12 C

Unsignalised "T" Int Cap Calc

Location Skyline Dr 5c Erskine Road Intersection 7

Count Data: Full development of sites included in the study

Oats 1983

Day Weekday

AM or PM AnalysTs?	PM
Hourly Demand Volumes:	
A Through	1615
A Right	212
B Left	59
B Through	1325
C Left	97
C Right	40
RIGHT TURN FROM C	
Conflicting Flows*	1721
Major road lanes (2 or 4)	4
Major road spd (30 or 55)	30
Control (stoo»4. Yld*3)	4
Critical Gap Table 2 T»	6
Capacity, from -fig 2[s]	40
Shared Lane-go to L.T.	
No~shared~Tane-Y»T7N*0	1
Demand(C right)•	40
Available Reserve*	0
Delay Sc L.O.S. Table 3*	5
(A=l.B*2,C*3,D-4,E»5.F»6)	
LEFT TURN FROM B	
Conflicting Flows-	1827
Major road lanes(2 or 4)	4
Major road sod (30 or 55)	30
Critical Gao Table 2 T*	5.5
CaDacity, from fig 2[s]*	45
Demand(B left)*	59
Capacity used (in '/.)«	131. 1111
Impedance factor, fig 3=	0
Available reserve*	-14
Delay % L.O.S. Table 3*	6
(A»l.8«2.C»3,D-4.E*5,F-6>	
LEFT"TURN"*FR6M~C	
Conflicting Flows*	3105
Major road lanes(2 or 4)	4
Major road spd(30 or 55)	30
Control (stop=4. Yld=3)	4
Critical Gap Table 2 T»	8
Capacity, from fig 2=	20
Adjustment for Impedance*	13.34
-No Shared Lane.Y»l,N*0	1
Demand[3]	97
Available Reserve*	-83.66
Delav *it* L.O.S. Table 3*	6
<A*I.B-2.C=3,D*4.E-5.F-6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
t0000	0

Table 2B

60	5
no	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	9
360	7
440	9
480	8
660	9
880	10

Fiaure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.31
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
S5	,2
90	. 14
95	.08
100	0

6-12 D

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & ERSKINE RD (INT.7)
DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE A
SATURATION 51
CRITICAL N/S VOL 313
CRITICAL E/W VOL 570
CRITICAL SUM 883

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	T..	13.0	T..	13.0	RT.	13.ft
2	. ..	....	T..	12.0	T..	12.0	T..	12.0
3	...	....	...	....	L..	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	47	0
THRU	0	269	931	609
RIGHT	0	103	0	37

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING : N/S .:1. NEITHER TURN PROTECTED
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	313	570	418
LEFT	0	0	a	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	47	0
ADJUSTED VOL	0	0	8	0
CAPACITY	0	313	0	156
MOVEMENT	OK	OK	N/A	N/A

G -/2L E

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & ERSKINE RO (INT. 7)

DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE B
SATURATION 60
CRITICAL N/S VOL 313
CRITICAL E/W VOL 722
CRITICAL SUM 1035

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUNO MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	T..	13.0	T..	13.13	RT.	13.0
	...	....	T..	12.0	T..	12.0	T..	12.0
3	...	....	...	....	L..	12.0	...	....
4	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	47	0
THRU	0	269	1180	707
RIGHT	0	108	0	87

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.3
EASTBOUJMD	5	0	.3
WESTBOUND	5	0	.3

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 <#PEPS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	313	722	478
LEFT	0	0	a	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	47	0
ADJUSTED VOL	0	0	a	0
CAPACITY	0	313	0	156
MOVEMENT	OK	OK	N/A	N/A

6-12F

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & ERSKINE RD (INT. 7)
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION 83
CRITICAL N/S VOL 151
CRITICAL E/W VOL 1282
CRITICAL SUM 1433

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	T. -	13.13	T. -	13.0	RT.	13.0
2	...	....	T. -	12.0	T. -	12.0	T. -	12.0
3	...	....	...	....	L. -	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	79	0
THRU	0	130	139S	1773
RIGHT	0	54	0	285

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	151	855	1235
LEFT	0	0	47	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	79	0
ADJUSTED VOL	0	0	47	0
CAPACITY	0	151	0	156
MOVEMENT	OK	OK	N/A	N/A

G-1.2

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SKYLINE DR & ERSKINE RD <INT.7)

DATE 1993 PM PEAK OS ZONED

****

LEVEL OF SERVICE C
SATURATION 73
CRITICAL N/S VOL 151
CRITICAL E/W VOL 1102
CRITICAL SUM 1253

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	T..	13.0	T..	13.0	RT.	13.0
£	...	....	T..	12.0	T..	12.0	T..	12.0
3	...	....	...	....	L..	12.0	...	....
	...	....	...	....	...	....	...	....
3	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	79	0
THRU	0	130	1204	1479
RIGHT	0	54	0	285

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.9
EASTBQUND	5	0	.9
WESTBOUND	5	0	.9

PHASIN6
N/S :1. NEITHER TURN PROTECTED
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	151	737	1055
LEFT	0	0	47	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	79	0
ADJUSTED VOL	0	0	47	0
CAPACITY	0	151	0	156
MOVEMENT	OK	OK	N/A	N/A

G-12H

'QAPACITY ANALYSIS FOR GREENWOOD LAKE TURNPIKE AND SKYLINE DRIVE - INTERSECTION8

A quick perusal of the traffic data shows that a traffic signal will be necessary at this intersection. Therefore, only the CMA signalized intersection analysis is presented. Greenwood Lake Turnpike is assumed to be five lanes wide, with one lane for through southbound traffic and two lanes for southbound left turns for the first test. Skyline Drive was considered to have two westbound lanes, one for left turns and one for right turns. For the "Full Development" scenario during the P.M. peak hour, the CMA analysis indicates a Level of service E at a saturation rate of 109%. An addit ional northbound through lane and an addit ional westbound left turn lane was added for the second test. Then the CMA indicates a Level of service D at a saturation rate of 82% for the "Full Development" scenario dur ing the P.M. peak hour.

Using the latter geometry as descr ibed above, the CMA analysis indicates a Level of service C at a satuation rate of 72% during the P.M. peak hour with the "As Zoned" scenario.

The A.M. peak hour is less critical than the P.M. peak hour. Whereas the six lane Skyline Drive conf igurction shows an 82% saturation in the P.M. peak, the CMA analysis shows a Level of service B at a saturation rate of 66% for the "Full Development" scenario during the A.M. peak hour. Dropping a lane so. that Skyline Drive has 5 lanes still yields an acceptable level of service during the A.M. peak hour; Level of service C at a saturation rate of 74% for the "Full Development" scenario and Level of service B at a saturation rate of 65% for the "As Zoned" scenar io.

				1N3W3A0W
				All3tfdtJ3
				HOA asisnraw
				awmoA mdNi
	ai\inoaisb3	aNnoaHinos	ONnoaHidON	

M33H3

				LEFT
				iH9ia- naHi
	aNnoaisws	aNnoaHinos	ONnoaHidON	

1N3W3A0W AS S3WmOA 3NW1 -1W3I1IM3

S0N033S 06 H19N3H 3H3A3

(HH/Sa3d#) 6 6 - 0 'I s A1IAI13W N«IdlS3Q3d

Q3lD310ad M3HJ.I3N M/3

(dW"lM3A0 HUM) a31D310dd HJ.O8 S/N SNISWHd

			awnoaissM
			EASTBOUND
			aNnoaHinos
			ONnOSHlHON

PEAK HOUR FACTOR (#/HR) sssna i«ooi (%) svonui

				lHSId
				THRU
				1J31

WESTBOUND	arvinoaisb3	SOUTHBOUND	QNnOaHlUON	
		sawrnoA TRAFFIC		

								9
								S
								Z
								I
WESTBOUND	HiaiM AOW	EASTBOUND	HIDTH AOW	aNnoaHinos	HiaiM AOW	NORTHBOUND	HlOIfi AOW	3Ntn

A£13W039 3NW1

Z99T	wnS	-IW3I1IM3
B6S	IDA M/3	-IW3I1IH3
693T	HOA S/N	-1W3I1IM3
	SATURATION 109	
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CRITICAL MOVEMENT ANALYSIS

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JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLINE DR(INT#S)
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION 32
CRITICAL N/S VOL 1096
CRITICAL E/W VOL 314
CRITICAL SUM 1410

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EAST30UND MOV WIDTH	WESTBOUND MOV WIDTH
1	RT. 13.0	RT. 13.0	... .	R.. 13.0
2	T.. 12.0	L.. 12.0	... .	T.. 12.0
3	T.. 12.0	L.. 12.0	... .	T.. 12.2
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	1167	Θ	0
THRU	426	600	Θ	513
RIGHT	543	0	Θ	1303

	TRUCKS C/.)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	Θ	.9
SOUTHBOUND	5	Θ	.9
EASTBOUND	0	Θ	1
WESTBOUND	5	Θ	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	372	630	0	31*
LEFT	0	724	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	1167	0	0
ADJUSTED VOL	0	1380	0	0
CAPACITY	0	313	0	314
MOVEMENT	N/A	N/A	OK	OK

6—/S3

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLINE DR(INT#8)
DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 72
CRITICAL N/S VOL 948
CRITICAL E/W VOL £90
CRITICAL SUM 1238

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	12.0	RT.	12.0	...	....	R..	13.0
2	T..	12.0	L..	12.0	...	....	T..	12.0
3	T..	12.0	L..	12.0	...	....	T..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	1018	0	(3
THRU	342	632	0	475
RIGHT	499	0	0	1046

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	0	0	1
WESTBOUND	5	0	.3

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVEFUAP)
E/W il. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	320	663	0	
LEFT	0	£28	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	1018	0	0
ADJUSTED VOL	0	1198	0	0
CAPACITY	0	0	0	£90
MOVEMENT	N/A	N/A	OK	OK

£-'3c

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLINE DR<INT#8)
DOTE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE B
SATURATION 66
CRITICAL N/S VOL 989
CRITICAL E/W VOL 143
CRITICAL SUM 1132

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	...	....	R. .	13.0
£	T..	12.0	L..	12.0	...	....	T. .	12.0
3	T..	12.0	L..	12.0	...	....	T. .	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	1117	0	0
THRU	437	380	0	235
RIGHT	318	0	0	599

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :A. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	297	399	0	143
LEFT	0	692	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	1117	0	0
ADJUSTED VOL	0	1319	0	0
CAPACITY	0	0	0	143
MOVEMENT	N/A	N/A	OK	OK

6-13 D

JOHN E. CHRIST
CRITICAL MOVEMENT ANQLYSIS

GREENWOOD LAKE TP & SKYLINE DR<INT#8)

DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 74
CRITICAL N/S VOL 1126
CRITICAL E/W VOL 143
CRITICAL SUM 1269

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	...	....	R..	13.0
2	T..	12.0	L..	12.0	...	....	T..	12.0
3	...	....	L..	12.0	...	....	T..	12.0
4	...	....	...	....	...	....	...	....
3	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	1117	Ø	0
THRU	437	380	Ø	235
RIGHT	318	0	Ø	599

	TRUCKS <%>	LOCAL BUSES (*/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	434	399	Ø	143
LEFT	0	692	0	Ø

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	1117	0	0
ADJUSTED VOL	0	1319	Ø	Ø
CAPACITY	0		Ø	143
MOVEMENT	N/A	N/A	OK	OK

6-/3 E

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLINE DR(INT#8>
DATE 1383 AM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 65
CRITICAL N/S VOL 936
CRITICAL E/W VOL 129
CRITICAL SUM 1125

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	RT.	13.0	...	....	R..	13.0
2	T..	12.0	L..	12.0	...	....	T..	12.0
3	...	....	L..	12.0	...	....	T..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	362	0	0
THRU	484	312	0	211
RIGHT	304	0	0	525

	TRUCKS (+/-)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED.
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	455	327	0	123
LEFT	0	541	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	382	0	0
ADJUSTED VOL	0	1031	0	0
CAPACITY	0	0	0	129
MOVEMENT	N/A	N/A	OK	OK

6-13F

CAPACITY ANALYSIS FOR GREENWOOD LAKE TURNPIKE & WEST BROOK ROAD - INTERSECTION9

The A.M. peak hour will be the critical peak hour at this location. The unsignalized intersection capacity analysis shows that the capacity for left turns from West Brook Road will be exceeded in both the "As Zoned" and "Full Development" scenarios. Therefore, a CMA analysis was run.

A three lane configuration was assumed in both Greenwood Lake Turnpike and West Brook Road. The CMA analysis indicates a Level of service A for both the "As Zoned" and "Full Development" scenarios.

Unsignalised "T" Int Cap Calc — Intersection 9

Location: Greenwood Lk. Toe. & West Brook Road

Count Data: Full development of sites included in the study

Date: 1993

Day: Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	552
A Right	43
B Left	45
B Through	495
C Left	193
C Right	239
RIGHT TURN FROM C	
Conflicting Flows=	573.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop=4. Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	390
Shared Lane—go to L.T.	
No shared lane-Y=l,N=0	1
Demand(C right)=	239
Available Reserve	151
Delay & L.O.S. Table 3=	4
(A=l,B=2,C=3,D=4.E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows=	595
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	640
Demand(B left)=	45
Capacity used (in %)=	7.03125
Imoedance factor, fig 3=	.97
Available reserve=	595
Delay ?< L.O.S. Table 3=	1
<A=l.B=2.C=3,D=4.E=5,F=6)	
LEFT~TURN~FROM~C	
Conflicting Flows=	1113.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stap=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from flg 2=	130
Adjustment for Impedance=	12S.7013
-No Shared Lane,Y=l.N=0	1
Demand=	193
Available Reserve=	-64.2987
Delay ?< L.O.S. Table Z=	6
(A=1.B=2,C=Z,D=4.E=5.F=6)	

Table 2A

130	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	^
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	0
480	8
660	9
380	10

Figure 1

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.73
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

6-14A

Unsignalized "T" Int Cap Calc — Intersection 9
Location Greenwood Lk. Tpe. & West Brook Drive
Count Data: Zone development of sites included in the study

Date	1993
Dav	Weekday
AH or PM Analysis?	All
Hourly Demand Volumes:	
A Through	464
A Right	38
B Left	43
B Through	S39
C Left	182
C Right	223
RIGHT TURN FROM C	
Conflicting Flows"	483
Major road lanes (2 or 4)	
Major road spd (30 or 55)	*Z0*
Control <stop*4. Yld-3)	4
Critical Gao Table 2 T*	6
Capacity, from fig 2=	560
Shared Lane-go to L.T.	
No shared lane-Y»l.N*0	1
Demand(C right)*	223
Available Reserve*	337
Delav & L.O.S. Table 3* (A-l.B*2,C*3.D*4,E-5.F*6)	2
LEFT TURN FROM B	
Conflicting Flows*	502
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Critical Gao Table 2 T*	5
Capacity, from fig 2*	705
Demand(B left)*	43
Caoacity used (in 7.)*	6.099291
Imoedance factor, fig 3*	.97
Available reserve*	662
Delay & L.O.S. Table 3* (A=l,B*2.C-3.D*4,E*5,F*6)	1
^LEFT~TURN~FROM~C	
Conflicting Flows*	1065
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Control (stop*4, Yld*3)	4
Critical Gao Table 2 T*	7.5
Caoacity, from -fig 2*	140
Adjustment for Impedance*	138.6014
-No Shared Lane.Y*l.N*0	1
Demand*	182
Available Reserve*	-43.3986
Delav fc L.O.S. Table 3* (A*1,B*2.C*3.D*4.E=5,F*6)	6

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
O	5
100	4
200	y_
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
44.0	0
480	8
660	0
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-14 B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & WEST BROOK RD
DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE A
SATURATION 47
CRITICAL N/S VOL 593
CRITICAL E/W VOL 212
CRITICAL SUM 805

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	T.. 14.0	RT. 14.0	R.. 13.0	... .
2	L.. 12.0	... .	T.. 12.0	... .
3	... .	... .	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	45	0	0	0
THRU	495	552	193	0
RIGHT	0	43	239	0

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	10	0	1
SOUTHBOUND	10	0	1
EASTBOUND	10	0	1
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (ttPEDS/HR)
CYCLE LENGTH : 30 sendNDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	490	588	212	0
LEFT	5	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	45	0	0	0
ADJUSTED VOL	5	0	0	0
CAPACITY	0	0	212	0
MOVEMENT	N/A	N/A	OK	OK

6-14C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & WEST BROOK RD

DATE **1993 flM** PEAK AS ZONED

****

LEVEL OF SERVICE A
SATURATION 63
CRITICAL N/S VOL 533
CRITICAL E/W VOL £0©
CRITICAL SUM 733

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T.	14.13	RT.	14.0	R. .	13. a	...	....
2	L. .	12.0	...	....	T. .	12-13	...	....
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	**SOUTHBOUND**	EASTBOUND	WESTBOUND
LEFT	**43**	**0**	0	13
THRU	**539**	**464**	182	0
RIGHT	**0**	38	223	

	TRUCKS (%)	LOCAL **BUSES** <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	**10**	0	1
SOUTHBOUND	**10**	0	1
EASTBOUND	**10**	0	1
WESTBOUND	**10**	0	1

PHASIN6 **N/S** :4. **BOTH TURNS PROTECTED** (WITH OVERLAP)
E/W :i. **NEITHER TURN PROTECTED**
PEDESTRIAN ACTIVITY : **1.** 0 - 9 9 <#PEDS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	533	496	2013	0
LEFT	3	0	i3	(3

LEFT TURN CHECK

	NORTHBOUND	**SOUTHBOUND**	EASTBOUND	WESTBOUND
INPUT **VOLUME**	43	**0**	13	0
ADJUSTED VOL	3	**0**	0	0
CAPACITY	0	**0**	200	0
MOVEMENT	N/A	N/A	OK	OK

6-14D

CAPACITY ANALYSIS FOR GREENWOODLAKE TURNPIKE &. STONETOWN ROAD - INTERSECTION 14

The critical peak hour at this location will be the A.M. peak. The unsignalized intersection capacity analysis shows a Level of service E for westbound traffic on Stonetown Road turning left onto Greenwood Lake Turnpike.

A three lane configuration in Greenwood Lake Turnpike was used in the CMA analysis. It gave a Level of service A for both the "As Zoned" and "Full Development" scenarios. A three or four lane configuration in Greenwood Lake Turnpike and a three lane configuration in Stonetown Road should prove adequate.

Unsignalized "T" Int Cap Calc — Intersection 14

LoMtion.,.,.,.. Greenwood Lk Tpk & Stonetown Rd

Count Data: Ful1 development of sites included in the study

Date	1993
Day	Weekday
AM~or~PM Analysi's?	AM
Hourly Demand Volumes:	
A Through	577
A Right	37
B Left	7
B Through	399
C Left	143
C Right	54
RIGHT TURN FROM C	
Conflicting Flows'	595.5
Major road lanes (2 or 4)	2
Major road spd (30 or SS)	30
Control (stop*4, Yld*3)	4
Critical Gap Table 2 T-	6
Capacity, from fig 2[s]	470
Shared Lane-go to L.T.	
No shared 7ane-Y»i7N*O	1
Demand<C right)[3]	54
Available Reserve-	416
Delay *it* L.O.S. Table 3=	1
(A-l,B-2,C«3,D«4,E*5.F-6)	
LEFT TURN FROM B	
Conflicting Flows**	614
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2*	620
Demand(B left)"	7
Capacityused(in'/.)=*	1.129032
Impedance factor, fig 3[s]	1
Available reserve*	613
Delay & L.O.S. Table 3=	1
<A*l,B«2,C-3,D-4,£«5,F-6)	
LEFT~TURN~FROM"~C	
Conflicting Flows=	1001.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop*4, Yld»3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	160
Adjustment for Impedance[3]	160
-No Shared Lane,Y»l,N«0	1
Demand[3]	143
Available Reserve*	17
Delay !« L.O.S. Table 3=	5
(A»l.8=2.C*3,D*4.E=5.F»6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
430	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	5

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 7

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.3^
80	.27
35	.2
90	.14
95	.08
100	0

G-15 A

Unsignalized "T" Int Cap Calc — Intersection 14

Location Greenwood Lk Tpk & Stonetown Rd

Count Data: Zone development of sites included in the study

Date 1993

Day Weekday

AM or PM Analysis?	AM
-Hourly Demand Volumes:	
A Through	511
A Right	29
B Left	7
B Through	399
C Left	149
C Right	54
RIGHT TURN FROM C	
Conflicting Flows[3]	525.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	520
Shared Lane-go to L.T.	
No shared lane-Y=l,N=0	1
Demand(C right)[3]	54
Available Reserve[3]	466
Delay ?< L.O.S. Table 3=	1
(A=l,B=2.C=3,D=4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows[3]	540
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	680
Demand(B left)[3]	7
Capacity used (in *V.*) =	1.029412
Impedance factor, fig 3=	1
Available reserve[3]	673
Delay & L.O.S. Table 3[3]	1
(A=l.B=2.C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM~C	
Conflicting Flows[3]	931.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld[3]3)	4
Critical Gap Table 2 T[3]	7.5
Capacity, from fig 2=	180
Adjustment for Impedance[3]	180
-No Shared Lane.Y=l.N=0	1
Demand[3]	149
Available Reserve=	31
Delay ?< L.O.S. Table 3=	5
(A=l,B=2.C=3.D=4,E=5,F=6)	

Table 2A

1805
2406
3306
3605
4407
4806
6606
8807

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-15B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & STONETOWN RD
DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE A
SATURATION 44
CRITICAL N/S VOL 6(37
CRITICAL E/W VOL 157
CRITICAL SUM 764

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	14.0	RT.	14.0	R. .	13.0	...	....
£	L. .	12.0	...	....	T. .	12.0	...	....
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	7	0	0	0
THRU	399	377	143	0
RIGHT	0	37	34	0

	TRUCKS <%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	10	0	1
SOUTHBOUND	10	0	1
EASTBOUND	10	0	1
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 39 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	395	607	157	0
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	7	0	0	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	0	157	13
MOVEMENT	N/A	N/A	OK	OK

6-15C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE *IP* & STONETOWN RD
DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE A
SATURATION 41
CRITICAL N/S VOL 533
CRITICAL E/W VOL 163
CRITICAL SUM 696

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	14.0	RT.	14.0	R. .	13.0	...	....
2	L. .	12.0	...	....	T..	12.0	...	....
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	7	0	0	0
THRU	399	511	149	0
RIGHT	0	29	54	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	10	0	1
SOUTHBOUND	10	0	1
EASTBOUND	10	0	1
WESTBOUND	10	0	1

PHASING N/S :4. . BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	395	533	163	0
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	7	0	0	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	0	163	0
MOVEMENT	N/A	N/A	OK	OK

6-15 D

CAPACITY **ANALYSIS FOR GREENWOOD LAKE TURNPIKE** & MARGARET KING AV£. INTERSECTION **15**

A four lane configuration in Greenwood Lake Turnpike was assumed for **the first OAA test. With the** "As Zoned" scenario it indicates **a Level of service B at a saturation** rate of 66% during the P.M. **peak hour. The "Full Development"** scenario shows a Level **of service D at a saturation rate of** 79%. Widening **Greenwood Lake Turnpike to** five lanes with two lanes for southbound left **turns would improve** the P.M. peak hour flow for the "Full **Development" scenario to a Level** of service C at a **saturation rate of 12%.**

The **morning peak hour** would be less critical as can be seen from the **attached calculation** sheets.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & MAR. KING AVE
DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 66
CRITICAL N/S VOL 718
CRITICAL E/W VOL 416
CRITICAL. SUM 1134

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.(3	RT.	13.0			R..	13.0
2	T..	12.0	L..	12.13			T..	12.13
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	13	196	0	0
THRU	632	£07	0	357
RIGHT	£67	13	0	£35

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	527	£17	0	416
LEFT	0	191	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	196	0	0
ADJUSTED VOL	0	191	0	0
CAPACITY	0	0	0	416
MOVEMENT	N/A	N/A	OK	OK

6-16 /J

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & MAR. KING AVE
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION 79
CRITICAL .M/S VOL 871
CRITICAL E/W VOL 481
CRITICAL SUM 1352

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EfiSTBOUND MOV WIDTH	WESTBOUND .10V WIDTH
1	RT. 13.0	RT. 13.0	... .	R.. 13.0
2	T.. 12.0	L.. 12.0	... .	T.. 12.0
3	... .	... .	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	230	0	Ø
THRU	£52	229	0	413
RIGHT	459	0	0	65£

	TRUCKS <*>	LOCAL BUSES (#/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	0	0	1
WESTBOUND	5	0	.3

PHASING **N/S** :4. **BOTH** TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <*PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	639	240	Ø	481
LEFT	0	232	Ø	Ø

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	230	0	3
ADJUSTED VOL	0	232	0	Ø
CAPACITY	0	0	0	481
MOVEMENT	N/A	N/A	OK	OK

6-16B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & MAR. KING AVE

DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 72
CRITICAL N/S VOL 760
CRITICAL E/W VOL 481
CRITICAL SUM 1241

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	RT.13.0	RT.13.0	... .	R.. 13.0
2	T..12.0	L..12.0	... .	T.. 12.0
3	.....	L..12.0	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	230	0	0
THRU	652	229	0	413
RIGHT	459	0	0	652

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	0	0	1
WESTBOUND	5	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	639	240	0	481
LEFT	0	121	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	230	0	0
ADJUSTED VOL	0	232	0	0
CAPACITY	0	0	0	4ai
MOVEMENT	N/A	N/A	OK	OK

6-16 C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP **ft MAR.** KING AVE
DATE 1393 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 76
CRITICAL N/S VOL 1053
CRITICAL E/W VOL 254
CRITICAL SUM 1307

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	RT. **13.0**	RT. 13.0		13.0
2	T.. **12.0**	L.. 12.0		T.. 1£.3
3	... .	... .	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	**0**	**644**	0	0
THRU	**146**	**477**	0	218
RIGHT	**429**	**0**	0	93

	TRUCKS (%)	LOCAL BUSES <#/HR)	PEAK HOUR FACTOR
NORTHBOUND	**5**	0	.3
SOUTHBOUND	**5**	0	.3
EASTBOUND	**0**	0	1
WESTBOUND	**5**	0	.3

PHASING **N/S** :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EflSTBOUND	WESTBOUND
THRU -RIGHT	**314**	**500**	1	£54
LEFT	0	**739**	**0**	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EfiSTBOUND	WESTBOUND
INPUT VOLUME	**0**	**644**	(3	0
ADJUSTED VOL	**0**	**733**	a	0
CAPACITY	0	0	0	254
MOVEMENT	N/A	N/A	OK	OK

6-16D

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & MAR. KING AVE
DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 7S
CRITICAL N/S VOL 1071
CRITICAL E/W VOL 172
CRITICAL SUM 1243

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	RT. 13.0	RT. 13.0	... .	R.. 13.0
2	T.. 12.0	L.. 12.0	... .	T.. 12.0
3	..	... .	... .	... .
4	..."'.'.'.'.	... .	... .	... .
5	... .	... .	... .	... .
&	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	656	0	0
THRU	136	473	0	148
RIGHT	446	0	0	82

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	0	0	1
WESTBOUND	5	0	.3

PHASING N/S : 4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W : 1. NEITHER TURN PROTECTED.
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	317	496	0	172
LEFT	0	754	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	656	0	0
ADJUSTED VOL	0	754	0	0
CAPACITY	0	0	0	172
MOVEMENT	N/A	N/A	OK	OK

6-16E

CAPACITY ANALYSIS FOR MARGARET KING AVENUE & THE STERLING FOREST TRACT

INTERSECTIONS 16 & 17

Two roadways were included in the computer traffic tableau to provide access for the Sterling Forest Tract. One was labeled Sterling Forest Conmercial and the other Sterling Forest Residential. Both intersections were tested individually with the unsignal ized intersection capacity program. The results can be looked at individually or collectively.

The test for the "As Zoned" scenario in the 1993 A.M. peak hour shows Levels of service A at both Intersections 16 and 17 for traffic turning left into the site and turning right out of the site* However, the tests show a Level of service E at Intersection 16 and a Level of service F at Intersection 17 for left turns exiting the site. Collectively the capacity of the left turn exit is 30 vehicles less than the demand. With the "Full Development" scenario the capacity for the left turn exit is exceeded by 140 vehicles.

During the P.M. peak hour conditions would be worse. Collectively the capacity for left turn exits from the site would be exceeded by 166 vehicles with the "As Zoned" scenario and 384 vehicles with the "Full Development" scenar io.

Clearly, the two unsignal ized intersections of site roadways forming Intersections 16 &.' 17 would be inadequate for site access .

Unsignalized "T" Int Cap Calc — Intersection 16

Location: Margaret King Ave. & Sterling Forrest Commercial

Count Data: Zone development of sites included in the study

Date: 1993

Day: Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	199
A Right	SO
B Left	154
B Through	987
C Left	60
C Right	61
RIGHT TURN FROM C	
Conflicting Flows=	229
Masor road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	775
Shared Lane-go to L.T.	
No shared Tane-Y=1,N=O	1
Demand<C right)=	61
Available Reserve=	714
Delay ⊀ L.O.S. Table 3=	1
<A=1,B=2,C=3,D=4,E=5,F=6)	
"LEFT"TURN"FROM"B	
Conflicting Flows=	269
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	920
Demand(B left)=	154
Capacity used <in "/.)=	16.73913
Impedance factor, fig 3=	.89
Available reserve[3]	766
Delay Z< L.O.S. Table 3=	1
(A=1,B=2,C=3.D=4,E=5,F=6>	
LEFT~fuRN~FRQM~C	
Conflicting Flows=	1370
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	80
Adjustment for Impedance=	77.0696
-No Shared Lane, Y=l, N=0	1
Demand=	60
Available Reserve"	17.0696
Delav ?< L.O.S. Table 3=	5
<A=1.B»2.C=3,D=4.E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

ISO	6.5
240	7.5
330	8
360	7
44-0	9
480	3
660	9
880	10

Figure

0	1
5	5 .97
10	.93
15	.99
20	.35
25	.31
30	.77
35	.[illegible]
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

6-17 A

Unsignalized "T" Int Cap Calc — Intersection 17

Location Margaret King Ave. 3< Sterling Forrest residential Count Data?Zone development of sites included in the study

Date	1993
Day	Weekday
AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	215
A Right	101
B Left	88
B Through	960
C Left	135
C Right	55
RIGHT TURN FROM C	
Conflicting Flows**	265.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop«4, Yld»3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2[a]	740
Shared Lane-go to L.T.	
No~shared~lane-y»77N«0	1
Demand(C right)•	55
Available Reserve*	685
Delay «e L.Q.S. Table 3- (A«l,B«2,C-3,D-4,E«5,F«6)	1
LEFT TURN FROM B	
Conflicting Flows"	316
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2[s]	880
Demand<B left)"	88
Capacity used (in 5i)»	10
Impedance factor, fig 3[s]	.98
Available reserve**	792
Delay & L.O.S. Table 3= (A=l,B*2,C«3,D»4,E-5,F-6>	1
LEFT TURN FROM C	
Conflicting Flows=	1313.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	10
Control (stop»4, Yld»3)	4
Critical Sap Table 2 T=	7.5
Capacity, from fig 2=	90
Adjustment for Impedance**	37.9021
-No Shared Lane,Y»l,N»0	1
Demand[3]	135
Available Reserve-	-47.0979
Delay ?« L.O.S. Table 3=* (A»l,B=2,C»3,D»4,E=5.F=6)	6

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

130	6.5
240	7.5
330	3
360	7
44.0	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.39
20	.35
25	.31
30	.77
35	.~7^
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.ZZ'
80	.27
35	,2
90	.14
95	.08
100	0

6-173

Unsignalized "T" Int Cap Calc Intersection 16

Location Margaret KingAve. & Sterling Forrest Commercial

Count Data:Full development of sites included in the study

Date 1993

Day Weekday

AM~or~PM AnaFysTs?	AM
Hourly Demand Volumes:	
A Through	242
A Right	99
B Left	172
B Through	941
C Left	91
C Right	89
RIGHT TURN FROM C	
Conflicting Flows=	291.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	705
Shared Lane-go to L.T.	
No shared lane-Y=l,N=0	1
Demand(C right)=	89
Available Reserve*	616
Delay & L.O.S. Table 3=	1
(A=1.B=2,C=3,D=4,E=5,F=6)	
LEFT~TURN"FR0M~i	
Conflicting Flows=	341
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	850
Demand<B left)=	172
Capacity used (in %)=	20.23529
Impedance factor, fig 3=	.85
Available reserve*	678
Delay ?< L.O.S. Table 3=	1
(A=1.B=2.C=3.D=4,E=5.F=6)	
"LEFT"TURN"FROM~C	
Conflicting Flows=	1404.5
Major road lanes<2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	75
Adjustment for Impedance[3]	71.25375
-No Shared Lane,Y=l,N=0	I
Demand[3]	91
Available Reserve[0]	-19.7463
Delay ?< L.O.S. Table 3=	6
(A=l,B=2.C=3,D=4,E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	5 .97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.73
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.34
80	.27
35	.2
90	.14
95	.08
100	0

6-17C

Unsignalized "T" Int Cap Calc — Intersection 17

Location: Margaret King Ave. & Sterling Forrest Residential

Count Data: Full development of sites included in the study

Date: 1993

Day: Weekday

All or PM Analysis?	All
Hourly Demand Volumes:	
A Through	271
A Right	111
B Left	99
B Through	933
C Left	198
C Right	71
RIGHT TURN FROM C	
Conflicting Flows*	326.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop"4, Yld*3)	4
Critical Gap Table 2 T-	6
Capacity, from fig 2[s]	680
Shared Lane—go to L.T.	
No shared lane-Y«l,N-0	1
Demand(C right)*	71
Available Reserve*	609
Delay & L.O.S. Table 3=	1
<A*1,B-2,C«3,D»4,E*5,F*6)	
LEFT TURN FROM B	
Conflicting Flows*	382
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	805
Demand(B left)-	*?«
Capacity used (in */.)=	12.29814
Impedance factor, fig 3*	.93
Available reserve*	706
Delay & L.O.S. Table 3*	1
(A*l.B*2.C*3,D*4,E-5,F*6)	
LEF?TURNFROMC	
Conflicting Flows*	1358.5
Major road lanes(2 ar 4)	2
Major road spd(30 or 55)	30
Control (stop»4, Yld»3)	4
Critical Gap Table 2 T*	7.5
Capacity, -from fig 2[s]*	80
Adjustment for Impedance*	78.1352
-No Shared Lane,Y=l,N*0	1
Demand*	198
Available Reserve*	-119.865
Delay + L.O.S. Table 3*	6
(A*1.8*2.C*3,D*4.E*5.F*6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
O	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	j
440	o
480	8
660	o
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.31
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
SO	.27
35	.2
90	.14
95	.08
100	0

6-17 D

Unsignalized "T" Int Cap Calc — Intersection 16

Location: Margaret King Ave. & Sterling Forrest Commercial

Count Data: Zone development of sites included in the study

Date: 1.993

Day: Weekday

AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	361
A Right	78
B Left	86
B Through	377
C Left	138
C Right	130
RIGHT TURN FROM C	
Conflicting Flows=	900
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, -from fig 2=	310
Shared Lane-go to L.T.	
No shared lane-Y=l,N=0	1
Demand(C right)=	130
Available Reserve*	180
Delay & L.O.S. Table 3=	4
<A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows*	93?
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	440
Demand(B left)=	86
CaDacity used (in %)=	19.54545
Impedance factor, fig 3=	.39
Available reserve*	354
Delay ?< L.O.S. Table 3=	2
(A=1,B=2.C=3,D=4,E=5,F=6)	
LEFT TURN~FROM C	
Conflicting Flows*	1363
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	SO
Adjustment for Impedance[8]	77.0696
-No Shared Lane,Y=l.N=0	1
Demand=	138
Available Reserve*	-60.9304
Delay ?< L.O.S. Table 3=	6
(A=l.B=2.C=3,D=4,E=5.F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.31
30	.77
^	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

6-17E

Unsignalized "T" Int Cap Calc Intersection 17

Location Margaret King Ave. St Sterling Forrest residential

Count Data:Zone development of sites included in the study

Date 1993

Day Weekday.

AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	313
A Right	82
B Left	120
B Through	396
C Left	180
C Right	126
RIGHT TURN FROM C	
Conflicting Flows-	854
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop«4. Yld-3)	4
Critical Gap Table 2 T-	6
Capacity, from fig 2-	340
Shared Lane-go to L.T.	
No~shared"*lane-Y-T.N«0	l
Demand(C right)-	126
Available Reserve-	214
Delay & L.O.S. Table 3=	3
(A-l.B-2,C«3,D-4,E-5,F-6)	
LiFT~TURN*"FROM~i	
Conflicting Flows-	895
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Critical Gap Table 2 T-	5
Capacity, from fig 2-	450
Demand(B left)-	120
Capacity used (in '/.) =	26.66667
Impedance factor, fig 3-	.31
Available reserve-	330
Delay & L.O.S. Table 3-	2
(A-l.B-2.C-3.D-4.E-5.F-6)	
LEFfTURN'FROFrC	
Conflicting Flows-	1370
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop-4. Yld-3>	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	80
Adjustment for Impedance-	74.9384
-No Shared Lane.Y-l,N-O	1
Demand-	180
Available Reserve*	-105.062
Delay & L.O.S. Table 3-	6
(A=l,B-2.C=3.D=4,E=5,F-6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
o	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
no	3.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	9
36.0	7
440	9
480	3
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
90	.27
85	.2
90	.14
95	.08
100	0

6-17-1-

Unsignalired "T" Int *Cap* Calc Intersection 16

Location Margaret King Ave. & Sterling Forrest Commercial

"* Count Data! Full development of sites included in the study

Date 1993

Day Weekday

~AM~or~PM~AnaTysis? PM

Hourly Demand Volumes:

A Through	864
A Right	124
B Left	155
B Through	534
C Left	220
C Right	201

RIGHT TURN FROM C

Conflicting Flows-	926
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	300
Shared Lane-go to L.T.	
I	
No shared lane-Y=l,N=0	1
Demand(C right)=	201
Available Reserve=	99
Delay Sc L.O.S. Table 3=	5
<A-l.B=2,C=3,D=4,E=5.F=6)	

LEFT TURN~FR0M B

Conflicting Flows-	988
Major road lanes(2 or 4)	2
Major road spd (30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	400
Demand(B left)-	155
Capacity used (in */.)=	38.75
Impedance factor, fig 3=	.72
Available reserve-	245
Delay 2< L.O.S. Table-3=	• 3
<A-l.B=2,C=3,D=4,E=5,F-6)	

LEFT TURN FROM C

Conflicting Flows-	1615
Major road ianes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	50
Adjustment for Impedance-	45.338
-No Shared Lane.Y=l,N=0	1
Demand-	220
Available Reserve-	-174.662
Delay ?< L.O.S. Table 3=	6
(A=l.B=2,C=3,D=4,E=5,F=6>	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
HO	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	. 77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
100	.08
105	0

6-17G

Unsignalised "T" Int Cap Calc — Intersection 17

Location: Margarat King Ave. & Sterling Forrest Residential

Count Data: Full development of sites included in the study

Data	1993
Day	Weekday
AM or PH Analysis?	PM
Hourly Demand Volumes:	
A Through	855
A Right	165
B Left	195
B Through	559
C Left	253
C Right	132
RIGHT TURN FROM C	
Conflicting Flows"	937.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (»top»4, Yld»3)	4
Critical Gap Table 2 T=	a
Capacity, from fig 2[s]	295
Shared Lane-go to L.T.	
NcTshared"1ane^Y»77N=O	1
Demand(C right)=	132
Available Reserve"	163
Delay & L.O.S. Table 3» (A«1,B«2,C«3,D-4,E*5,F»6)	4
LEFT"*TURN~FROM~I	
Conflicting Flows*	1020
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T*	5
Capacity, from fig 2=	380
Demand (B left)**	195
Capacity used (in %C)=	51.31579
Impedance factor, fig 3=	.6
Avai1ab1e reserve**	185
Delay Sc L.O.S. Table 3= (A=l,B«2,C»3,D»4.E-5.F-6)	4
LEFT TURN FROM C	
Conflicting Flows=	1691.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop»4, Yld*3)	4
Critical Sap Table 2 T=	7.5
Capacity, from fig 2=	50
Adjustment for Impedance-	43.34
-No Shared Lane,Y=l.N»0	1
Demand*	253
Available Reserve*	-209.66
Delay ?< L.O.S. Table 3= (A=1,B=2,C=5,0=4,E=5.F=6)	6

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
O	5
100	4
200	3
300	2
400	1
10000	O

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	0
880	10

Figure 3

0	1
5	.97
10	.93
15	.8?
20	.85
25	.81
30	.77
35	.7^1
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

6-17 14

CAPACITY ANALYSIS FOR MARGARET KING AVENUE & SITE 6 - INTERSECTION18

The unsignal ized intersection capacity analysis for the 1993 AM* peak hour shows a Level of service A for traffic making left turns into the site and traffic making right turns from the site for both the "As Zoned" and "Full Development" scenarios, and a Level of service E for left turns exiting the site. The left turn exit for the "As Zoned" scenario used 19 of the 80 vehicle capacity while in the "Full Development" scenario 36 of the 59 vehicle capacity is used. Thus while there will be long dlays for left turn exits from Site 6 for both scenarios, the delays in "Fall Development" scenario would be significantly greater.

During the 1993 P.M. peak hour the only similarity between the two scenar ios would be the left turn entering the site which would be a Level of service A in both cases. The right turn exit from the site would be a Level of service C for the "As Zoned" scenario and a Level of service D for the "Full Development" scenario. The left turn exit from the site would be a Level of service E using 41 of the 75 vehicle capacity for the "As Zoned" scenario while for the "Full Development" scenario the demand for left turns from the site would exceed the capacity by 151 vehicles.

Unsignalized "T" Int *Cap* Calc — Intersection 18

Location ____ Maraaret Kinq Ave. & B601L12 & 13 Site 6

Count Data: Zone development of sites included in the study

D«t«____	1993
ᴰ*V_-___	Weekday
All*or* PM Analysis?	AM
Hourly Demand Volumes:	
A Through	305
A Right	28
B Left	25
B Through	1070
C Left	19
C Right	10
RTRM1• .TURN .PROM r	
Conflicting Flows*	319
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop*4, Yld*3>	4
Critical Gap Table 2 T*	*6*
Capacity, from fig 2ˢ	680
Shared Lane-go to L. T.	
----- ------- ------ ---	
No™shared lane-Y*77N-O	1
Demand(C right)*	10
Available Reserve*	670
Delay & L.O.S. Table 3*	1
(A*l,B«2,C»3,D-4,E«5,F*<b)	

LEFT TURN FROM B	
Conflicting Flows*	333
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T*	5
Capacity, from fig 2=	860
Demand<8 left)*	25
Capacity used (in '/.)»	2.906977
Impedance factor, fig 3*	1
Available reserve*	835
Delay & L.O.S. Table 3*	1
(A*UB»2.C*3,D-4,E-5,F*6)	

LEFT TURN FROM C	
Conflicting Flows*	1414
Major road lanes<2 or 4)	-
Major road spd(30 or 55)	30
Control (stop-4, Yld*3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2ˢ	SO
Adjustment for Impedance*	80
-No Shared Lane,Y*l,N*0	1
Demand*	19
Available Reserve*	61
Delay ?< L.O.S. Table 3*	5
(A»l,B=2.C*3,D=4,E=5,F=6)	

Table 2A

iao	5
240	6
330	6
360	5
440	7
480	6
660	6
830	7

Table 3

-800	6
η	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
no	5.5
120	5.5
220	6

Table 2C

1SO	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.39
20	.85
25	.31
30	. 77
35	.72
40	.*69
45	.64
50	.6
55	.ere
60	Ts
65	.45
70	.39
75	.33
80	.*27
85	.2>
90	. 14
95	.08
100	0

Unsignalized "T" Int Cap Calc Intersection 13

Location Margaret King Ave. ?< B601L12 & 13

Count Data:Full development of sites included in the study

Date 1993

Day Weekday

AM or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	360
A Right	129
B Left	104
B Through	1026
C Left	36
C Right	22
RIGHT TURN FROM C	
Conflicting Flows-	424.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Sap Table 2 T=	6
Capacity, from fig 2=	595
Shared Lane-go to L.T.	
~No shared~7ane-Y=77N=O	1
Demand(C right)=	22
Available Reserve=	573
Delay .* L.d.S. Table 3=	1
(A=1,B=2.C=3,D=4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows-	489
Major road lanes(2 or 4)	2
Major road spd(30 *ar* 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	720
Demand(B left)-	104
Capacity used (in '/.)=	14.44444
Impedance factor, fig 3=	.93
Available reserve-	616
Delay 2< L.O.S. Table 3=	1
(A=I,B=2,C=3,D=4,E=5,F=6)	
LEFT TURN FROM C	
Conflicting Flows-	1554.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop-4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	60
Adjustment for Impedance-	58.6014
-No Shared Lane,Y=l,N=0	1
Demand-	36
Available Reserve-	22.6014
Delay *< L.O.S. Table 3=	5
(A=l,B=2,C=3,D=4.E=5,F=6)	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	3
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.99
20	.95
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
35	.2
90	.14
95	.08
100	0

Unsignalized "T" Int Cap Calc Intersection IS
Location Margaret King Ave. !< B601L12 & 13 Site 6
Count Data: Zone development of sites included in the study

Date	1993
Day	Weekday
AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	865
A Right	18
B Left	15
B Through	560
C Left	41
C Right	30
RIGHT TURN FROM C	
Conflicting Flows"	874
Major road lanes <2 or 4)	
Major road spd (30 or 55)	30
Control <stop«4. Yld»3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2[s]	320
Shared Lane-go to L.T.	
No shared Tane-Y-ITN-O	1
Demand(C right)=	30
Available Reserve"	290
Delay k L.O.S. Table 3=	3
(A-l.B»2.C*3,D»4.E»5.F»6)	
LEFT TURN FROM B	
Conflicting Flows=	883
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Critical Gap Table 2 T=	S
Capacity, from fig 2=	460
Demand(B left)»	15
Capacity used (in '/.)=	3.260870
Impedance factor, fig 3=	1
Available reserve"	445
Delay St L.O.S. Table 3»	1
(A-t,B»2,C»3,D»4.E»3.F=6>	
LEFT~TURN~FROM~C	
Conflicting Flows=	1449
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop-4, Yld»3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	75
Adjustment for Impedance*[3]	75
-No Shared Lane.Y»l,N»0	1
Demand[9]	41
Available Reserve[8]	34
Delay it L.O.S. Table 3=	5
(A"t.B=2.C=3,D=4.E=5.F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
(j	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	S.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	a
660	0
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
ao	.*27
35	.2->
90	.14
95	.08
100	0

Unsignalised "T" Int Cap Calc Intersection IS
Location Margaret King Ave. i< B601L12 & 13 Site 6
Count Data:Full development of sites included in the study
Date 1993
Day Weekday

AM~or~PM~Anarysrs?	PM
Hourly Demand Volumes:	
A Through	886
A Right	43
B Left	33
B Through	774
C Left	176
C Right	135
RIGHT TURN FROM C	
Conflicting Flows=	907.5
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop=4, Yld*3>	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	305
Shared Lane-go to L.T.	
No shared 7ane-Y=l.N=0	1
Demand(C right)=	135
Available Reserve*	170
Delay ?< L.Q.S. Table 3=	4
(A=1.B=2,C=3,D=4,£=5,F=6)	
LIFT TURN~FROM~B	
Conflicting Flows*	929
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gap Table 2 T»	5
Capacity, from fig 2=	440
Demand(B left)*	38
Capacity used (in '/.)=	8.636364
Impedance factor, fig 3=	.97
Available reserve*	402
Delay ?< L.O.S. Table 3=	1
(A=1,B=2,C=3,D=4,E=5,F=6)	
LEFT"TURN~FR0M~C	
Conflicting Flows*	1719.5
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3>	4
Critical Gap Table 2 T*	7.5
Capacity, from fig 2*	25
Adjustment for Impedance*	24.75025
-No Shared Lane,Y=l,N=0	1
Demand*	176
Available Reserve*	-151.250
Delay S< L.O.S. Table 3=	6
(A=I.B=2,C=3,D=4,E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.39
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

CAPACITY ANALYSIS FOR MARGARET KING AVENUE & SITE 7 - INTERSECTION 19

The "As Zoned" and "Full Development" scenarios are quite different as industrial development is used in the former and mobile homes in the latter. In the 1993 A.M. peak hour the unsignalized intersection capacity analysis shows a Level of service C for right turns from the site, D for left turns into the site, and E for left turns from the site for the "As Zoned" scenario, where 19 of the 51 vehicle capacity is used by left turns exiting the site. With the "Full Development" scenario the Levels of service would be E for the right turn exit, B for the left turn entry movement, and E using 50 of the 54 vehicle available capacity for the left turn exit.

During the 1993 P.M. peak hour the "As Zoned" scenario would have a Level of service D for right turns exiting the site, A for vehicles turning left into the site, and F for the left turn exiting the site with the capacity exceeded by 65 vehicles. With the "Full Development" scenario the Levels of service would be D for the right turn exit, B for the left turn entry, and E for the left turn exit with 20 of the 23 vehicle capacity used.

Unsignalized "T" Int Cap Calc Intersection 19

Location Margaret King Ave. ?< B508L2 Site 7

Count Data: Zone development of sites included in the study

Date 1993

Day Weekday

AM~or PM Analysis?	AM
Hourly Demand Volumes:	
A Through	906
A Right	182
B Left	202
B Through	315
C Left	19
C Right	44
RIGHT TURN FROM C	
Conflicting Flows*	997
Major road lanes <2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	275
Shared Lane-go to L.T.	
No shared Tane-Y=l,N=0	1
Demand(C right)=	44
Available Reserve*	231
Delay *< L.Q.S. Table 3=	3
(A=1,B=2.C*3,D=4,E=5,F=6)	
LEFT TURN FROM B	
Conflicting Flows*	1088
Major road lanes(2 or 4)	2
Major road spd (30 or 55)	30
Critical Gap Table 2 T=	5
Capacity, from fig 2=	360
Demand(B left)*	202
Capacity used (in 7.)=	56.11111
Impedance factor, fig 3=	.55
Available reserve*	158
Delay Z< L.O.S. Table 3=	4
(A=1.B=2.C=3,D=4,E=5,F=6)	
LEFT~TURN~FROM~C	
Conflicting Flows*	1514
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control <stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	60
Adjustment for Impedance*	51.009
-No Shared Lane,Y=l.N=0	1
Demand*	19
Available Reserve*	32.009
Delay !< L.D.S. Table 3=	5
(A=1.B=2.C=3,D=»4,E=5,F=6>	

Table 2A

ISO	5
240	6
330	6
360	5
440	7
480	6
660	6
380	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
HO	5«5
120	5.5
220	6

Table 2C^

180	6.5
240	7.5
330	3
360	7
440	9
480	3
660	9
880	10

Fiaure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
80	.27
85	.2
90	.14
95	.08
100	0

G-19 A

Unsignalised "T" Int Cap Calc — Intersection 19

Location Margaret King Ave. & B508L2 Site 7

Count Data;Full development of sites included in the study

Date	1993
Day	Weekday
AM~or" PM Analysis?	AM
Hourly DeiBand Volumes:	
A Through	1021
A Riaht	42
B Left	53
B Through	439
C Left	50
C Right	228
RIGHT TURN FROM C	
Conflicting Flows[3]	1042
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop»4. Yld»3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	260
Shared Lane-go to L.T.	
No shared lane-Y=l.N=0	1
Demand(C right)[3]	228
Available Reserve*	32
Delay & L.O.S. Table 3=	5
(A»l.B«2.C-3.D-4.E»5.F*6)	
LEFT TURN FROM 8	
Conflicting Flows-	1063
Major road lanes(2 or 4)	2
Major road sod(30 or 55)	30
Critical Gao Table 2 T=	5
Capacity, from fig 2=	375
Demand(B left)=	53
Capacity used *(in '/.)*=	*14.13ZZZ*
Impedance factor, fig 3»	.93
Available reserve[3]*	322
Delay & L.O.S. Table 3=	2
<A=t.8«2.C-3,D»4.E«5.F»6>	
LEFT TURN FROM C	
Conflicting Flows*	1534
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop*4, Yld=3)	4
Critical Gap Table 2 T*	7.5
Capacity, from fig 2=	55
Adjustment for Impedance*	53.71795
-No Shared Lane.Y=l.N*0	1
Demand[3]	50
Available Reserve*	3.71795
Delay !< L.O.S. Table 3=	5
(A=l.B*2.C*3,D»4.E=5,F=6J	

Table 2A

180	5
240	6
330	6
360	6
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
UO	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.35
25	.31
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.32
80	.27
85	.22
90	.14
95	.08
100	0

Unsignalised "T" Int Cap Calc Intersection 19

Location_____;__Margaret King Ave. & B508L2 Site 7

Count Data: Zone development of sites included in the study

Date_____1993

Day_._____Weekday

AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	556
A Right	46
B Left	50
B Through	739
C Left	144
C Right	336
RIGHT TURN FROM C	
Conflicting Flows*	579
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control (stop=4. Yld=3)	4
Critical Gap Table 2 T=	6
Capacity, from fig 2=	485
Shared Lane-go to L.T.	
No shared lane-Y*7,N=0	1
Demand(C right)*	336
Available Reserve*	149
Delav & L.O.S. Table 3=	4
<A=1.B=2,C=3,D=4,E=5,F=6)	
LEFT TURN~FR0M B	
Conflicting Flows*	602
Major road lanes(2 or 4)	2
Maior road sod(30 or 55)	30
Critical Gao Table 2 T=	5
Capacity, from fig 2=	640
Demand(B left)=	50
Capacitv used (in '/.)=	7.8125
Impedance factor, fig 3=	.97
Available reserve*	590
Delay ?< L.O.S. Table 3*	1
(A=1.B=2,C=3,D=4,E=5,F=6)	
LEFT TURN~FROM C	
Conflicting Flows*	1368
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop=4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	80
Adjustment for Impedance*	79.2008
-No Shared Lane.Y=l,N*0	1
Demand*	144
Available Reserve*	-64.7992
Delav ?< L.O.S. Table 3*	6
(A=i,B=2,C=Z,D=4.E=5,F=6>	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	9
490	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.81
30	. 77
35	.73
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	. 33
80	.27
85	. 2
90	. 14
95	.08
100	0

G-19C

Unsignalized "T" Int Cap Calc — Intersection 1?
Location _____ Maraaret Kino Ave. ⊀ B508L2 Site 7
Count DataiFull development of sites included in the study

Date	1993
Day	Weekday
AM or PM Analysis?	PM
Hourly Demand Volumes:	
A Through	857
A Right	92
B Left	120
B Through	909
C Left	20
C Right	112
RIGHT TURN FROM C	
Conflicting Flows-	903
Major road lanes (2 or 4)	2
Major road spd (30 or 55)	30
Control <stop-4, Yld-3)	4
Critical Gap Table 2 T»	6
Capacity, from fig 2-	310
Shared Lane-go to L.T.	
No~shared"Tane-Y»T7N-0	1
Demand(C right)«	112
Available Reserve"	198
Delay & L.O.S. Table 3=	4
(A-l.B-2.C»3,D-4.E»5.F»6>	
LiFT~TURN~FROM~i	
Conflicting Flows-	949
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Critical Gao Table 2 T-	5
Capacity, from fig 2=	430
Demand(B left)-	120
Caoacity used (in */.)»	27.90698
Impedance factor, fig 3=»	.81
Available reserve-	310
Delay Si L.O.S. Table 3-	2
(A-l,B-2,C-3,D-4,E-5,F-6)	
LEFT TURN FROM C	
Conflicting Flows-	1932
Major road lanes(2 or 4)	2
Major road spd(30 or 55)	30
Control (stop-4, Yld=3)	4
Critical Gap Table 2 T=	7.5
Capacity, from fig 2=	25
Adjustment for Impedance-	23.41825
-No Shared Lane,Y=l,N«0	1
Demand=	20
Available Reserve"	3.41825
Delay «e L.O.S. Table 3=	5
CA«l.B=»2.C=3,D»4,E=5,F=6)	

Table 2A

180	5
240	6
330	6
360	5
440	7
480	6
660	6
880	7

Table 3

-800	6
0	5
100	4
200	3
300	2
400	1
10000	0

Table 2B

60	5
110	5.5
120	5.5
220	6

Table 2C

180	6.5
240	7.5
330	8
360	7
440	0
480	8
660	9
880	10

Figure 3

0	1
5	.97
10	.93
15	.89
20	.85
25	.31
30	.77
35	.72
40	.69
45	.64
50	.6
55	.55
60	.5
65	.45
70	.39
75	.33
30	.27
85	.2
90	.14
95	.08
100	0

6-19 D

CAPACITY ANALYSIS FOR SLOATSBURG ROAD & MARGARET KING AVENUE - INTERSECTION 21

The first tests for this intersection were done with all approaches three lanes wide. During the 1993 A..M. peak hour the CMA analysis shows a Level of service D at 83% saturation for the "As Zoned" scenario and Level of service D at 87% saturation for the "Full Development" scenario. Perusal of the CRITICAL LANE VOLUMES BY MOVEMENT section on the attached sheets shows that the most to be gained woulc be by having two eastbound lanes to turn left instead of one. To accomplish this there must be two lanes plus widening for the turning movement in the northbound exit Ianes .

To accommodate the two ecstound left turn lanes the second CMA tests assumed SIoctsburg Road to be five lanes wide at the intersection. Then the CMA analysis for the 1993 A.M. peak hour indicates a Level of service A for both scenarios. During the P.M. peak hour the CMA shows a Level of service A at a saturat ion rate of 54% for the "As Zoned" scenario and a Level of service C at a a saturction rate of 70% for the "Full Development" scenar io.

C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD & MAR. KING AVE

DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE D
SATURATION 83
CRITICAL N/S VOL 609
CRITICAL E/U VOL 824
CRITICAL SUM 1433

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	14.0	RT.	14.0	R. .	13.0	...	....
2	L. .	12.0	...	....	T. .	12.0	...	....
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	287	0	0	0
THRU	492	63	707	0
RIGHT	0	230	250	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	10	0	1

PHASING N/S :4. **BOTH TURNS** PROTECTED (WITH OVERLAP)
E/W :1. **NEITHER TURN** PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 39 <#PEDS/HR)
CYCLE LENGTH : **90** SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	S16	307	824	0
LEFT	302	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	287	0	0	0
ADJUSTED VOL	302	0	0	0
CAPACITY	0	0	824	0
MOVEMENT	N/A	N/A	OK	OK

6-20 A

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD 4 MAR. KING AVE

DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE A
SATURATION 52
CRITICAL N/S VOL 457
CRITICAL E/W VOL 433
CRITICAL SUM 390

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	14.0	RT.	14.0	R..	13.0	...	....
2	T..	12.0	T..	12.0	T..	12.0	...	....
3	L..	12.0	....	....	T..	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	****	...	....	...	....	....	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	287	0	0	0
THRU	492	S3	707	0
RIGHT	0	230	250	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.9
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED.
PEDESTRIAN ACTIVITY : 1. 0 - 99 <#PEDS/HR>
CYCLE LENGTH : 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	271	155	433	0
LEFT	302	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	287	0	0	0
ADJUSTED VOL	302	0	0	0
CAPACITY	0	0	433	0
-MOVEMENT	N/A	N/A	OK	OK

6-10&

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD & MAR. KING AVE

DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 75
CRITICAL N/S VOL 457
CRITICAL E/W VOL 824
CRITICAL SUM 1281

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	14.0	RT.	14.0	R. .	13.0	...	....
2	T. .	12.0	T. .	12.0	T. .	12.0	...	....
3	L. .	12.0	...	....	...	....	...	....
4		....	...	....	...	....	...	....
5		....	...	....	...	....	...	....
6		....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	287	0	0	0
THRU	492	63	707	0
RIGHT	0	230	250	0

	TRUCKS 00	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	10	0	1

PHASING N/S 4 BOTH TURNS PROTECTED (WITH OVERLAP)
E/W NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	£71	155	8£4	0
LEFT	302	0	>8	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	287	0	0	0
ADJUSTED VOL	302	0	0	0
CAPACITY	0	0	824	0
MOVEMENT	N/A	N/A	OK	OK

6 - 2-0 C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD & MAR. KING AVE

DATE 1393 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION 37
CRITICAL N/S VOL 5S7
CRITICAL E/W VOL 904
CRITICAL SUM 1491

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T. .	14.0	RT.	14.0	R. .	13.0	...	....
2	L. .	12.0	...	....	T. .	12.0	...	....
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	275	0	0	0
THRU	530	70	775	0
RIGHT	0	217	481	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 9 9 (#PEDS/HR)
CYCLE LENGTH : 30 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	556	300	904	0
LEFT	EB7	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	£75	0	0	0
ADJUSTED VOL	287	0	0	0
CAPACITY	0	0	304	0
MOVEMENT	N/A	N/A	OK	OK

6-20 D

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RO & MAR. KING AVE

DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE A
SATURATION 53
CRITICAL N/S VOL 439
CRITICAL E/W VOL 474
CRITICAL SUM 913

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	T.. 14.0	RT. 14.0	R.. 13.13	... .
2	T.. 12.0	T.. 12.0	T.. 12.13	... .
3	L.. 12.0	... .	T.. 12.0	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	273	0	13	0
THRU	530	70	775	0
RIGHT	0	217	481	0

	TRUCKS <%>	LOCAL BUSES (#/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 <ttPEDS/HR>
CYCLE LENGTH : 91211 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	292	152	474	3
LEFT	287	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	275	13	0	0
ADJUSTED VOL	287	3	0	0
CAPACITY	0	0	474	13
MOVEMENT	N/A	N/A	OK	OK

6 - 20 E

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD.& MAR. KING AVE

DATE 1993 PM PEAK AS ZONED

......****.***.**.*.****.*...*...*..

LEVEL OF SERVICE A
SATURATION 54
CRITICAL N/S VOL 768
CRITICAL E/W VOL 164
CRITICAL SUM 932

LANE GEOMETRY

LANE	NORTHBOUND rtcv WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	T.. 14.0	RT. 14.0	R.. 13.0	... .
2	T.. 12.0	T.. 12.0	T.. 12.0	... .
3	L.. 12.0	... .	T.. 12.0	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	235	0	0	0
THRU	223	429	269	0
RIGHT	0	561	589	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT*	122	530	164	0
LEFT	233	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	235	0	0	0
ADJUSTED VOL	238	0	0	0
CAPACITY	0	0	164	0
MOVEMENT	N/A	N/A	OK	OK

6-20F

CAPACITY ANALYSIS FOR GREENWOOD LAKE TURNPIKE & SKYLANDS ROAD - INTERSECTION 22

The A.M. peak hour will be the critical peak hour at this intersection. The first tests were done with all approaches having three lanes. Then the CA1A analysis for the 1993 A.M. peak hour indicated a Level of service D at 84% saturation for the "As Zoned" scenario and a Level of service E at 94% saturation for the "Full Development" scenario.

For the second tests. Greenwood Lake Turnpike was assumed to be five lanes wide. Then the CMA analysis for the 1993 A.M. peak hour shows a Level of service B at 57% saturation for the "As Zoned" scenario and a Level of service B at 63% saturation for the "Full Development" scenario.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP &SKYLANDS RD
DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE D
SATURATION 84
CRITICAL N/S VOL 11(38
CRITICAL E/W VOL 335
CRITICAL SUM 1443

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	14.0	T..	14.13	...	....	R..	13.0
2	...	....	L..	12.0	...	....	T..	1£.0
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	34	0	0
THRU	969	911	0	£96
RIGHT	87	0	0	7

	TRUCKS (%)	LOCAL BUSES 0*/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	2	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1108	956	0	335
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	34	0	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	0	0	335
MOVEMENT	N/A	N/A	OK	OK

6-21A

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLANDS ROAD

DATE 1993 AM PEAK FULL DEVELOPMENT

****

LEVEL OF SERVICE E
SATURATION 34
CRITICAL N/S VOL 1275
CRITICAL E/W VOL 335
CRITICAL SUM 1610

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EOSTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	1^.0	T..	14.13			R..	13.0
2	...	....	L..	12.(3			T..	12.0
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	34	Ø	0
THRU	996	1215	Ø	
RIGHT	87	<3	Ø	7

	TRUCKS (*>	LOCAL BUSES <*/HR>	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	Ø	0	1
WESTBOUND	2	0	.3

PHASING N/S :4. BOTH TURNS PROTECTED <WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	1136	1275	a	-i<i5
LEFT	0	0	a	3

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	34	Ø	Ø
ADJUSTED VOL	0	0	Ø	a
CAPACITY	0	0	Ø	335
MOVEMENT	N/A	N/A	OK	OK

6-21 B

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP &SKYLANDS RD

DATE 1993 AM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 57
CRITICAL N/S VOL 639
CRITICAL E/W VOL 335
CRITICAL SUM • 974

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	T..	13.0	...	....	R..	13.0
2	T. .	12.0	T..	12.0	...	....	T..	12.0
3	...	....	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	34	0	0
THRU	969	911	0	296
RIGHT	87	0	0	7

	TRUCKS <%>	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.9
SOUTHBOUND	5	0	.9
EASTBOUND	0	0	1
WESTBOUND	2	0	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	639	557	0	335
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	34	0	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	0	0	335
MOVEMENT	N/A	N/A	OK	OK

6-21 C

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SKYLANDS ROAD

DATE 1993 AM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE B
SATURATION 62
CRITICAL N/S VOL 744
CRITICAL E/W VOL 335
CRITICAL SUM 1079

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	RT.	13.0	T..	13.a	...	....	R. .	13.0
2	T..	12.0	T..	12.0	...	....	T. .	12.13
3	...	....	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	34	a	a
THRU	996	1215	a	£36
RIGHT	87	a	a	7

	TRUCKS <%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	S	a	.3
SOUTHBOUND	5	a	.3
EASTBOUND	0	a	1
WESTBOUND	2	a	.9

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W j1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY si. a - 39 <#PEDS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	655	**744**	0	335
LEFT	0	a	a	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	34	a	a
ADJUSTED VOL	0	a	a	0
CAPACITY	0	a	a	335
MOVEMENT	N/A	N/A	OK	OK

6-21 ZD

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

SLOATSBURG RD & MAR. KING AVE

DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 70
CRITICAL N/S VOL 1021
CRITICAL E/W VOL 183
CRITICAL SUM 1204

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	T..	14.0	RT.	14.0	R..	13.0	...	....
2	T..	12.0	T..	12.0	T..	12.0	...	....
3	L..	12.0	...	....	T..	12.0	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	390	0	0	0
THRU	238	462	300	0
RIGHT	0	646	636	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	5	0	.3
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	10	0	1

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0-99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	131	593	183	0
LEFT	428	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	390	0	0	0
ADJUSTED VOL	428	0	0	0
CAPACITY	0	0	183	0
MOVEMENT	N/A	N/A	OK	OK

G-20 G

CAPACITY ANALYSIS FOR GREENWOOD LAKE TURNPIKE & SLOATSBURG ROAD - INTERSECTION 23

The P.M. peak hour will be the critical peak hour at this intersection. The first tests were with Greenwood Lake Turnpike four lanes wide and Sloatsburg Road three lanes wide. With this geometry the GVfA analysis for the 1993 P.M. peak hour indicated a Level of service C at 74% saturation for the "As Zoned" scenario and a Level of service D at 86% saturation for the "Full Development" scenario.

For the second tests Greenwood Lake Turnpike was widened to five lanes. Then the CMA indicated a Level of service B at 64% saturation for the "As Zoned" scenario and a Level of service C at a saturation of 73% for the "Full Development" scenario.

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SLOATSBURG RD
DATE 1993 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE D
SATURATION 36
CRITICAL N/S VOL 590
CRITICAL E/W VOL 9S5
CRITICAL SUM 1555

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	RT.	13.0	T..	14.0	RT.	14.0
2	...	....	T..	12.0	L..	12.0	T..	12.0
3	...	....	...	....	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	7	0
THRU	0	960	592	1174
RIGHT	0	5	0	637

	TRUCKS (%)	LOCAL BUSES <#/HR>	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.9
EASTBOUND	5	0	.9
WESTBOUND	5	0	.9

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 <#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	590	621	965
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	7	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	590	0	344
MOVEMENT	OK	OK	OK	OK

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SLOATSBURG RD
DATE 1393 PM PEAK AS ZONED

LEVEL OF SERVICE C
SATURATION 74
CRITICAL N/S VOL 541
CRITICAL E/U VOL 783
CRITICAL SUM 13S4

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	... .	RT. 13.0	T. . 14.i3	RT. 14.0
2	... .	T. . 12.0	1 1,2.0	T. . 12 - iZi
3	... .	... .	... .	... .
4	... .	... .	... .	... .
5	... .	... .	... .	... .
6	... .	... .	... .	... .

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	7	0
THRU	0	860	554	1006
RIGHT	0	5	0	437

	TRUCKS (X)	LOCAL BUSES <#/HR>	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	5	0	.3

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	541	581	783
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	7	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	541	0	£0£
MOVEMENT	OK	OK	OK	OK

JOHN E. CHRIST
CRITICPlL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SLOATSBURS RD
DATE 1393 PM PEAK FULL DEVELOPMENT

LEVEL OF SERVICE C
SATURATION 73
CRITICAL N/S VOL 590
CRITICAL E/W VOL 713
CRITICAL SUM 1309

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	RT.	13.0	T..	14.0	R..	13.0
2	...	....	T..	12.0	L..	12.0	T..	12.0
3	...	....	...	....	...	....	T..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	7	0
THRU	0	360	532	1174
RIGHT	0	5	0	607

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	0	1
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	5	0	.3

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 33 (#PEDS/HR)
CYCLE LENGTH 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	530	621	713
LEFT	.0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	7	0
ADJUSTED VOL	0	0	0	0
CAPACITY	0	530	0	3a
MOVEMENT	OK	OK	OK	OK

JOHN E. CHRIST
CRITICAL MOVEMENT ANALYSIS

GREENWOOD LAKE TP & SLOATSBURG RD

DATE 1993 PM PEAK AS ZONED

LEVEL OF SERVICE B
SATURATION 64
CRITICAL N/S VOL 541
CRITICAL E/W VOL 616
CRITICAL SUM 1157

LANE GEOMETRY

LANE	NORTHBOUND MOV	WIDTH	SOUTHBOUND MOV	WIDTH	EASTBOUND MOV	WIDTH	WESTBOUND MOV	WIDTH
1	...	....	RT.	13.0	T..	14.0	R..	13.0
2	...	....	T..	12.0	1	12.0	T..	12.0
3	...	....	...	....	...	....	T..	12.0
4	...	....	...	....	...	....	...	....
S	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	0	7	0
THRU	0	880	554	11306
RIGHT	0	5	13	437

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	0	13	1
SOUTHBOUND	5	0	.3
EASTBOUND	5	0	.3
WESTBOUND	5	0	.3

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR>
CYCLE LENGTH : 90 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	541	381	616
LEFT	0	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	0	7	3
ADJUSTED VOL	0	0	0	0
CAPACITY	0	541	0	35
MOVEMENT	OK	OK	OK	OK

6-zza

INTERSECTION RECOMMENDATIONS

The intersection recommendations are based on the Intersection Capacity Analysis. It should be noted that both scenarios consider only nine sites in Ring-wood with a conservative expansion of the existing background traffic at 3% per year for ten years to 1993. The traffic increase from other development in Ringwood and the neighboring areas may well give a background traffic growth in excess of 3% per year. Therefore, the recommended improvements should be considered the minimum that should be made for each scenario.

Traffic signals are not practical at many locations. When placed at intersections too close together progression problems may be created resulting in a Level of service F. When traffic signals are very close together multiphasing for the purpose of clearing "through traffic" out of the area between the intersections is often needed, causing a reduction in capacity.

There are several intersections along Skyline Drive between Cheshire Lane and Fieldston Drive that have not been included in the tableau. These intersecting streets are residential feeder streets. The traffic using them will experience similar difficulties to traffic using Cheshire Lane and Countryside in entering and exiting Skyline Drive. The same recommendations given for the Cheshire Lane and Countryside intersections would apply to these other intersections along Skyline Drive.

Intersection 1 - Skyline Drive and Countryside

As Zoned Scenario

Widen Skyline Drive to five lanes with the middle lane for left turns.

Full Development Scenario

Widen Skyline Drive to five lanes with the middle lane 16 to 20 feet wide.

Paint channelization in the middle lane for left turns into ana left turns out of Countryside. With this arrangement, the traffic turning left from Countryside would only have to contend with one direction of Skyline Drive traffic at a time.

Intersection 2 - Skyline Drive and Conkl intown Road

As Zoned Scenario

*Widen Conkl intown Road to four lanes**

Widen Skyline Drive to five lanes accepting a Level of service D at 80% saturation or widen further to six lanes yielding a Level of service B at 59% saturation.

Install a traffic control signal.

Full Development Scenario

Widen Conkl intown Road to four lanes.

Widen Skyline Drive to six lanes.

Install a traffic control signal.

Intersection 3 - Skyline Drive and Cheshire Lane

As Zoned Scenario

Widen Skyline Drive to five lanes with the middle lane for left turns.

Do not install a traffic control signal.

Full Development Scenario

Widen Skyline Drive to five lanes with the middle lane 16 to 20 feet wide.

Paint channel ization reserving the middle lane for left turns into and out of Cheshire Lane.

Intersection 4 - Skyline Drive and Fieldstone Drive

As Zoned Scenario

Widen Skyline Drive to five lanes.

Widen Fieldstone Drive to five lanes.

Install a traffic control signal.

Full Development Scenario

*Widen Skyline Drive to six*lanes.*

Widen Fieldstone Drive to five lanes.

Install a traffic control signal.

Intersection-5 - Skyline Drive and the Site 2 Driveway

As Zoned Scenario

Widen Skyline Drive to five or six lanes.

Improve the horizontal alignment of Skyline Drive.

Provide two lanes for left turn exits and one lane for right turn exits.

Install a traffic control signal.

Full Development Scenario

Widen Skyline Drive to six lanes,

Improve the horizontal and vertical alignment of Sky I ine Dr ive,

Provide two site roadways in close proximity to each other so that left turns entering the site and left turns exiting the site can do so on the same signal phase without interfering with each other on Skyline Drive.

Install a traffic control signal.

Intersection 6 - Skyline Drive and KnolIwood Drive

Either Scenario

Widen Skyline Drive to five lanes.

Provide three lanes in KnolIwood Drive.

Install a traffic control signal.

Intersection 7 - Skyline Drive and Erskine Road

As Zoned Scenario

Widen Skyline Drive to five lanes.

Provide two lanes for Erskine Road traffic to turn left into Skyline Drive.

Provide channelization to separate the Erskine Road right turns into Skyline Drive from the signalized part of the inter sect ion.

Install a traffic control signal.

Full Development Scenario

Widen Skyline Drive to six lanes.

As above, provide two lanes for southbound Erskine Road traffic to turn left into Skyline Drive,

Provide channelization to separate the right turns out of the inter sect ion proper.

Install a traffic control signal.

Intersection 8 - Greenwood Lake Turnpike and Skyline Drive

As Zoned Scenario

Widen Greenwood Lake Turnpike to six lanes.

Provide dual left turn lanes for Skyline Drive traffic to turn left onto Greenwood Lake Turnpike.

Provide a separate lane on Skyline Drive for right turns to Greenwood Lake Turnpike and an acceleration lane in Greenwood Lake Turnpike so that the right turn is not included in the intersection control. This acceleration lane is in addition to the six lanes stated above.

Install a traffic control signal.

Full Development Scenario

Same as the "As Zoned" scenario accepting a Level of service D at a saturation rate of 80% because further widening would be impractical.

Intersection 9 - Greenwood Lake Turnpike and West Brook Road

Both Scenarios

Widen Greenwood Lake Turnpike to three or four lanes.

Widen Ylest Brook Road to three lanes.

Install a traffic control signal.

Intersection 14 - Greenwood Lake Turnpike and Stonetown Road

Both Scenarios

Widen Greenwood Lake Turnpike to four lanes.

Widen Stonetown Road to three lanes.

Install a traffic control signal.

Intersection 15 - Greenwood Lake Turnpike and Margaret King Avenue

As Zoned Scenario

Widen Greenwood Lake Turnpike to four lanes.

Provide separate lanes for the westbound left and right turns from Margaret King Avenue.

Install a traffic control signal.

Full Development Scenario

Widen Greenwood. Lake Turnpike to five lanes.

Provide separate lanes for the westbound left and right turns from Margaret King Avenue.

Install a traffic control signal.

Intersections 16 6c 17 - Margaret King Avenue and Sterling Forest Tract

Both Scenarios

Widen Margaret King Avenue to five lanes with the middle lane 16 to 20 feet wide.

Paint channelization in the middle lane reserving it for left turns into and left turns out of the site.

Provide two or more access points to the site.

Do not install a traffic control signal.

Intersection 18 - Margaret King Avenue and Site 6

As Zoned Scenario

Widen Margaret King AVenue to five lanes.

Do not install a traffic control signal.

Full Development Scenario

Widen Margaret King Avenue to five lanes with the middle lane 16 to 20 feet wide.

Paint channelization in the middle lane reserving it for left turns into and left turns out of the site.

Do not install a traffic control signal.

Intersection 19 - Margaret King Avenue and Site 7

Both Scenarios

Widen Margaret King Avenue to five lanes with the middle lane 16 to 20 feet wide.

Paint channel ization in the middle lane reserving it for left turns into and left turns out of the site.

Do not install a traffic control signal.

Intersection 21 - Sloatsburg Road and Margaret King Avenue

Both Scenarios

Widen Sloatsburg Road to five lanes

Widen Margaret King Avenue to five lanes with two eastbound lanes for left turns and one eastbound Icne for right turns.

Install a traffic control signal.

Intersection 22 - Greenwood Lake Turnpike and Skylands Road

Both Scenarios

Widen Greenwood Lake Turnpike to five lanes.

Install a traffic control signal.

Intersection 23 - Greenwood Lake Turnpike and Sloatsburg Road

As Zoned Scenario Widen Greenwood Lake Turnpike to four Ianes.

Install a traffic control signal.

Full Development Scenario

Widen Greenwood Lake Turnpike to five lanes.

Install a traffic control signal.

ROADWAY RECOMMENDATIONS

These recommendations are to cover roadway sections between the major intersections. At the major intersections the Intersection Recommendations would apply.

SKYLINE DRIVE

As Zoned Scenario

Skyline Drive should be widened to five lanes from Greenwood Lake Turnpike to south of Intersection 1 at Countryside (Site 1) near the water tower. From Countryside (Site 1) south Skyline Drive should be four lanes wide.

Full Development Scenario

Skyline Drive should be widened to five lanes with the middle lane 16 to 20 feet wide from Greenwood Lake Turnpike to south of Countryside (Site 1), and four lanes from this point southerly.

Greenwood Lake Turnpike

Both Scenarios

Widen Greenwood Lake Turnpike to four lanes from the southern Borough line to Skyline Drive, then five lanes to Sloatsburg Road, then four lanes to the New York border.

Sloatsburg Road

Both Scenarios

Widen Sloatsburg Road to four lanes for its entire length.

Margaret King Avenue

As Zoned Scenario

Widen Margaret King Avenue to five lanes from Greenwood Lake Turnpike to Peters Mine Road, and then four lanes to Sloatsburg Road,

Full Development Scenario

Widen Margaret King Road to five lanes with the middle lane 16 to 20 feet wide from Greenwood Lake Turnpike to Peters Mine Road, and then four lanes to Sloatsburg Road,

West Brook Road and Stonetown Road

Both Scenarios

Improve these roadways to two lane roadways with cross sections conforming to the AASHTO Policy on Design of Urban Highways.

GZ&ZLKLG&ZLQN.

I certify that the above is a true representation of my findings.

John E. Christ

John E. Christ, P.E.
New Jersey License 13883

RESUME OF JOHN S. CHRIST, P.E. JUNE 1980

?0 Orton Road
West Caldwell, New Jersey 07006 201-226-3609

^PROFESSIONAL ENGINEER

(Licensed in the State of New Jersey, Certificate #13883

EDUCATION

Bachelor of Science in Civil Engineering, Rutgers University, June 1953-
Certificate in Traffic Engineering, Yale University Bureau of Highway Traffic, 1959 (academic year full time graduate school)

EXPERIENCE

Senior Engineer-Traffic, New Jersey Division of Motor Vehicles, Bureau of Engineering and Planning, June 1959 to April 1963* Design of traffic control devices such as traffic signals, speed zone signs, "through streets" channelizations, intersection geometries, regulatory and warning signs, review of traffic data including volume counts and accident reports.

Principal Engineer-Traffic, Essex County (N.J.) Highways and Bridges Department, April 1963 to December 1965.

Traffic Engineer, Essex County Engineering Division, formerly the Highways and Bridges Dept., December 1965 to present: Determines the need for and the design of traffic control devices such as traffic signal3, inter section and roadway geometries, channelizations, regulatory, warning and guide signs, review of accident data, traffic counts, site plans, subdivisions, TOPICS analysis, describes aspects of traffic to the public, gives expert testimony concerning the County roadway system. VJorks with other engineers in department on various roadway projects. Responsible to the County Engineer.

f Former teacher at Rutgers University, University Extension Division, New
v- Brunswick, N.J., I968 through 1977:

Traffic Regulations: 3 years, *k* sessions/yr., 2 hours per session
Traffic Signals: 5 years, 13 sessions/yr., 3 hours per session
Intersection Geometries: 1. year,2 sessions/yr. 3 hours per session
Traffic Signs and Markings: 2 years, 10 sessions/yr, 3 hours per sessi(

Lecturer at various traffic seminars given by Rutgers University, Newark College of Engineering, A.A.A., New Jersey State Safety Council and Substitute Lecturer at he Bergen County Police Academy.

Consulting As a Professional Engineer, April 1965 to present: Design of driveways and parking facilities for businesses, design of traffic contro! signals and one-way roadway report for municipalities, expert testimony before planning boards, variance boards, A.B.C. hearings, magistrates courts, Superior Court, Chancery Division and Law Division of Superior-Court, Traffic Court.

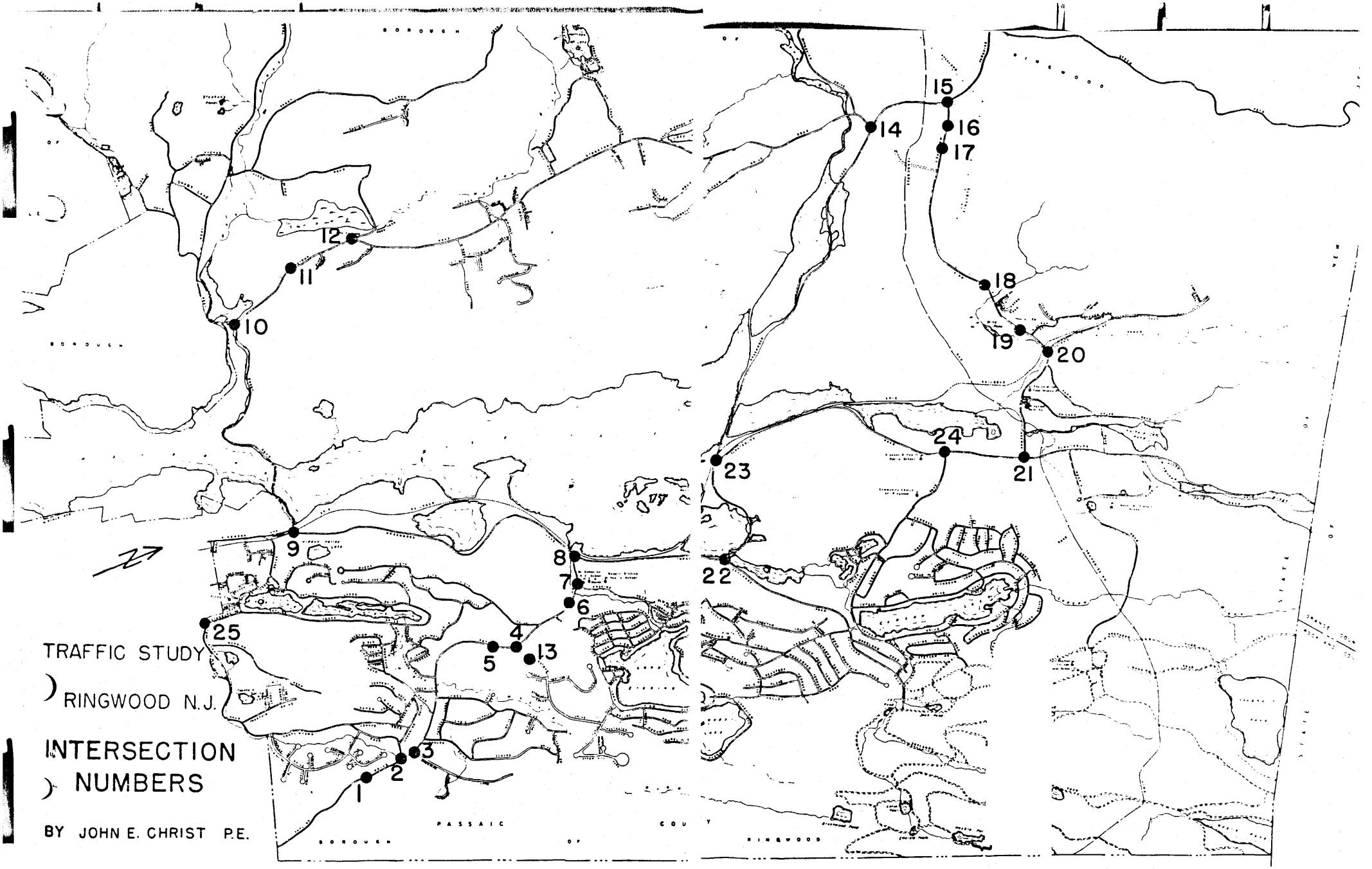
ACTIVITIES"

Member of the Institute of Transportation Engineers, currently Immediate Past President of the N.Y. and N.J. Metropolitan Section (also past Treasurer, Secretary, and Vice President.

Supporting Member of the Transportation Research Board, National Academy of Sciences.

Past member of committees to review the State Laws on Traffic and the Manual on Uniform Traffic Control Devices for Streets and Highways

Listed in the 1980 edition of Who's Who in Engineering, published by the American Association of Engineering Socities.


TRAFFIC STUDY
RINGWOOD N.J.
INTERSECTION
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BY JOHN E. CHRIST P.E.
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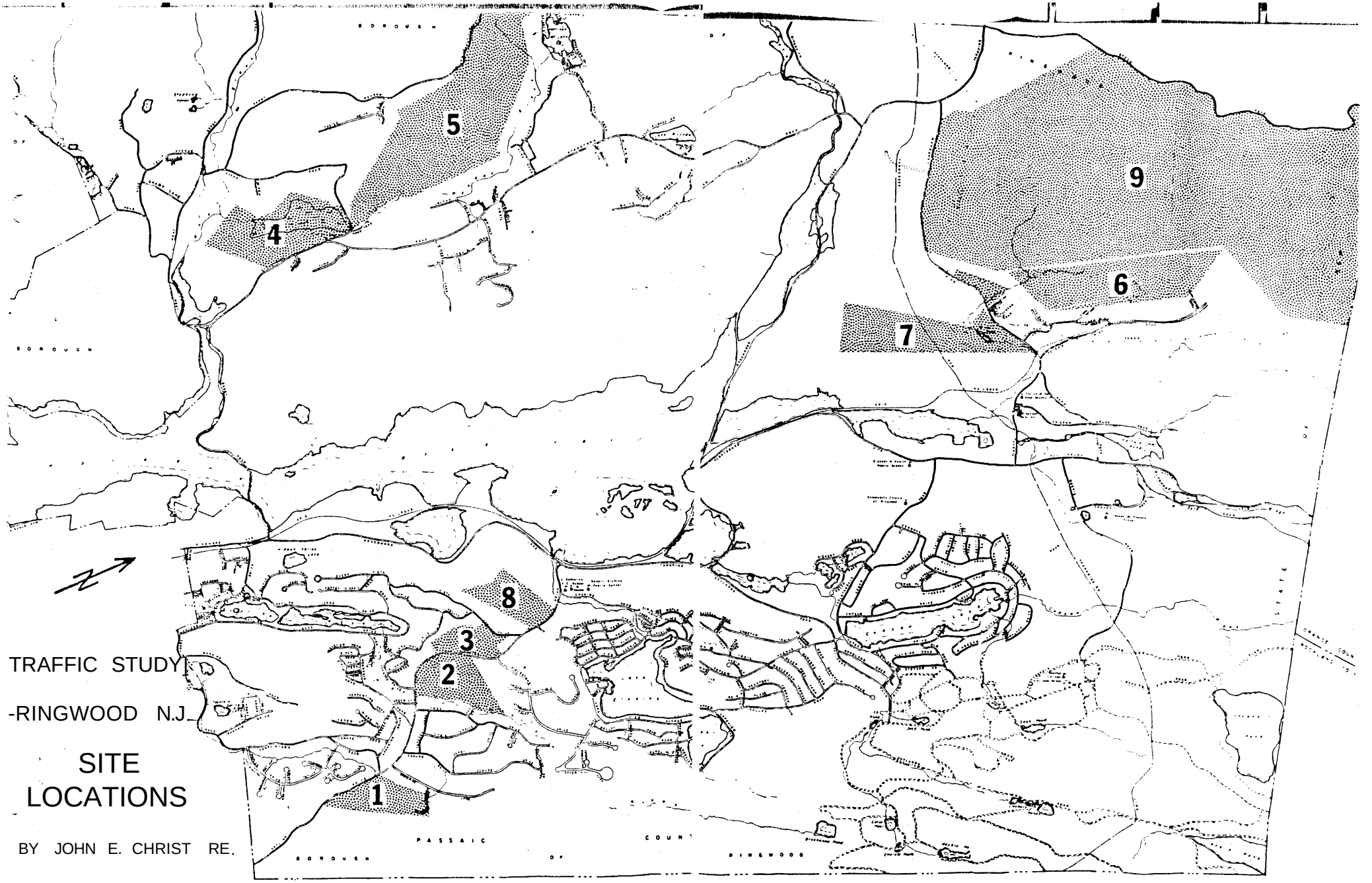


TRAFFIC STUDY

-RINGWOOD N.J.

SITE LOCATIONS

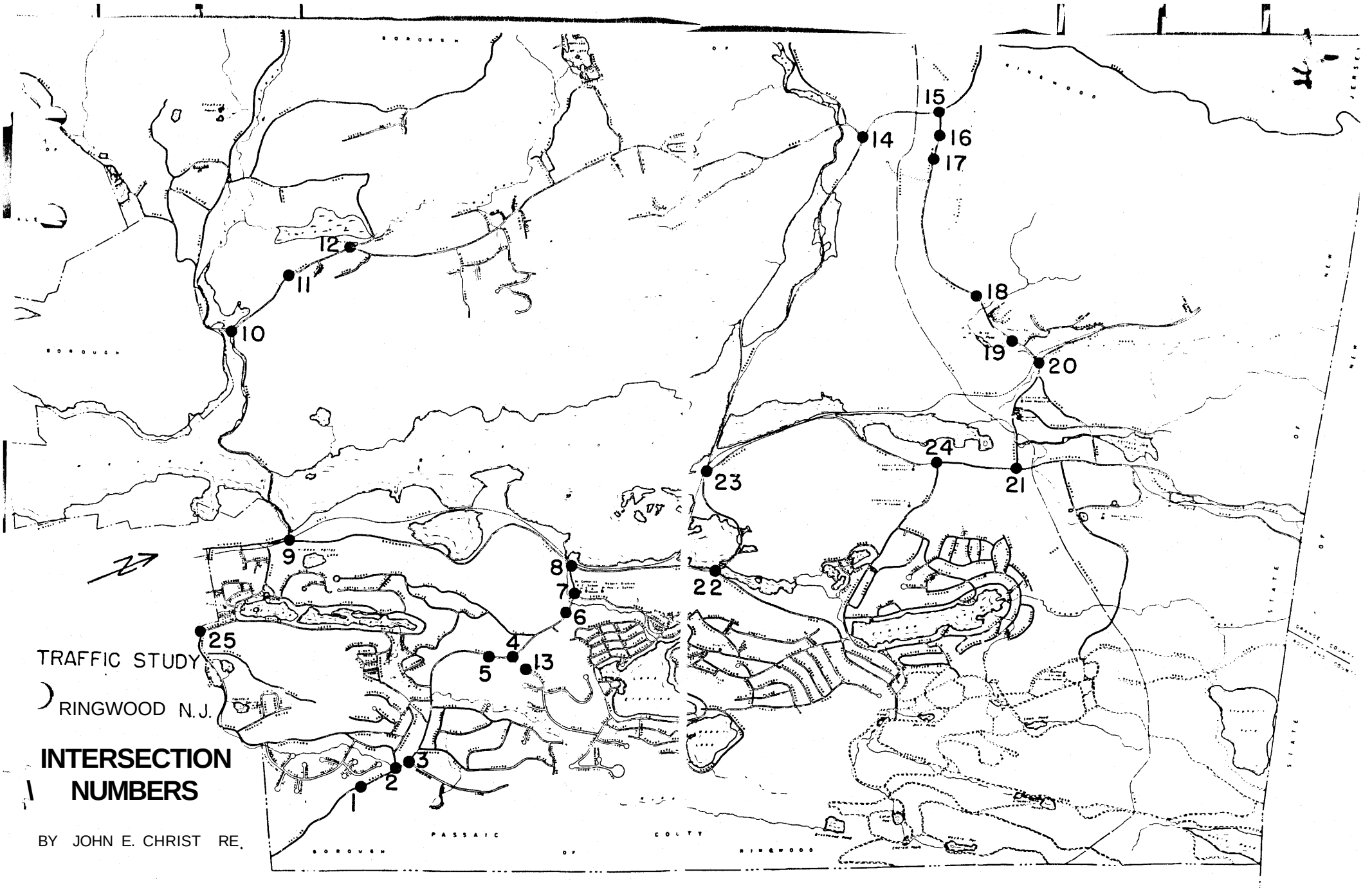
BY JOHN E. CHRIST RE.

APPENDIX A

1983 BACKGROUND TRAFFIC

1993 BACKGROUND TRAFFIC AND SITE TRAFFIC

1983 BACKGROUND TRAFFIC AND SITS TRAFFIC


TRAFFIC STUDY
RINGWOOD N.J.
INTERSECTION NUMBERS
BY JOHN E. CHRIST RE.
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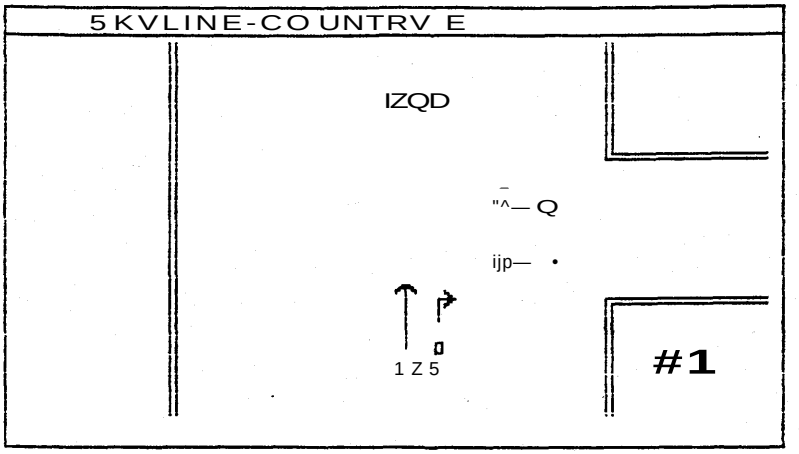
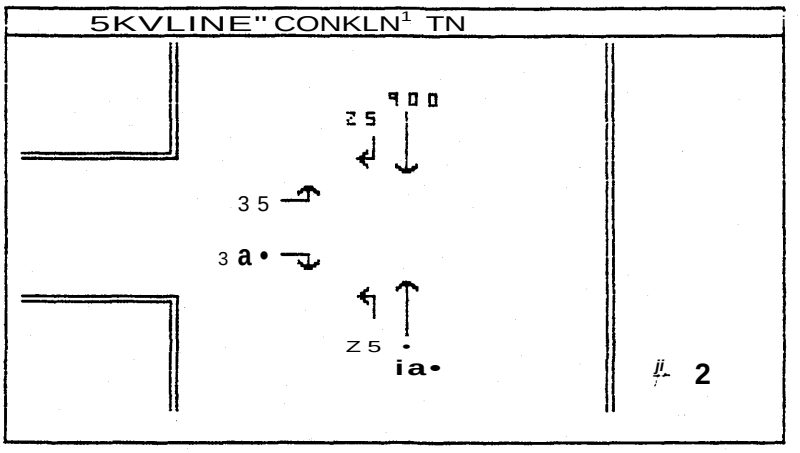
PASSAIC COUTY
RINGWOOD

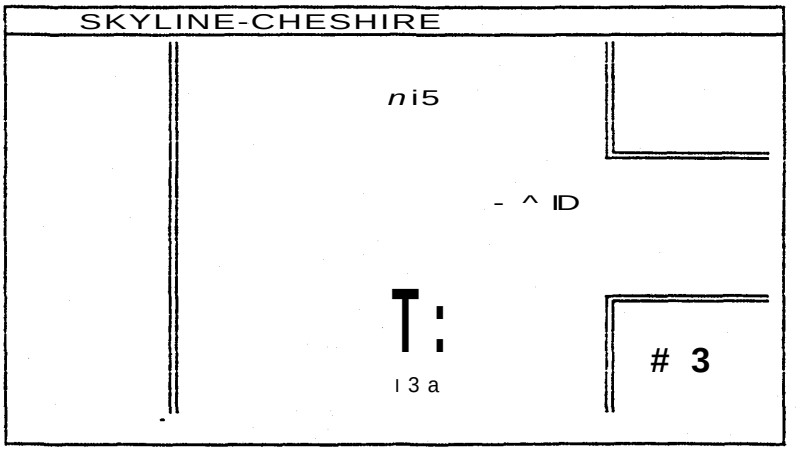
1983 BACKGROUND TRAFFIC

A.M. PEAK HOUR EXISTING TRAFFIC VOLUMES

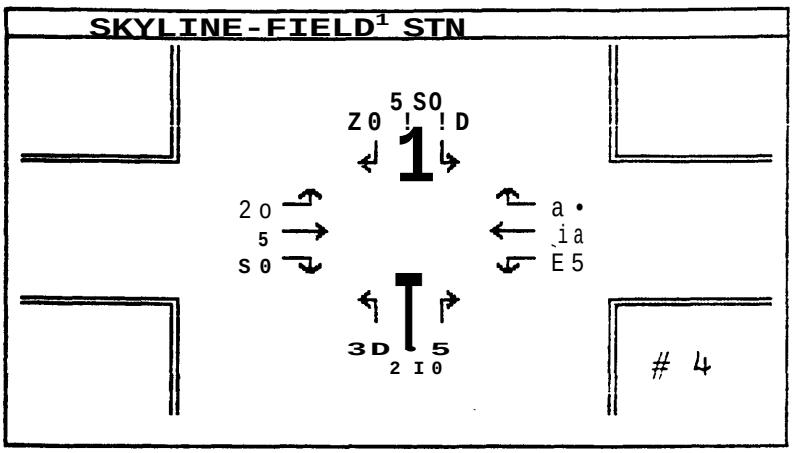
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

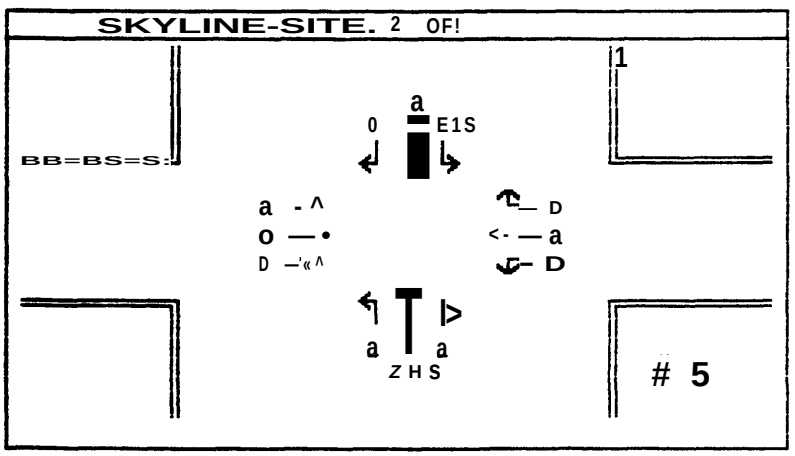


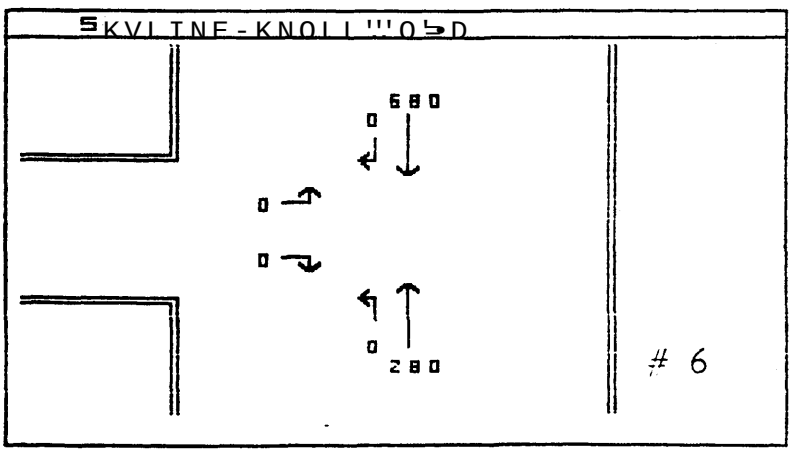




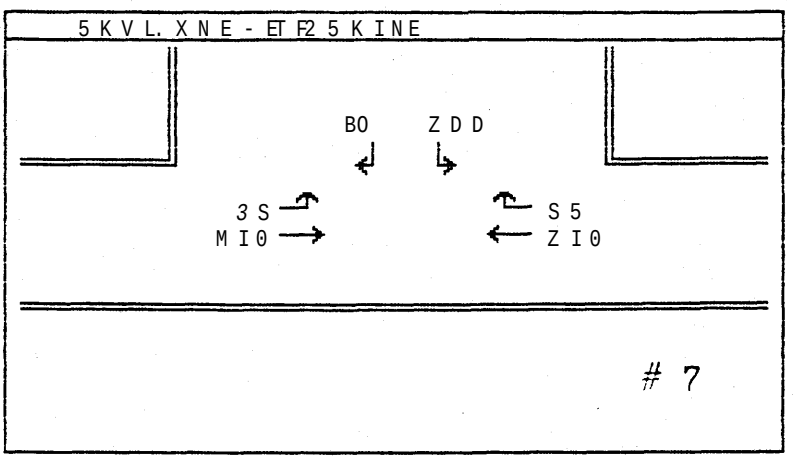
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

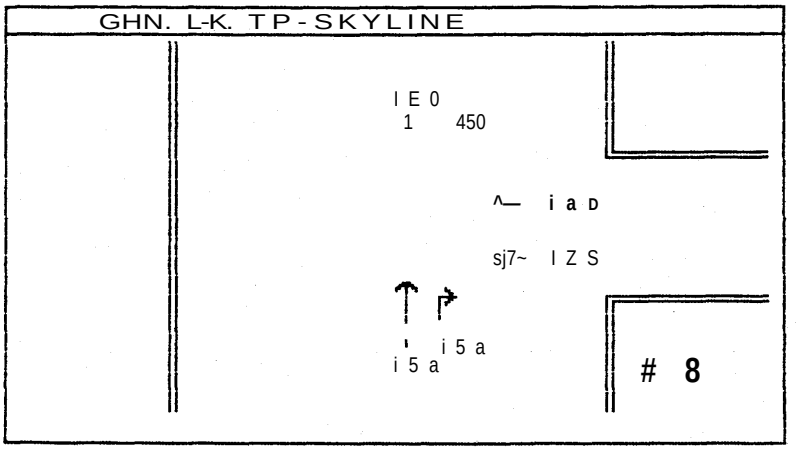


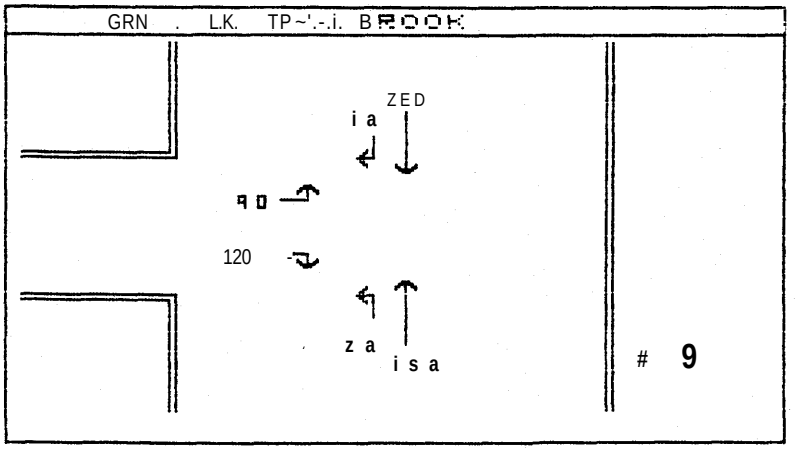




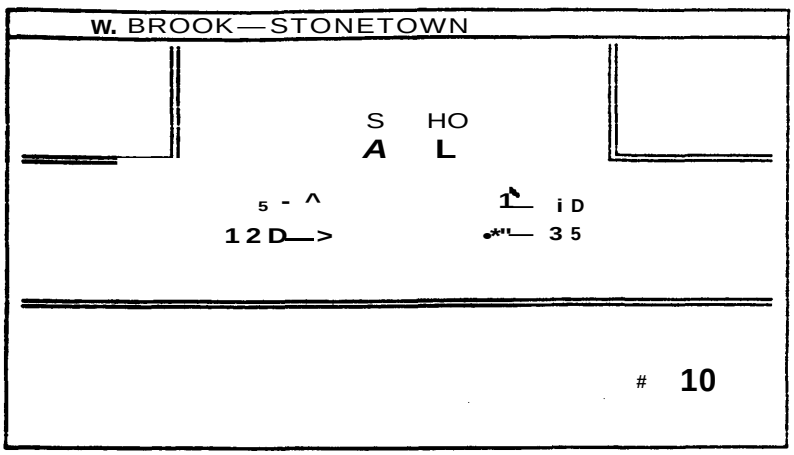
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

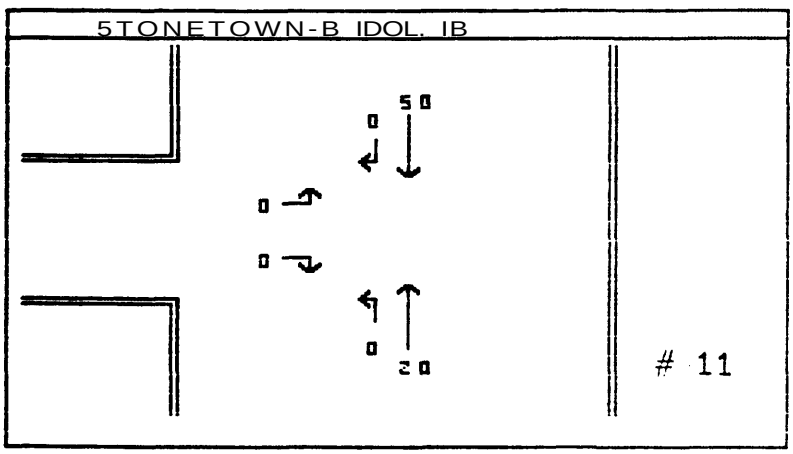


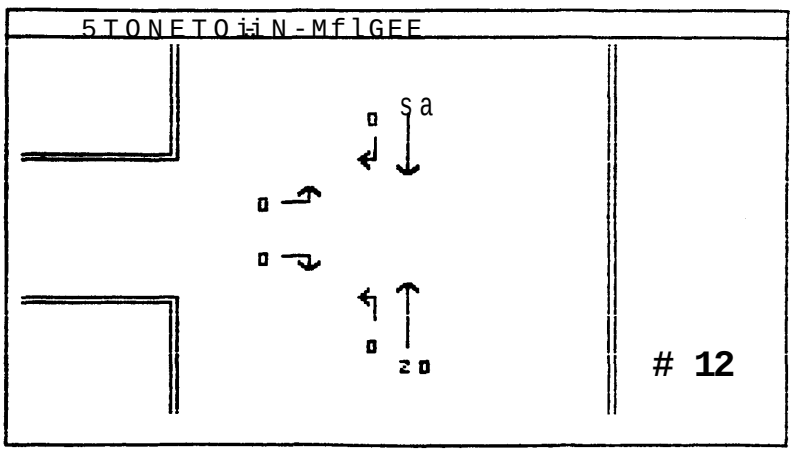




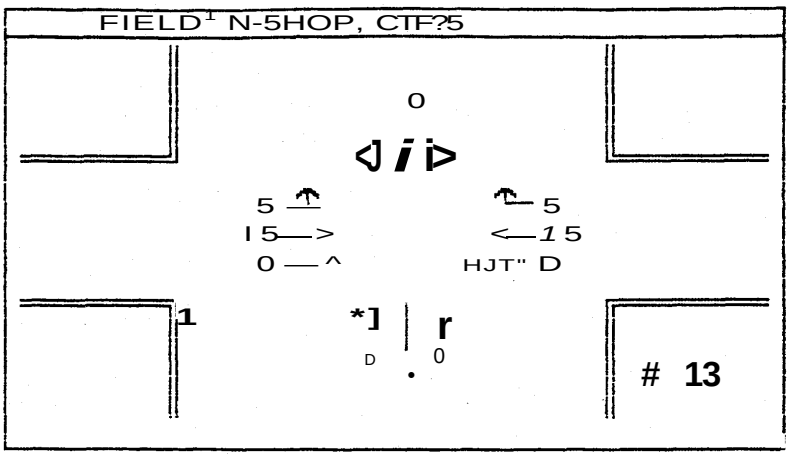
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

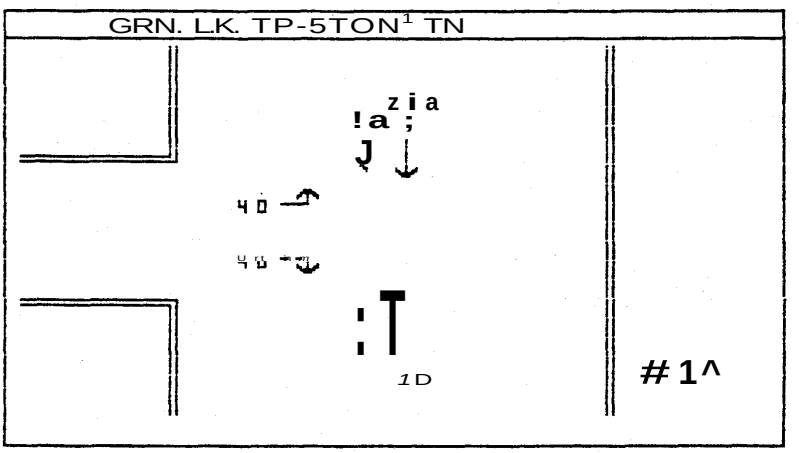


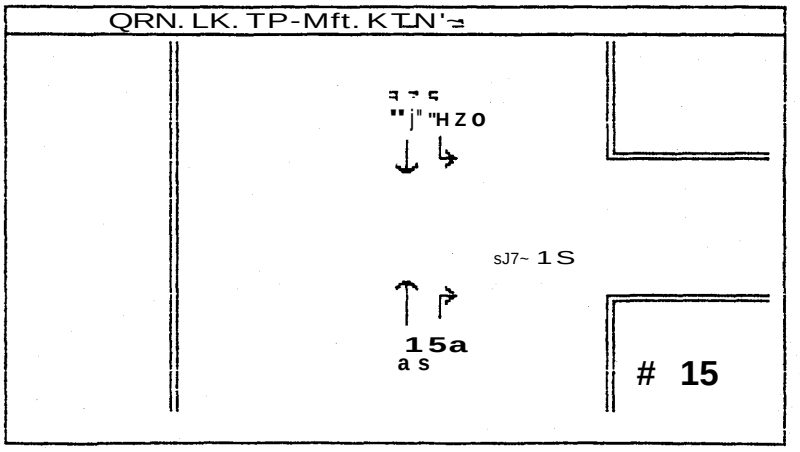




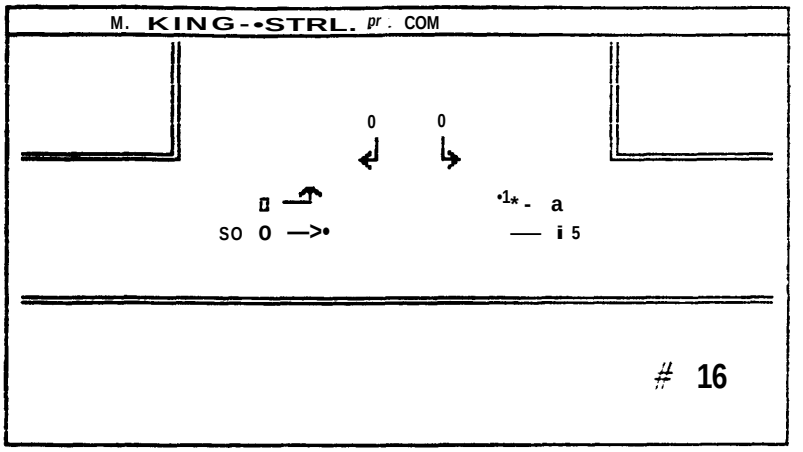
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

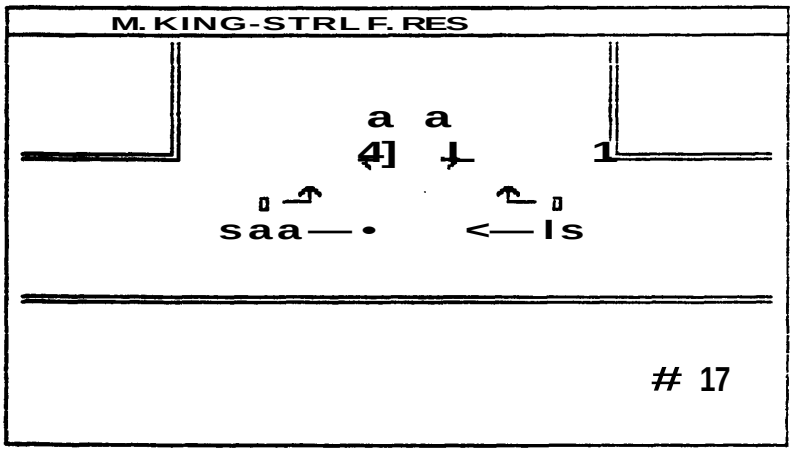


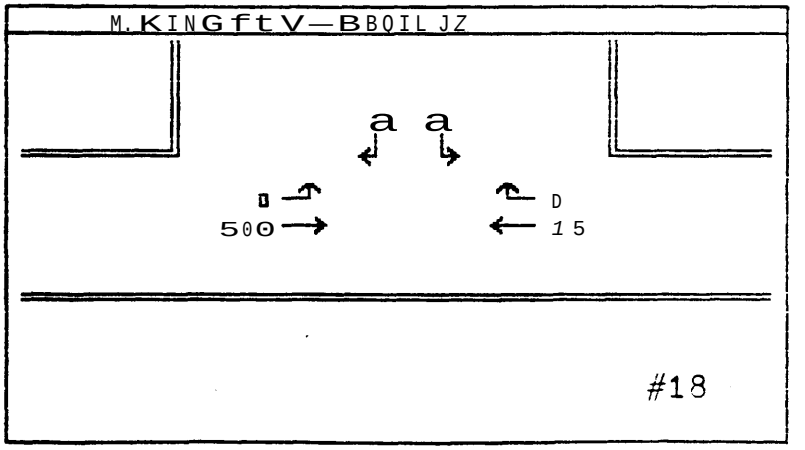




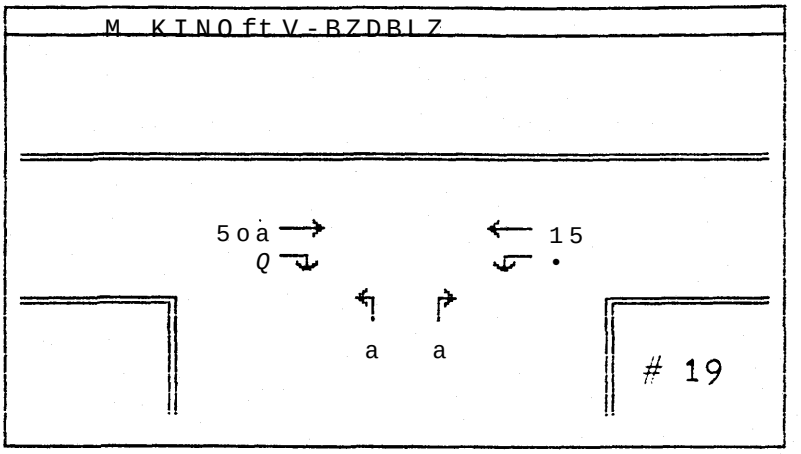
EXISTING INTSRSECTION TRAFFIC
A.M. PEAK HOUR

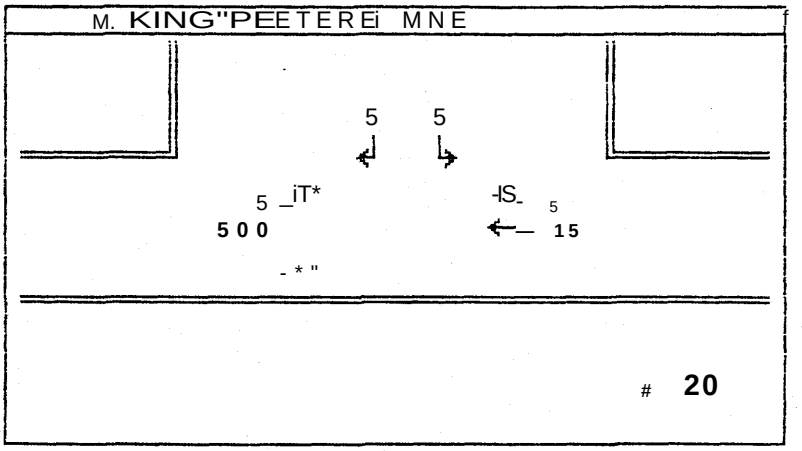




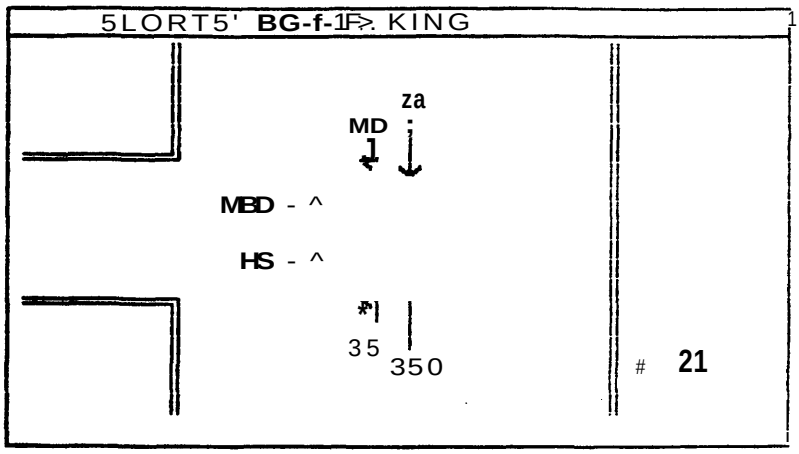


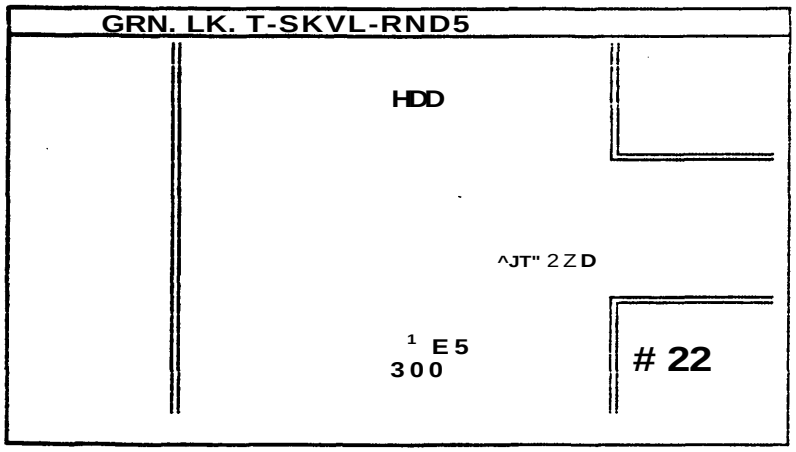
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

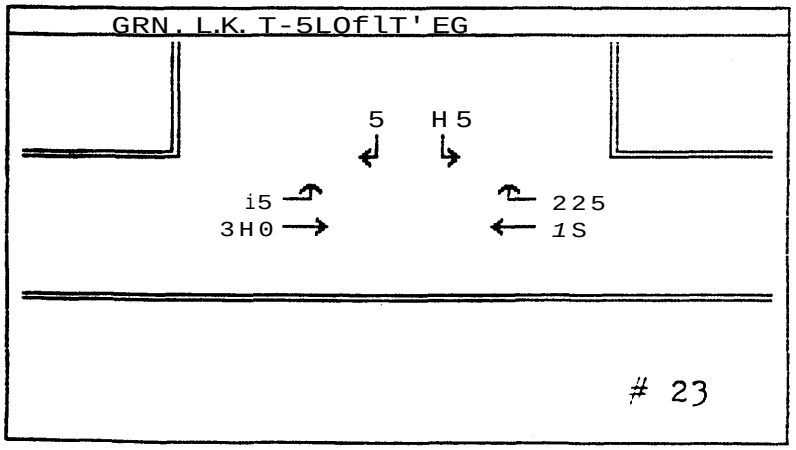




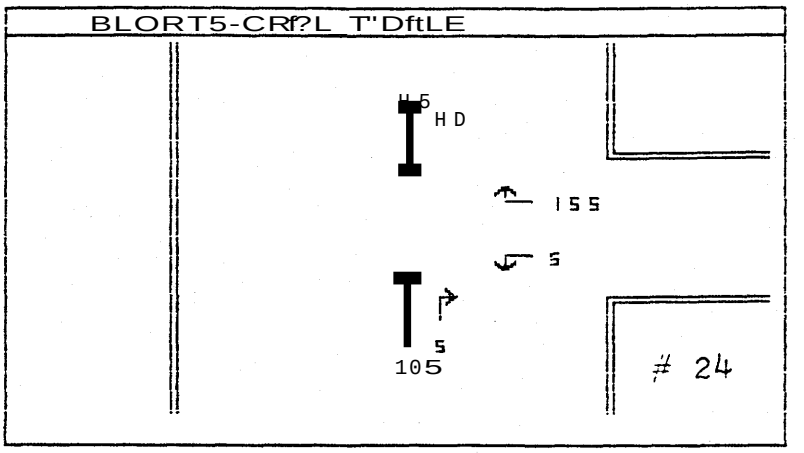
EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

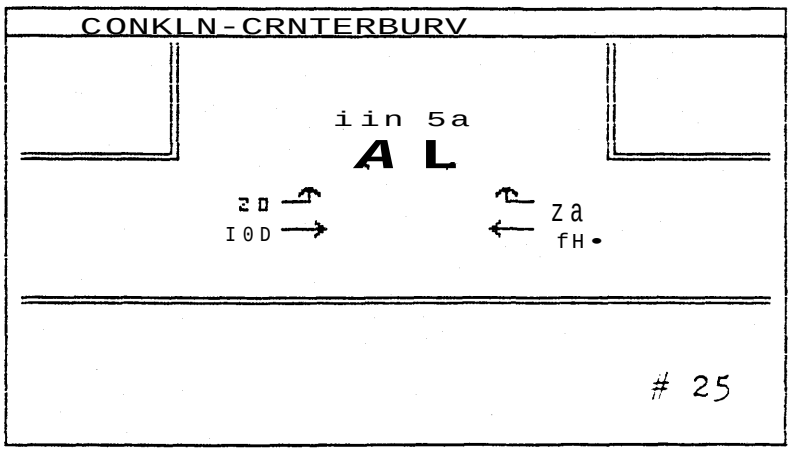






EXISTING INTERSECTION TRAFFIC
A.M. PEAK HOUR

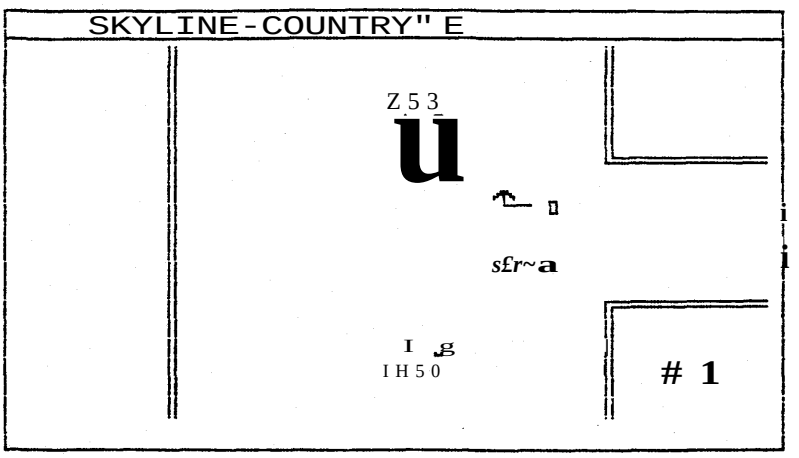


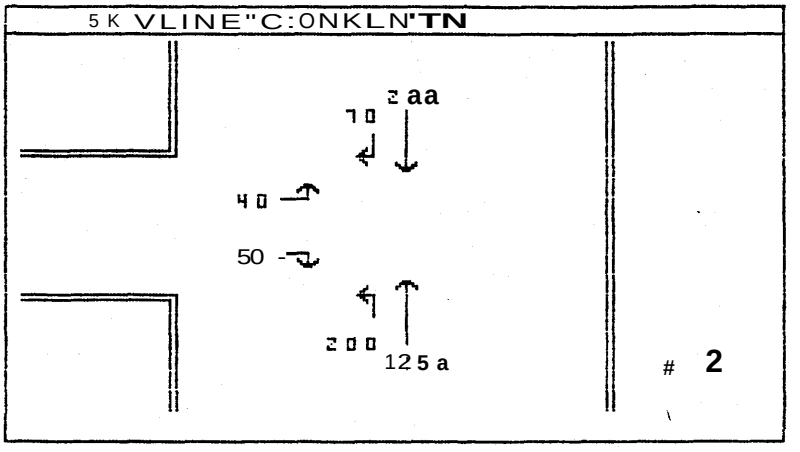


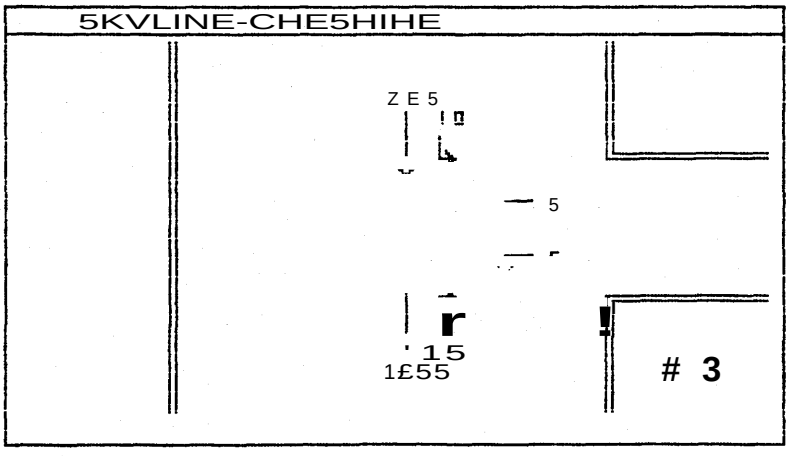
1983 BACKGROUND TRAFFIC

P.M. PEAK HOUR EXISTING TRAFFIC VOLUMES

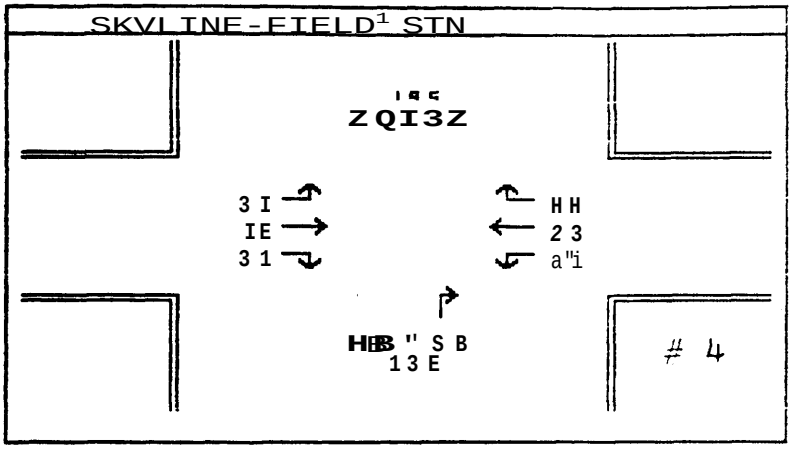
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

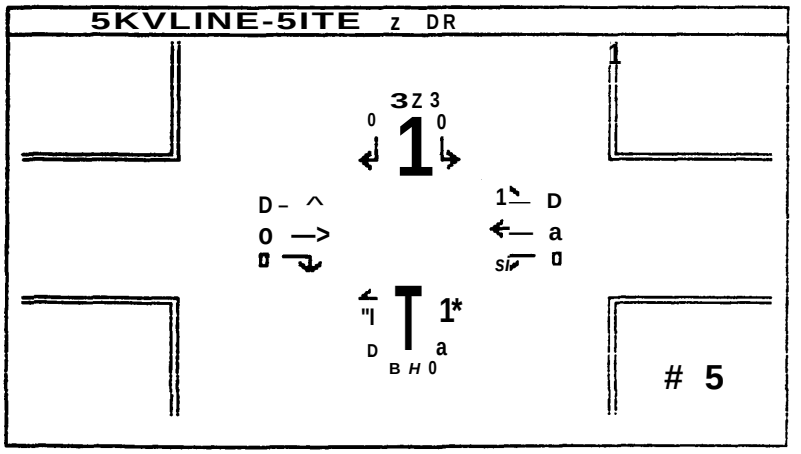


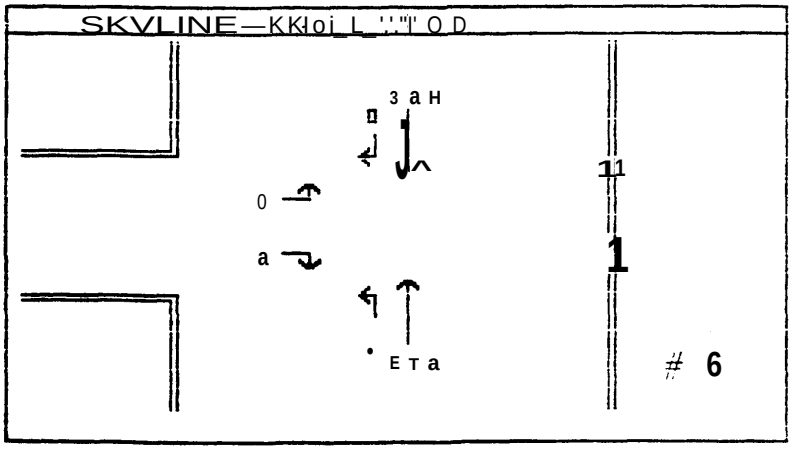




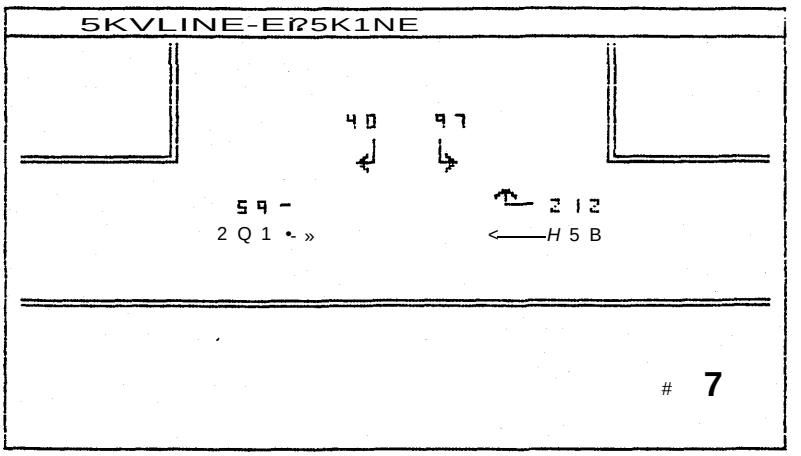
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

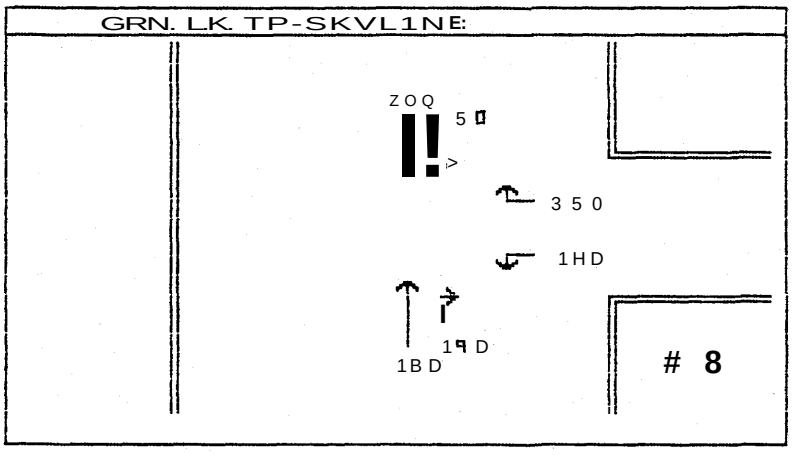


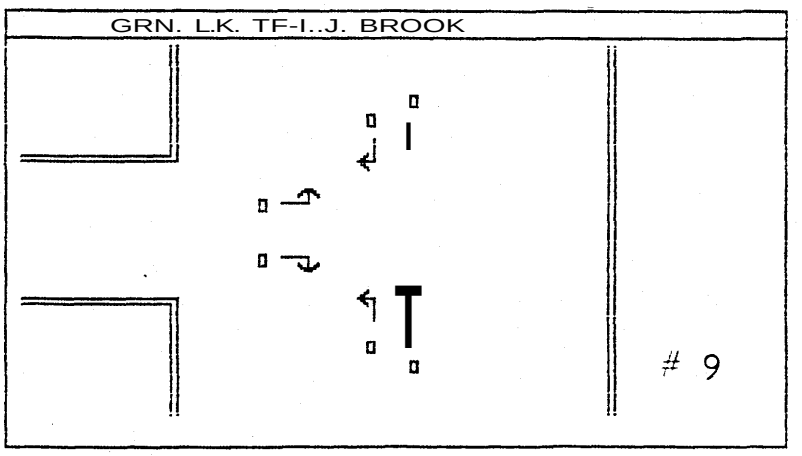




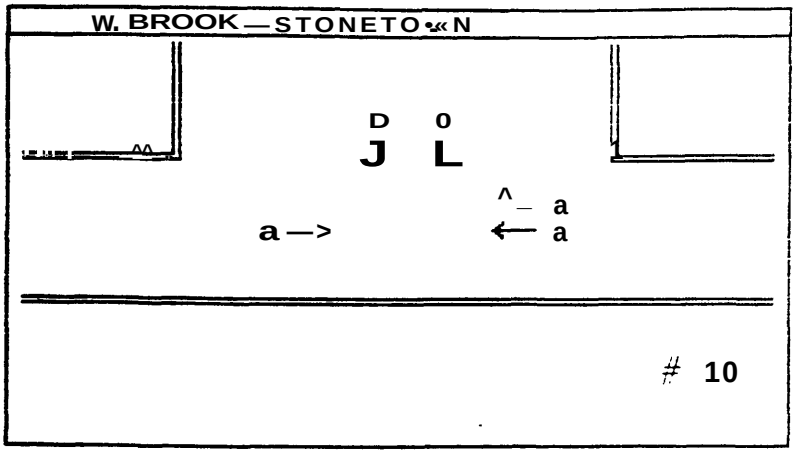
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

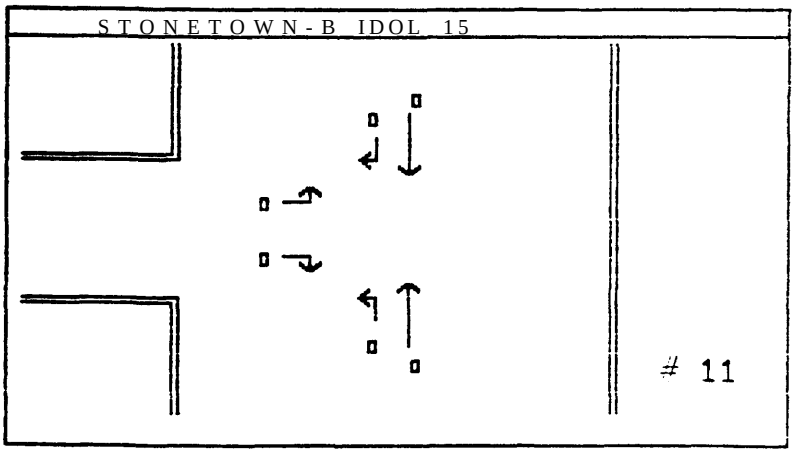


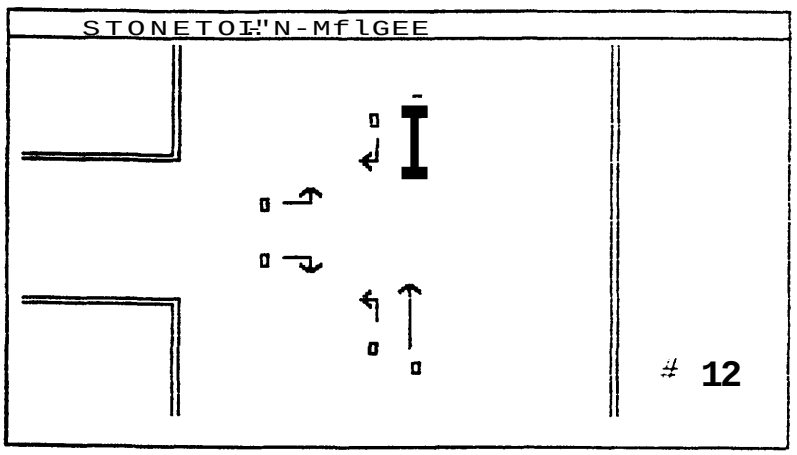




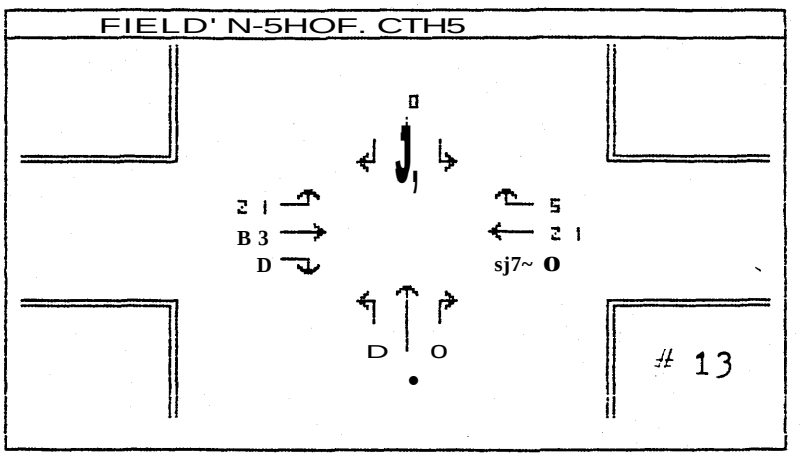
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

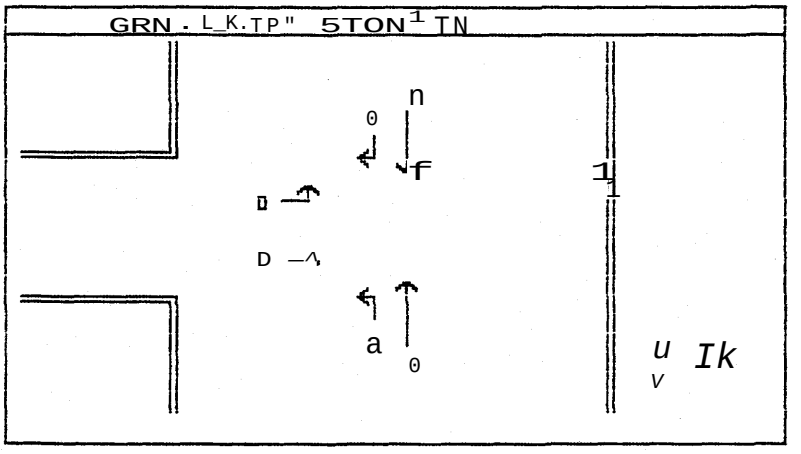


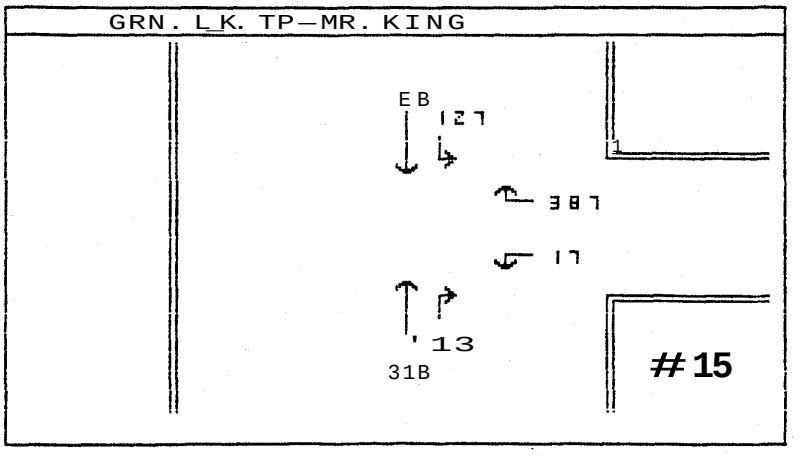




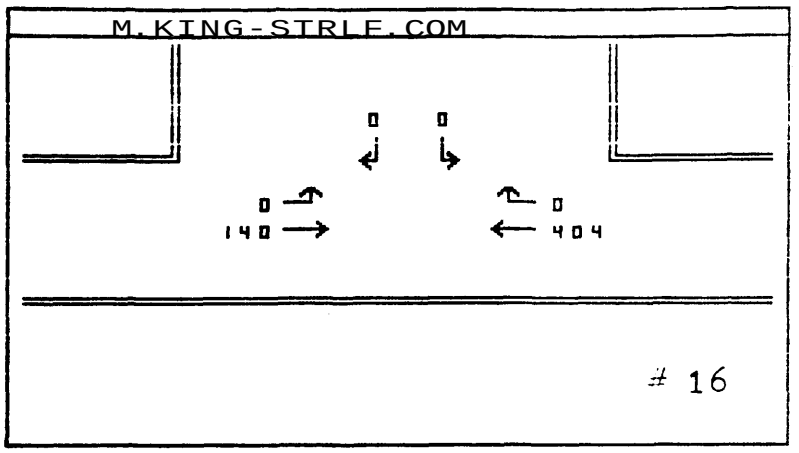
EXISTING INTSRSSCTION TRAFFIC
P.M. PEAK HOUR

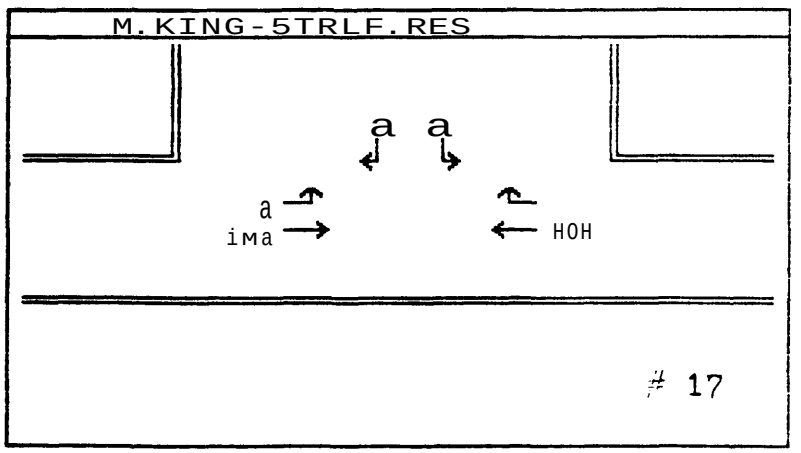


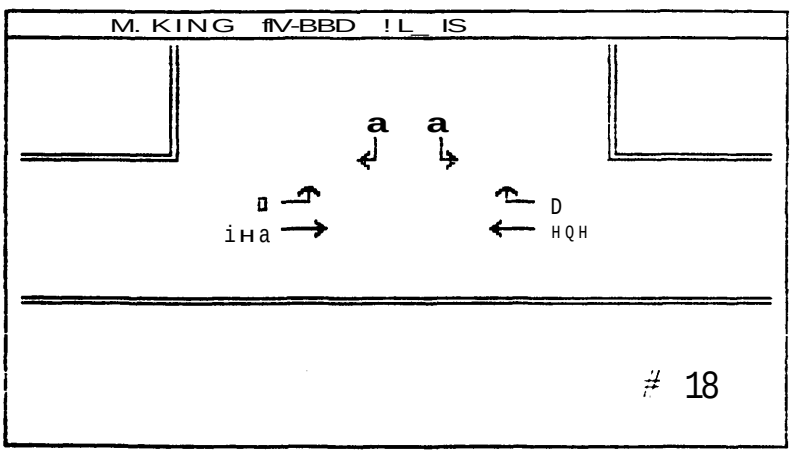




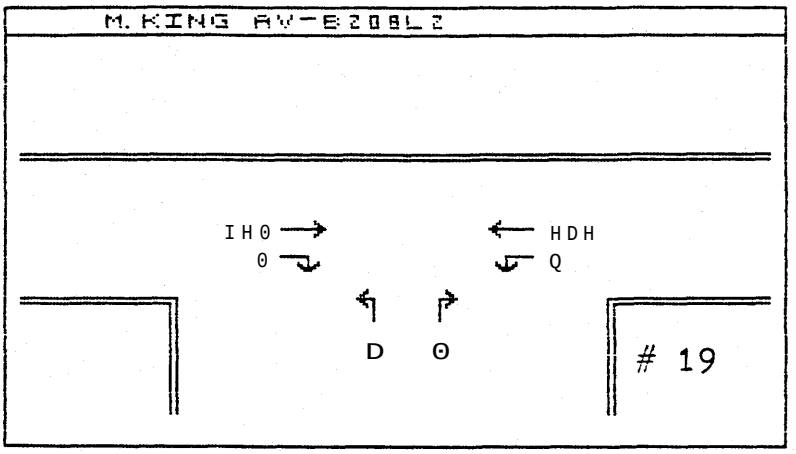
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

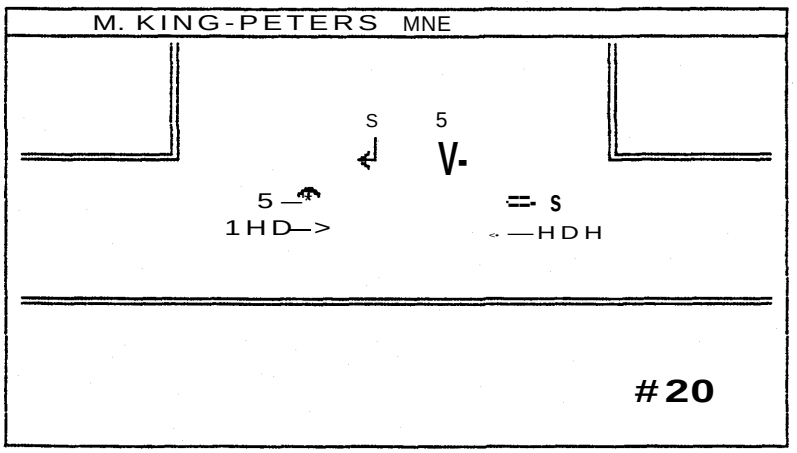




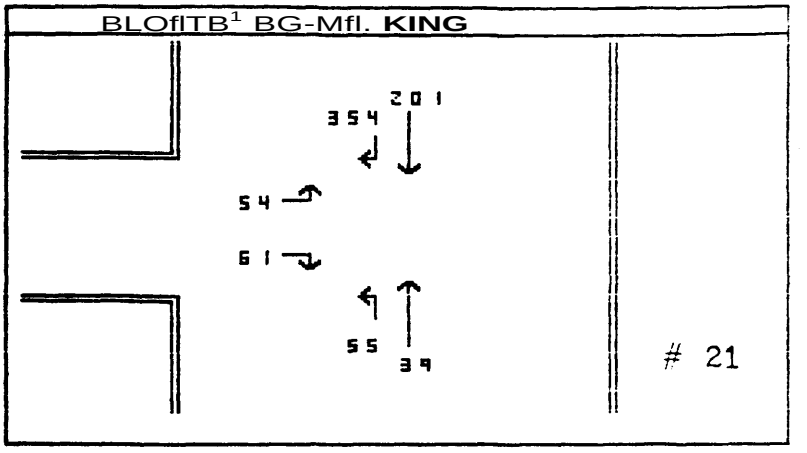


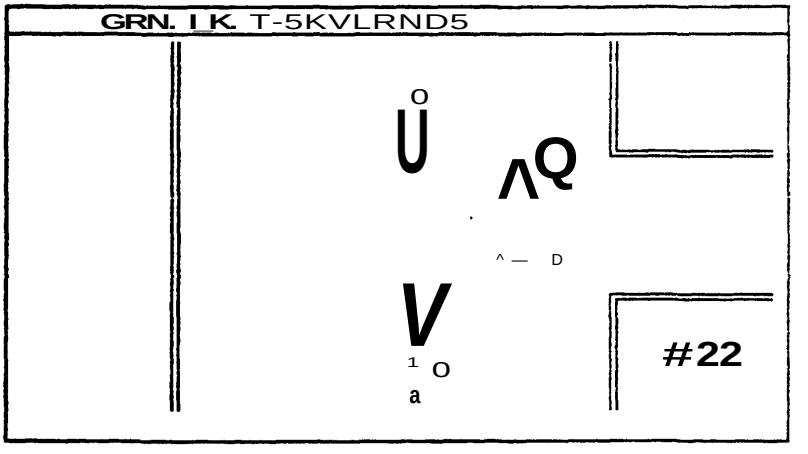
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

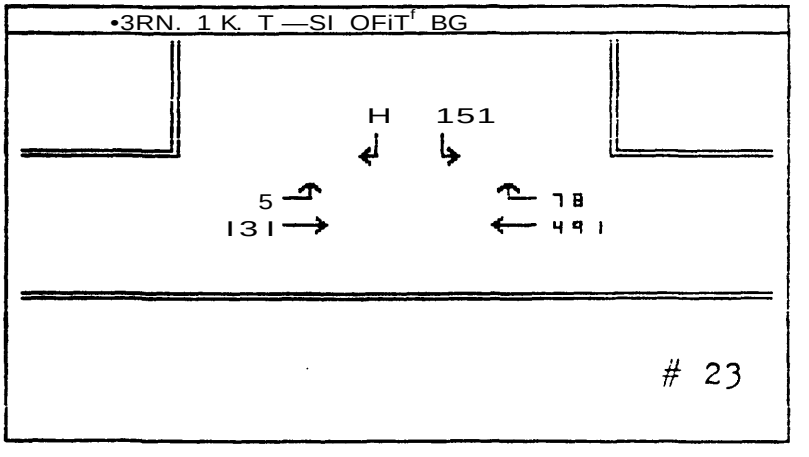




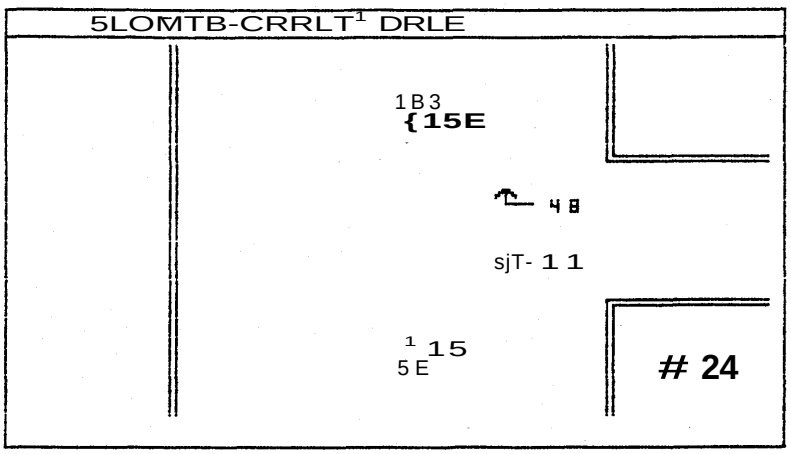
EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR

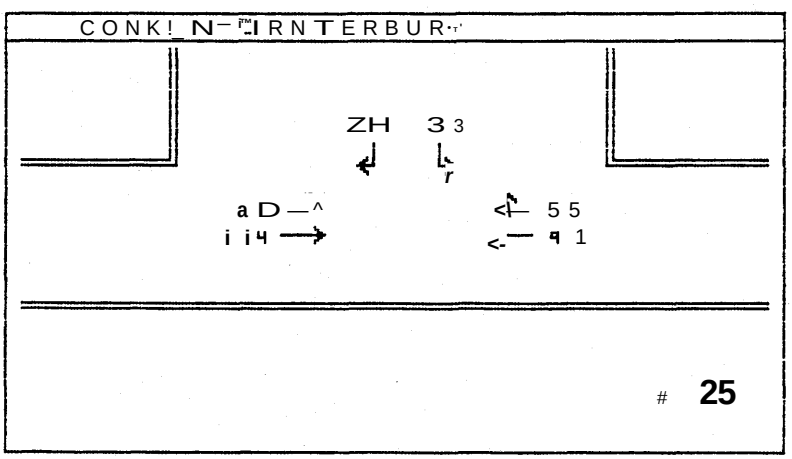






EXISTING INTERSECTION TRAFFIC
P.M. PEAK HOUR



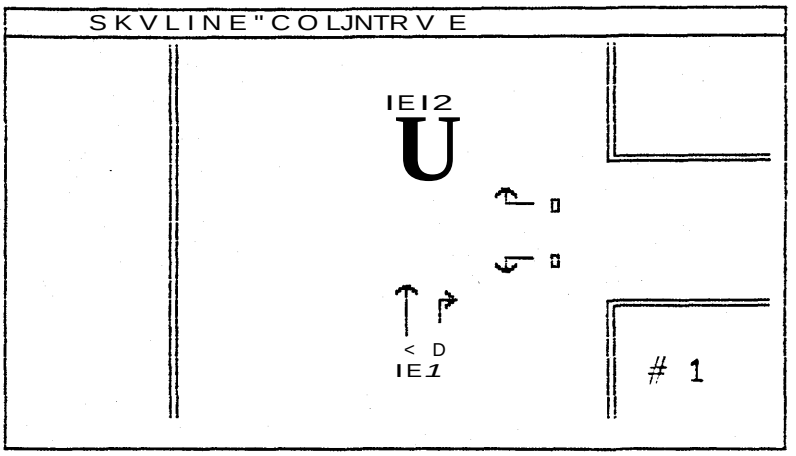


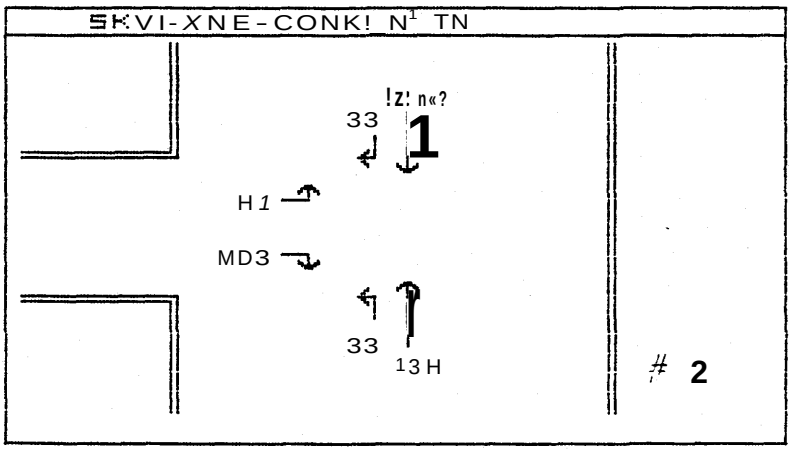
1983 BACKGROUND TRAFFIC

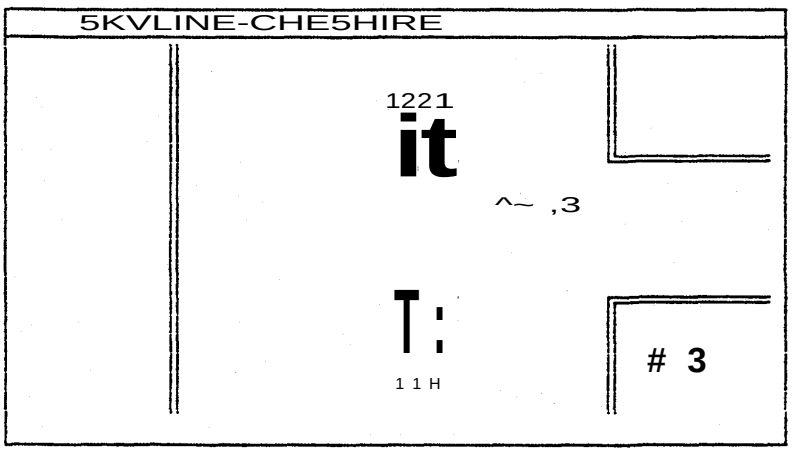
A/M. PEAK HOUR 1993 TRAFFIC VOLUMES

EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS

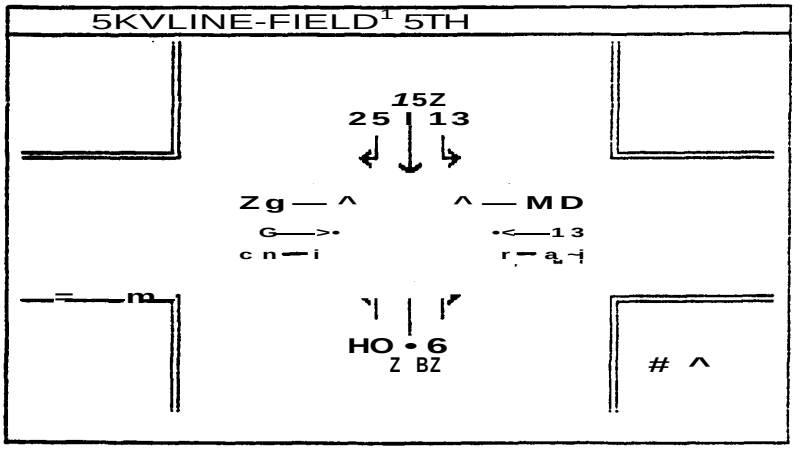
A.M. PEAK HOUR

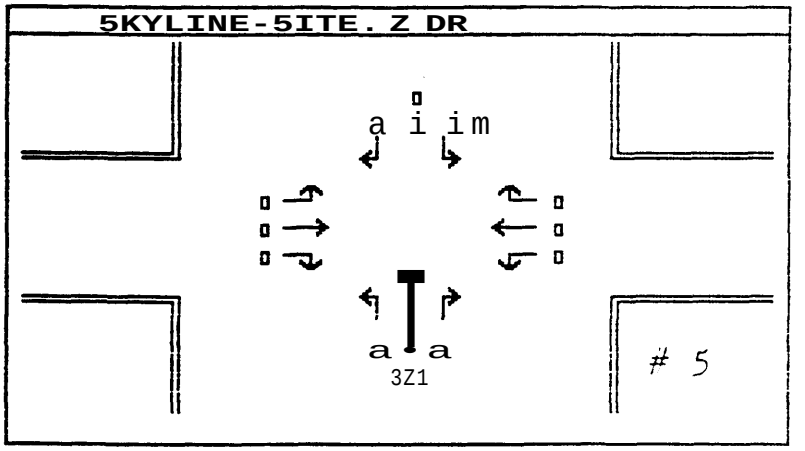


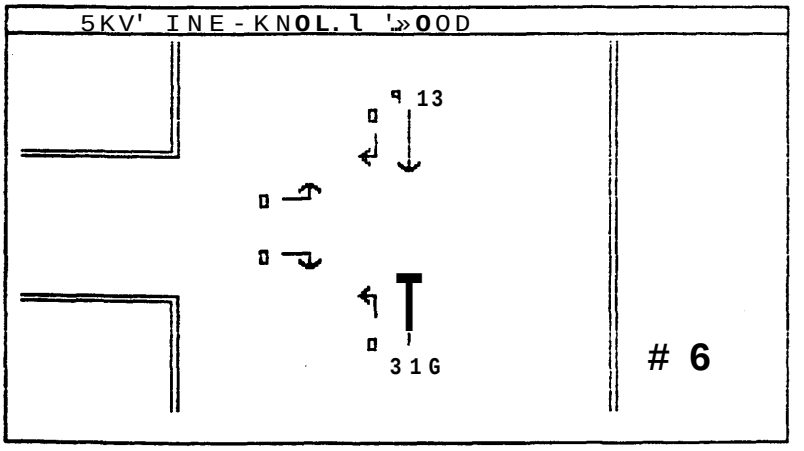




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3%/YR FOR 10 YEARS
A.M. PEAK HOUR

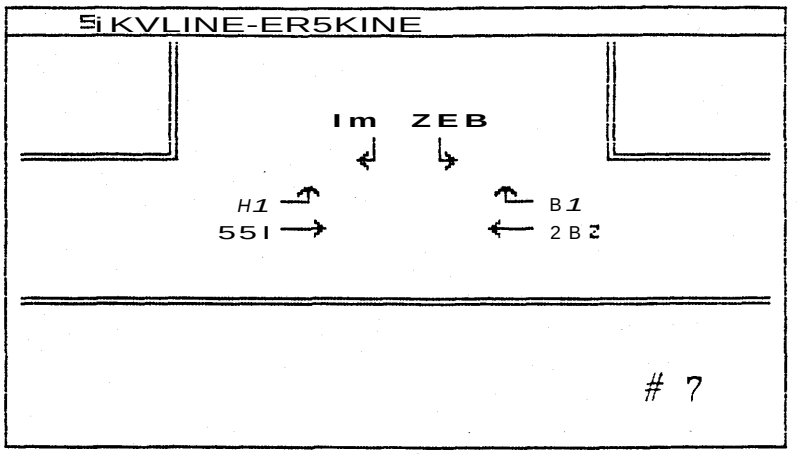


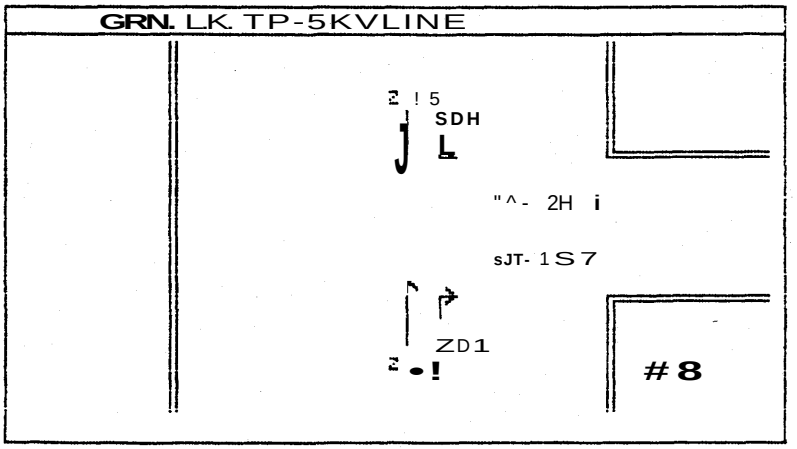


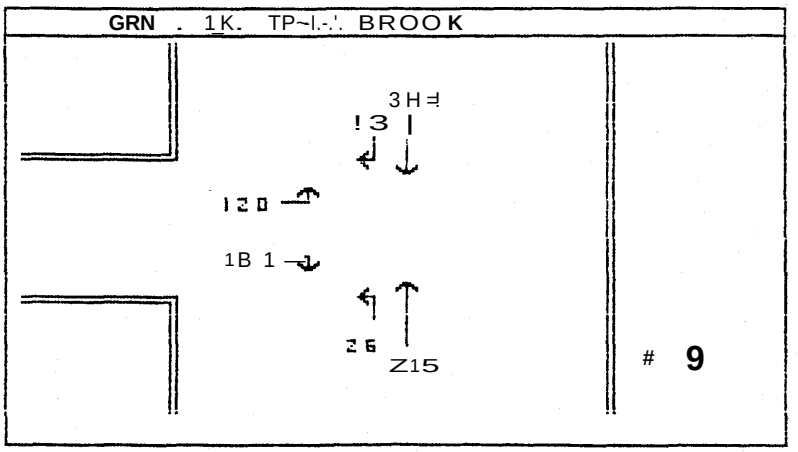


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR_1O YEARS

A.M. PEAK HOUR

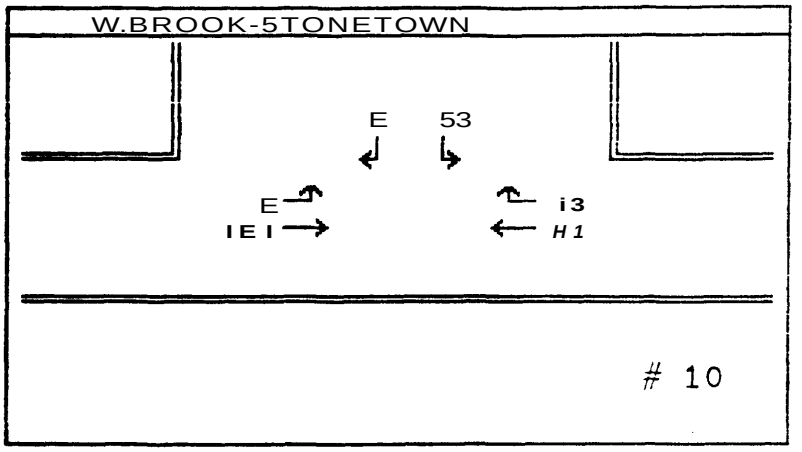


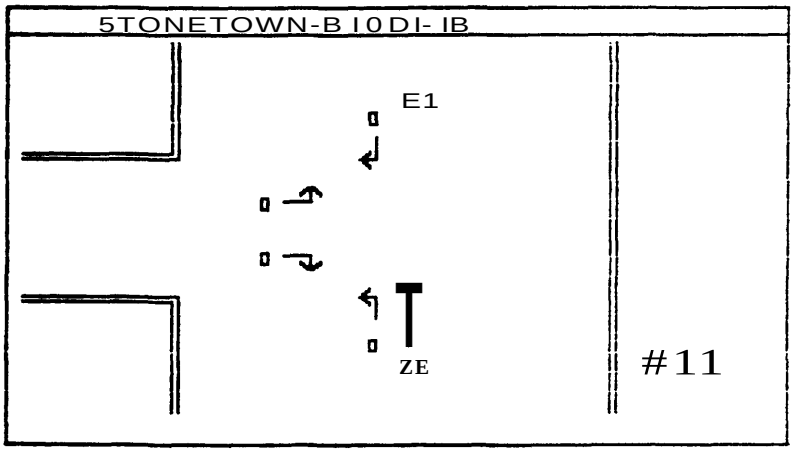


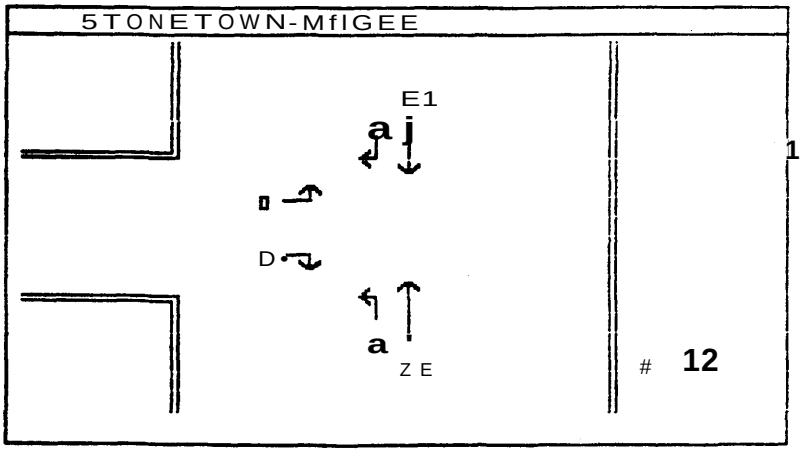


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3%/YR FOR 10 YEARS

A.M. PEAK HOUR

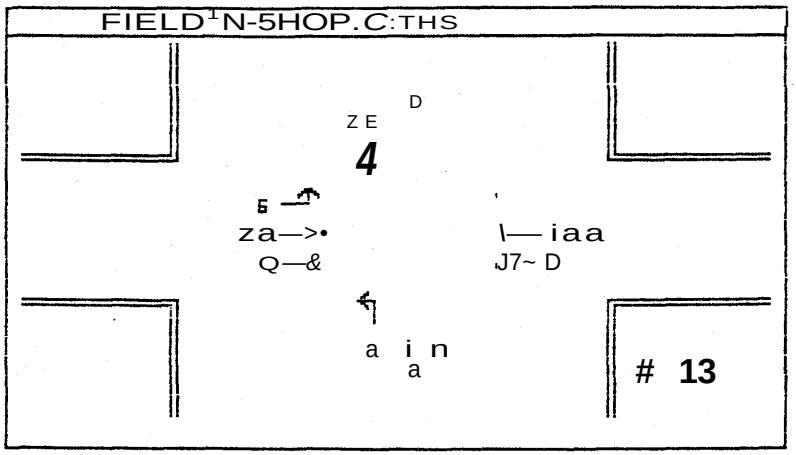


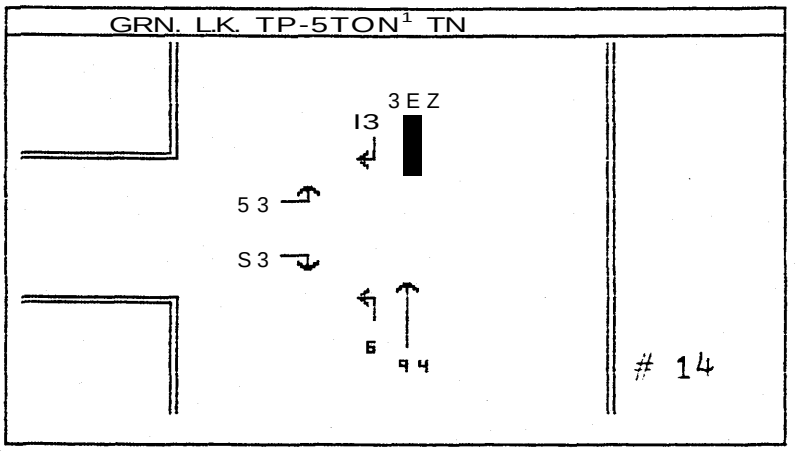


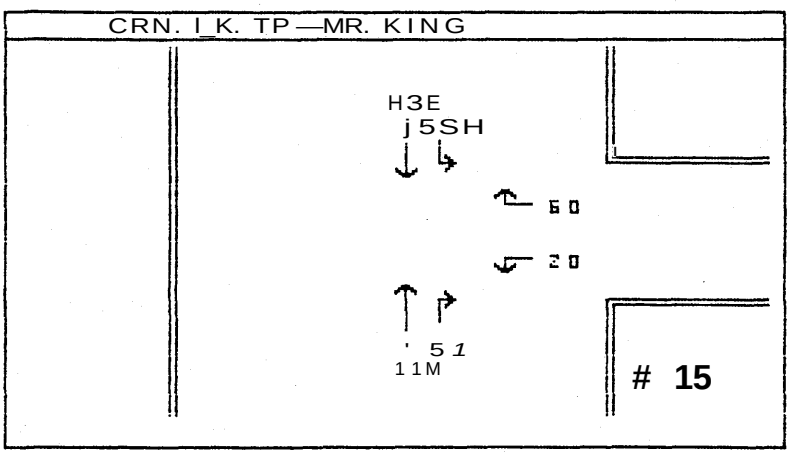


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3%/YR FOR 10 YEARS

A.M. PEAK HOUR

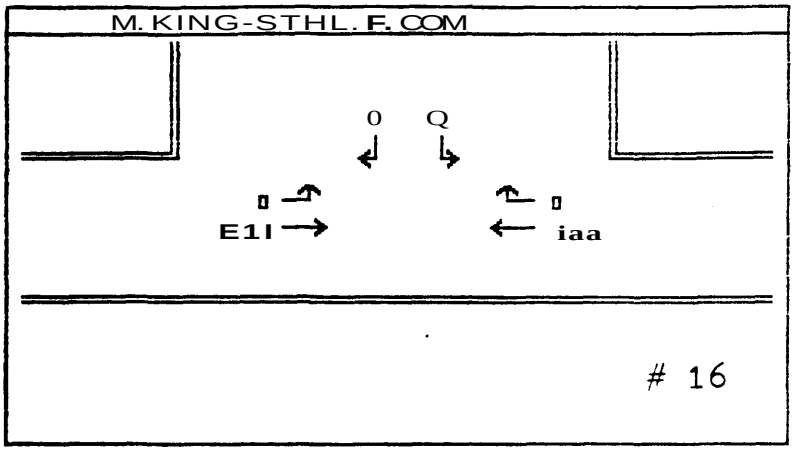


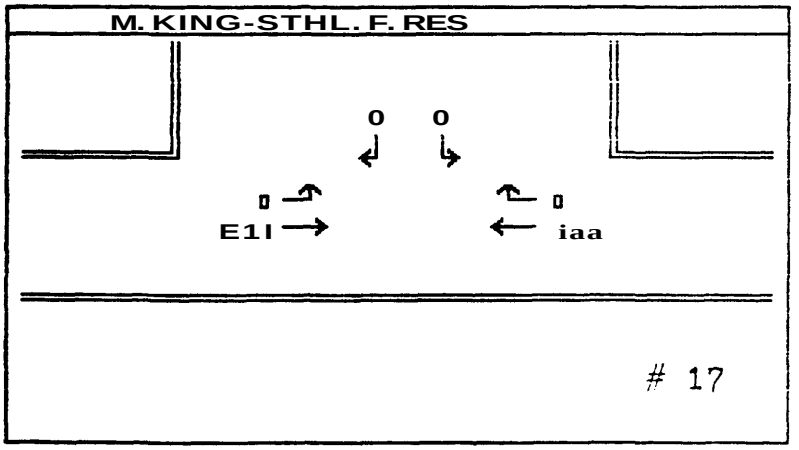


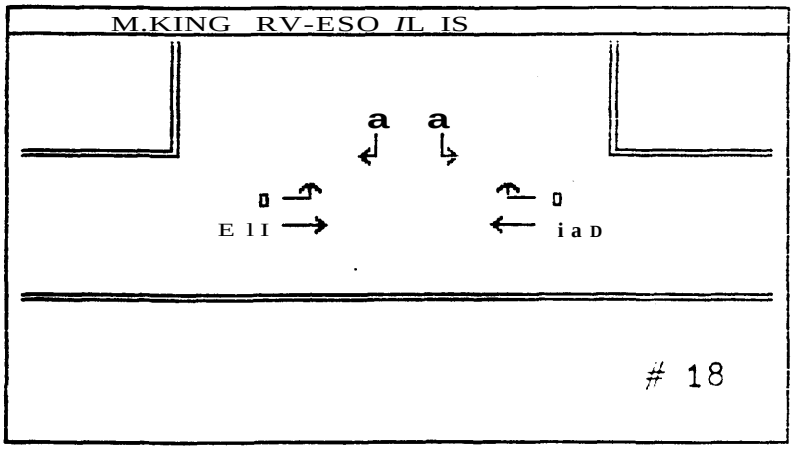


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR **10** YEARS

A.M. PEAK HOUR

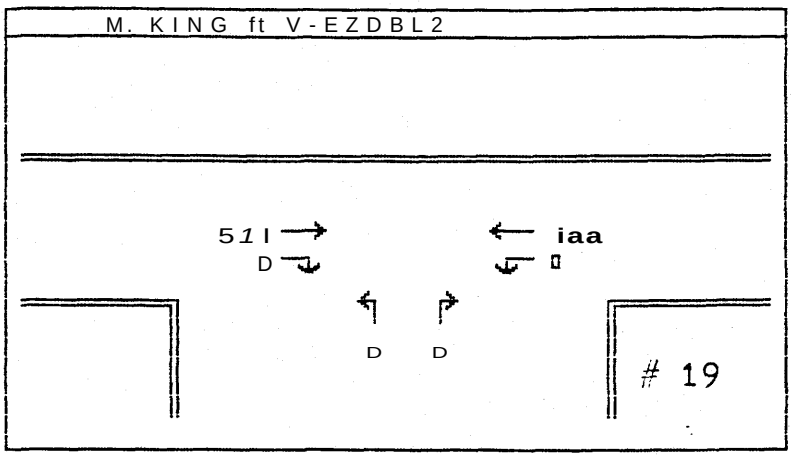


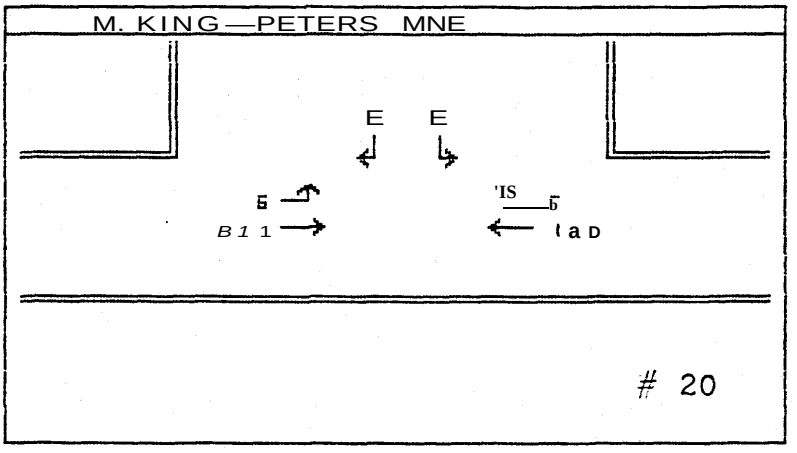




EXISTING INTERSECTION TRAFFIC EXPANDED AT *3%/YR* FOR 10 YEARS

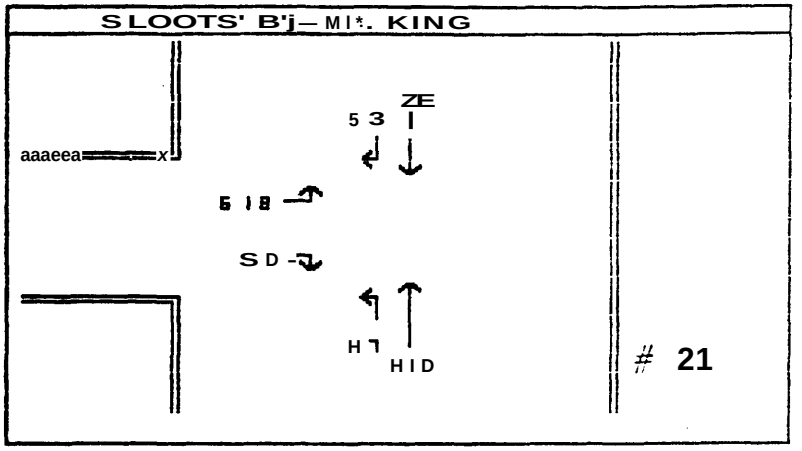
A.M. PEAK HOUR

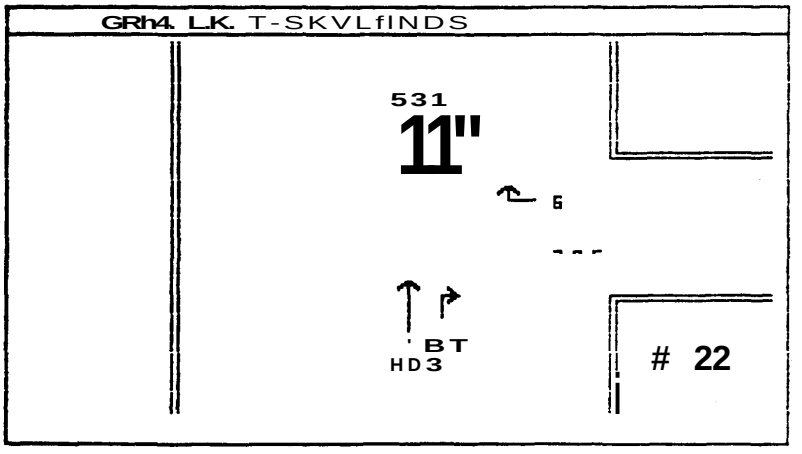


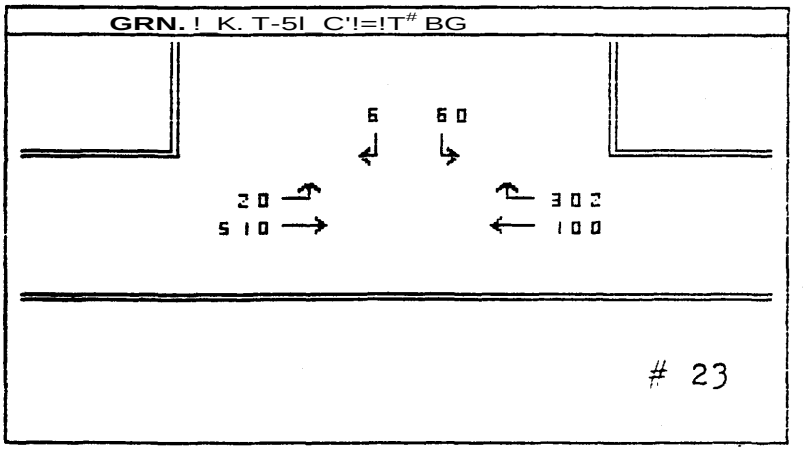


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS

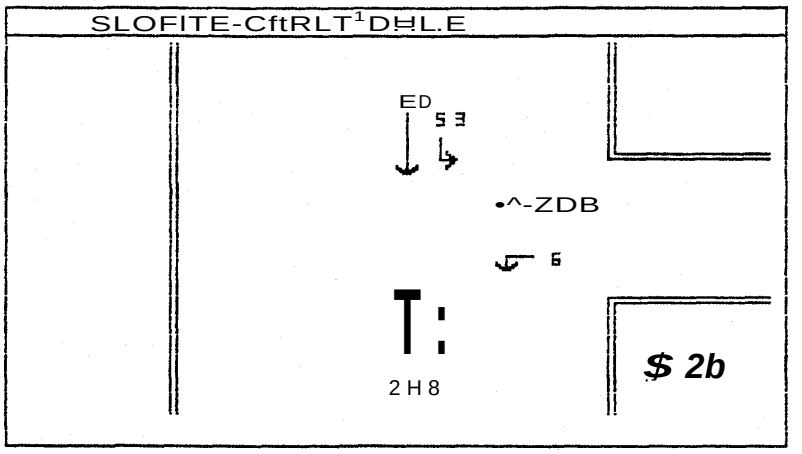
A.M. PEAK HOUR

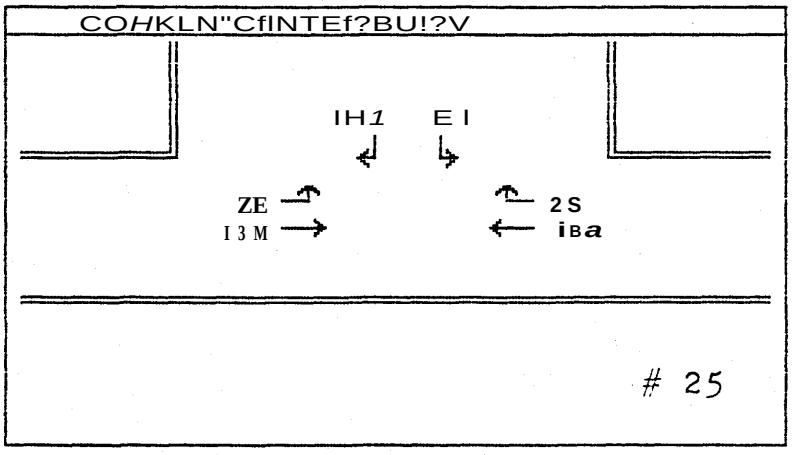






EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
A.M. PEAK HOUR

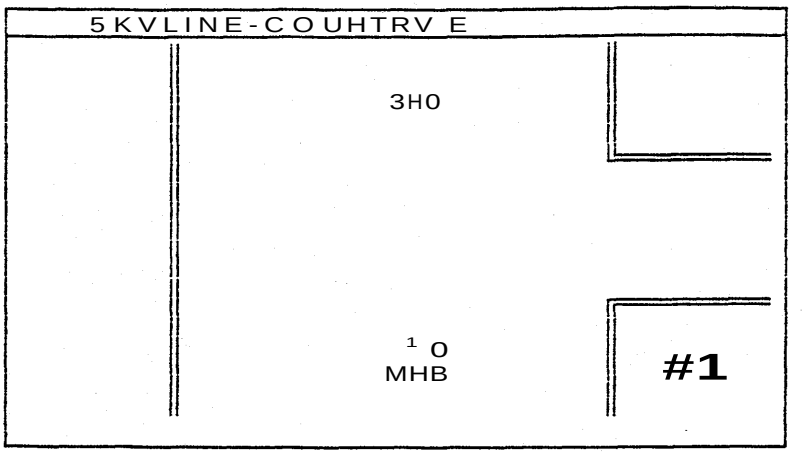


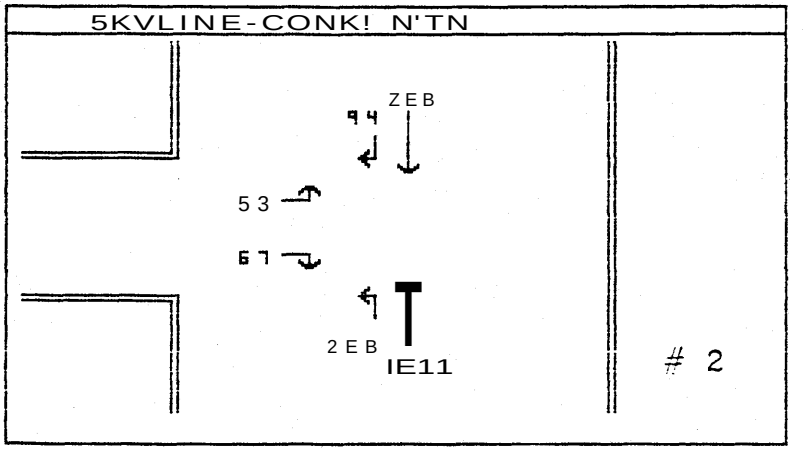


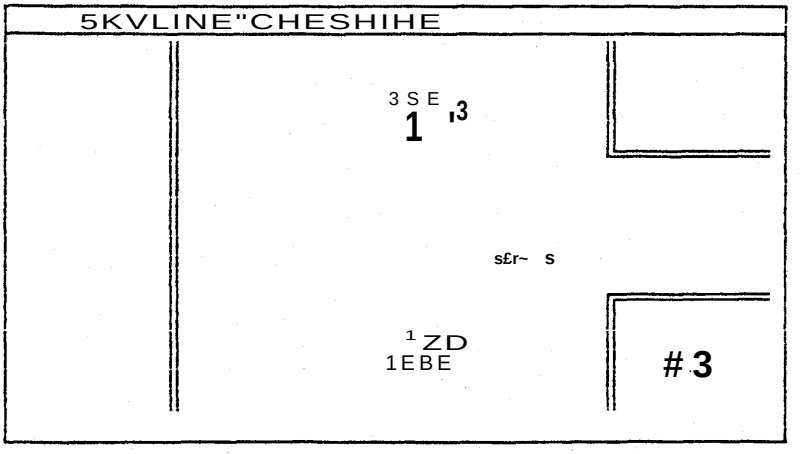
1983 BACKGROUND TRAFFIC

P.M. PEAK HOUR 1993 TRAFFIC VOLUMES

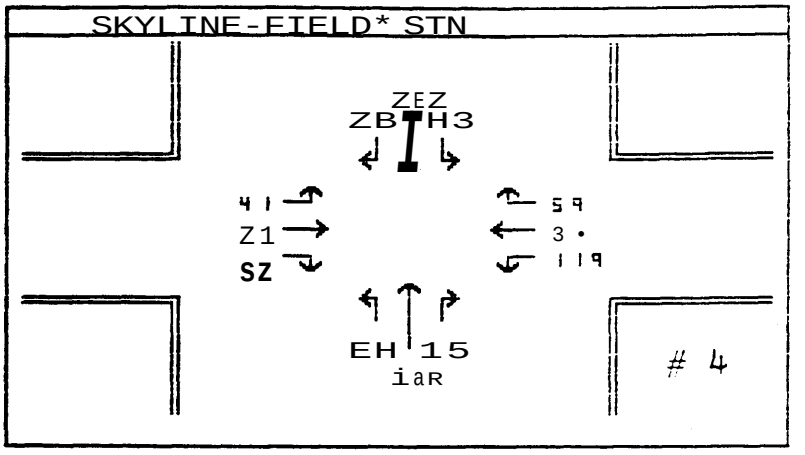
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3%/YR FOR 10 YEARS
P.M. PEAK HOUR

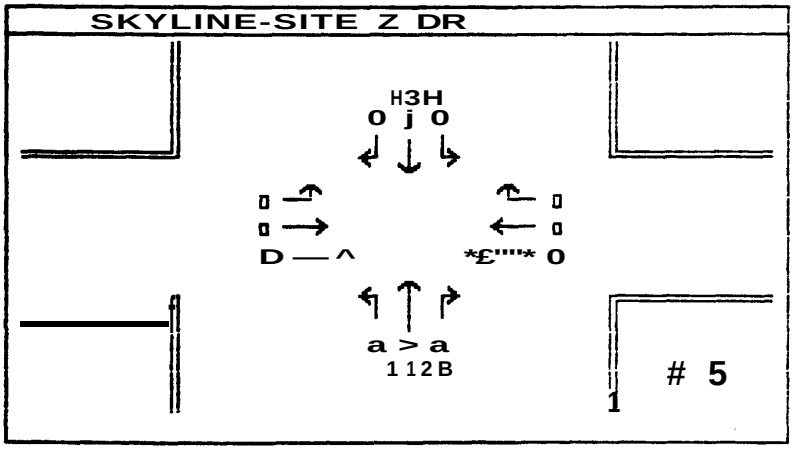


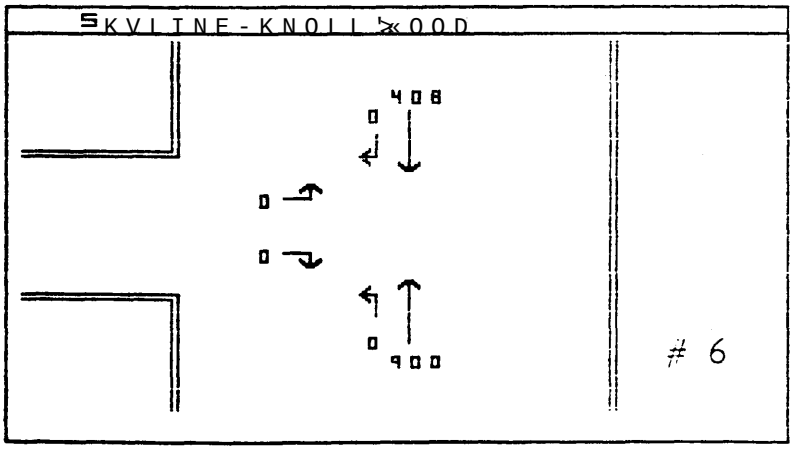




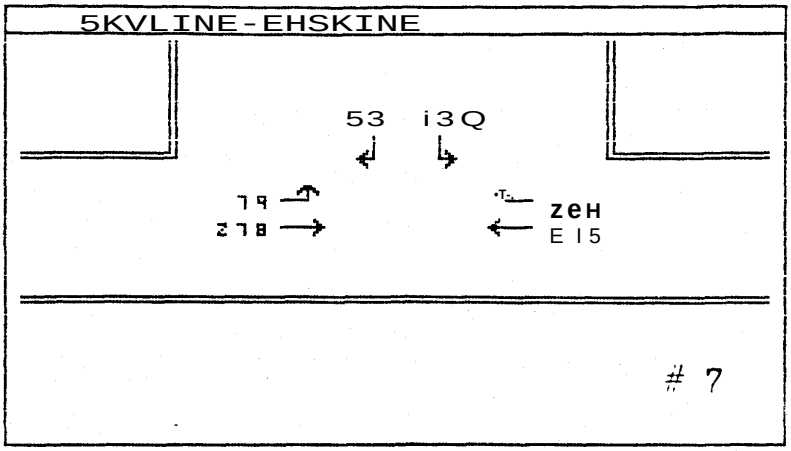
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3f*/YR FOR 10 YEARS
P.M. PEAK HOUR

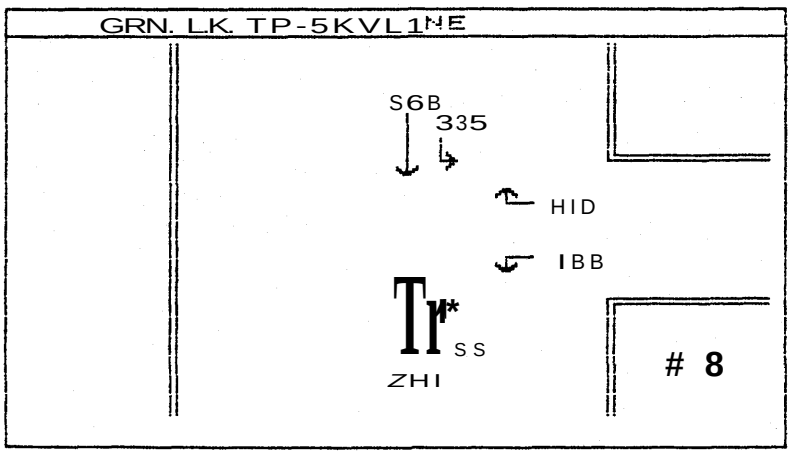


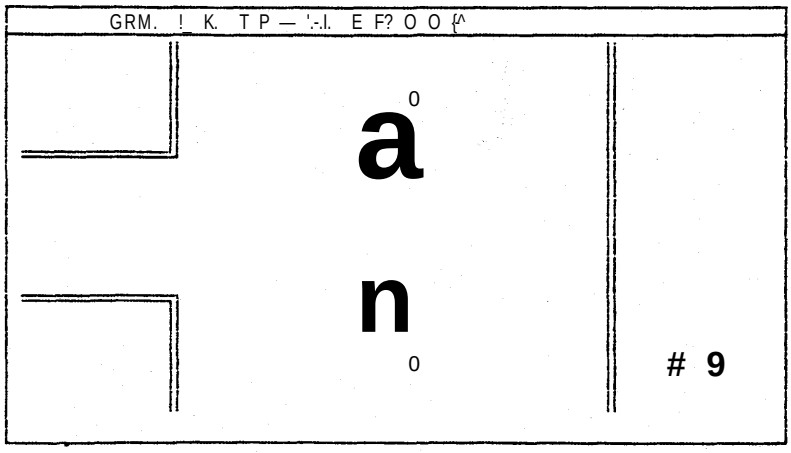




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
P.M. PEAK HOUR

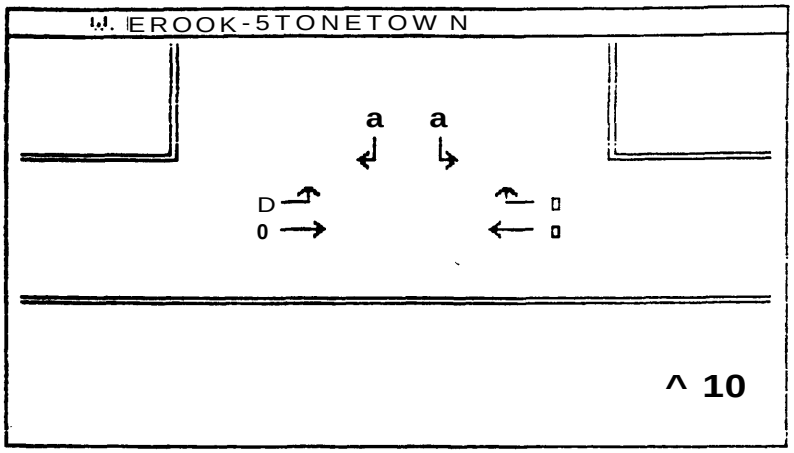


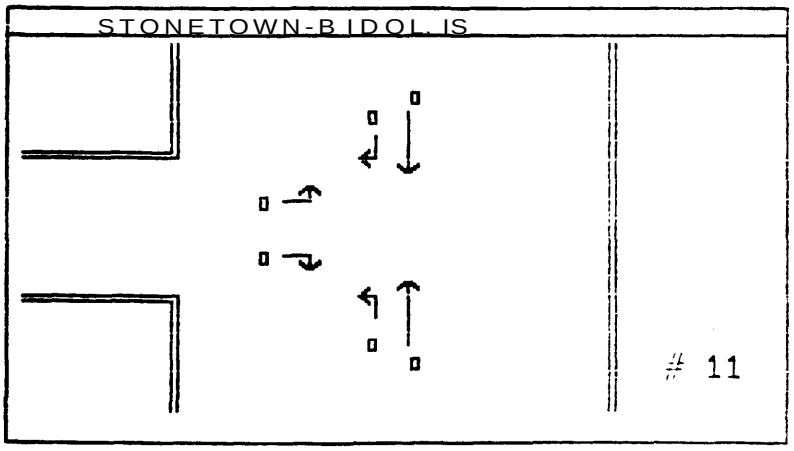


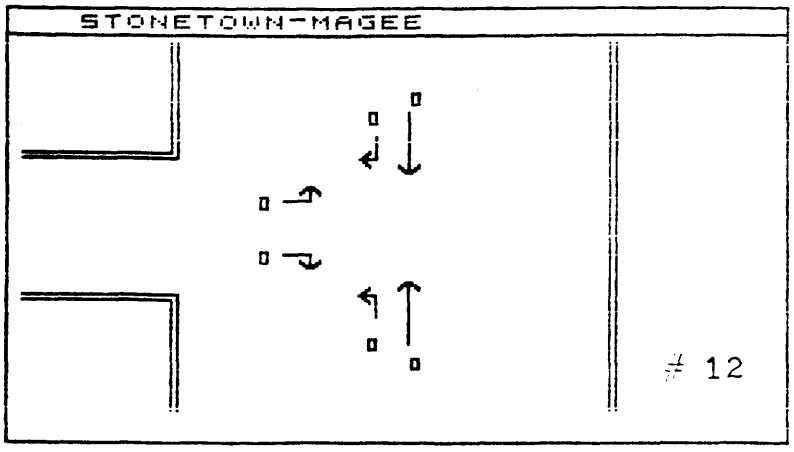


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR **10** YEARS

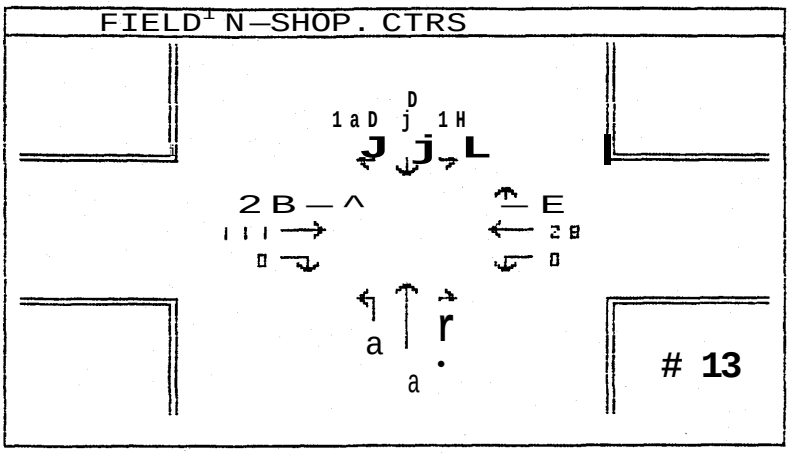
P.M. PEAK HOUR

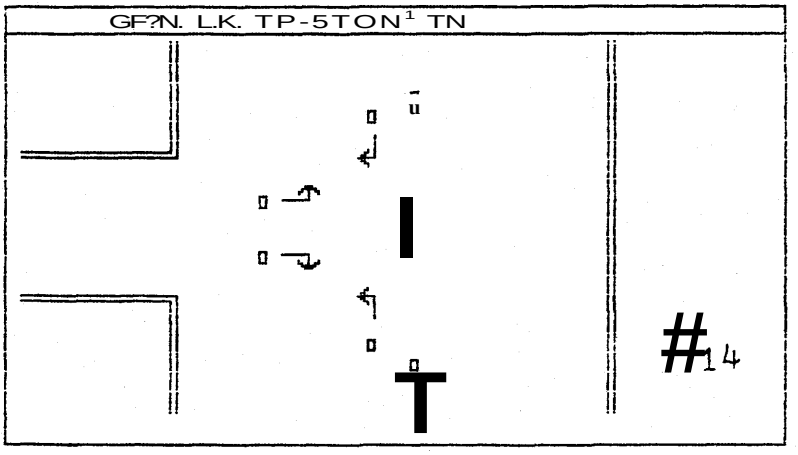


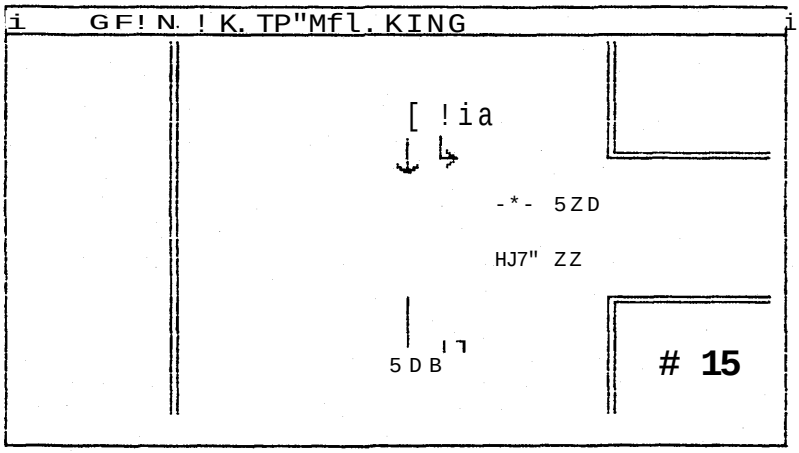




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
P.M. PEAK HOUR

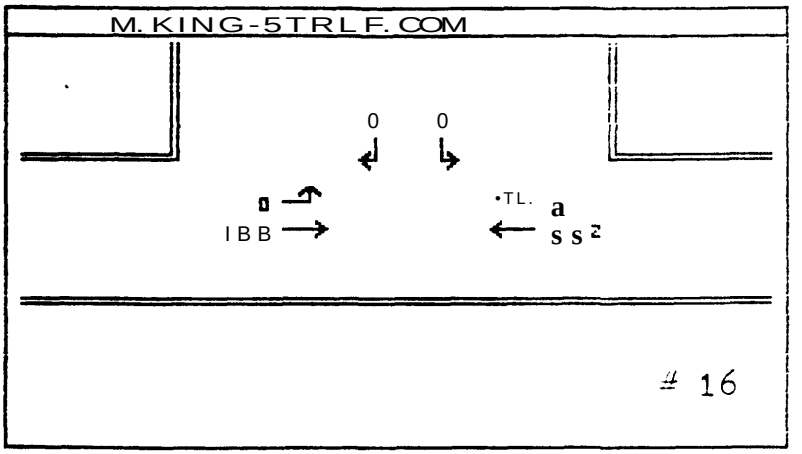


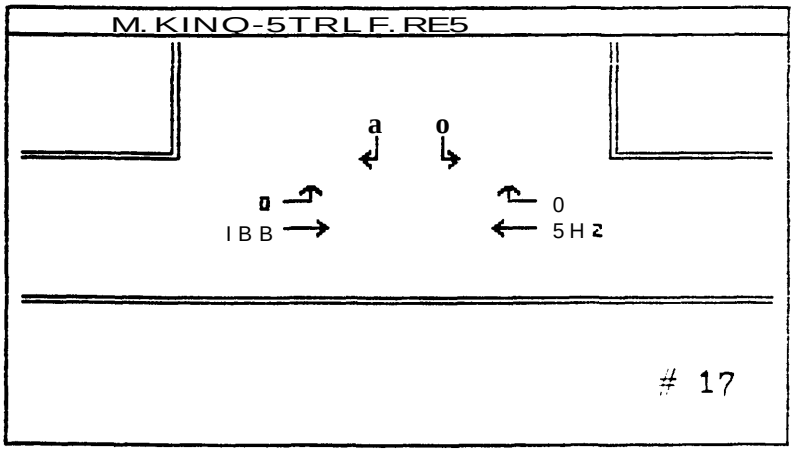


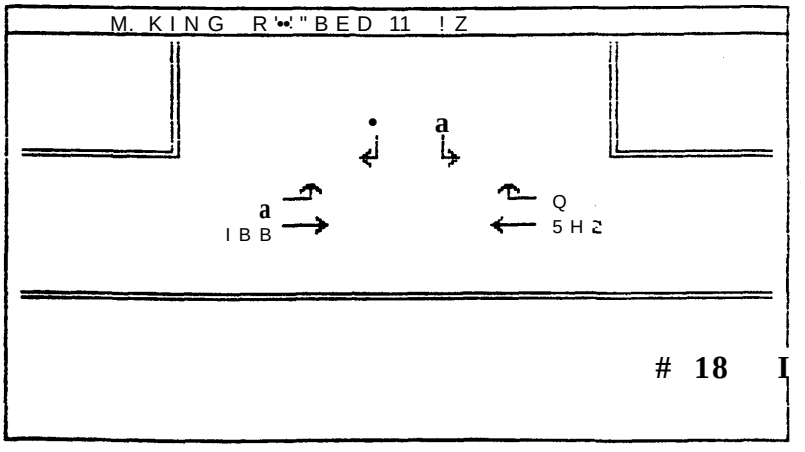


EXISTING INTERSECTION TRAFFIC EXPANDED AT 3%/Y?, FOR 10 YEARS

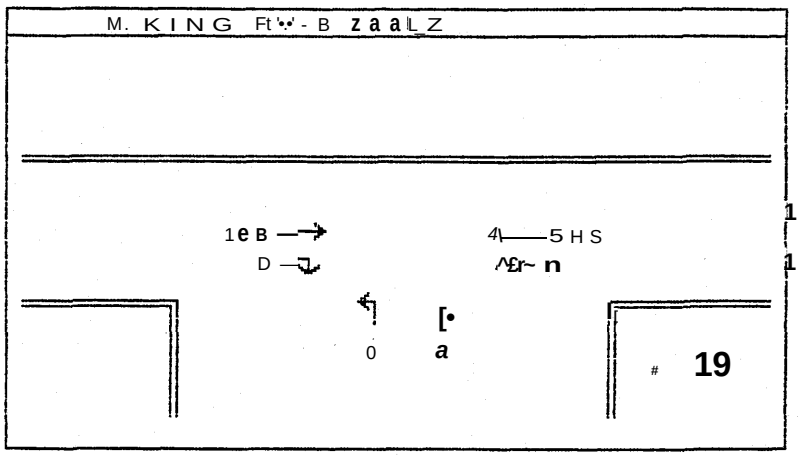
P.M. PEAK HOUR

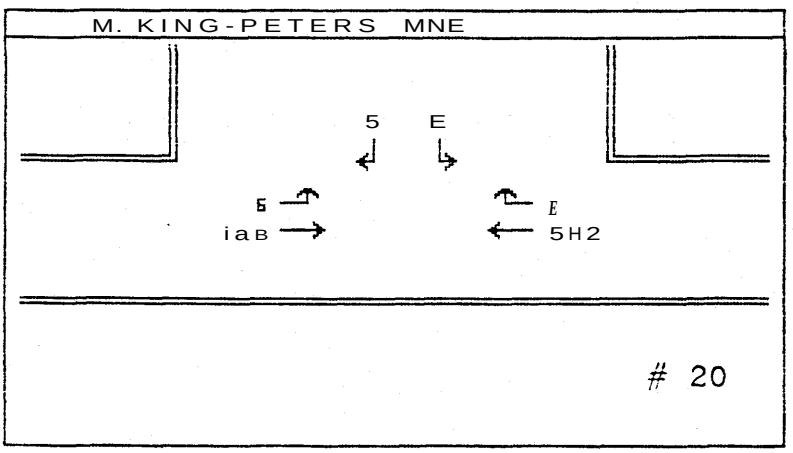






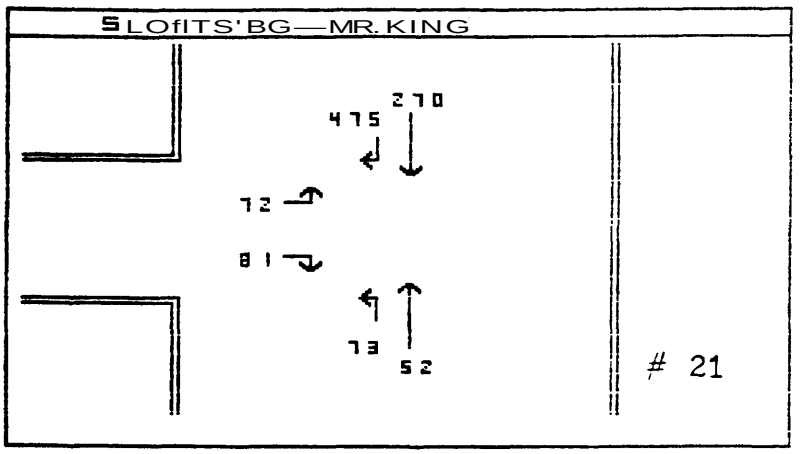
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
P.M. PEAK HOUR

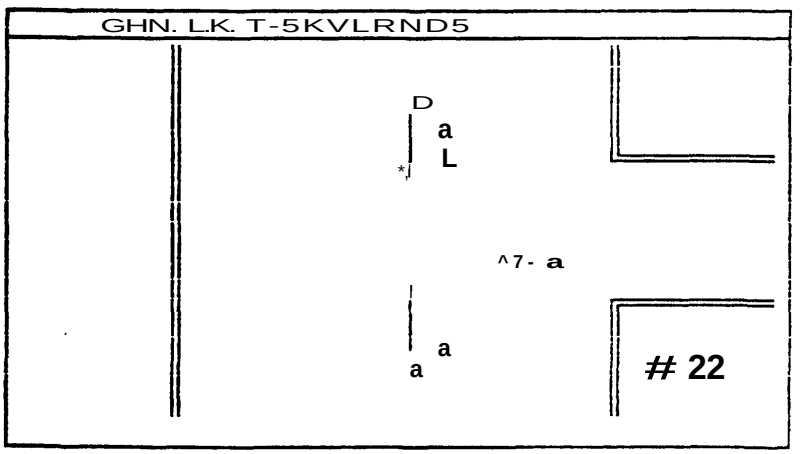


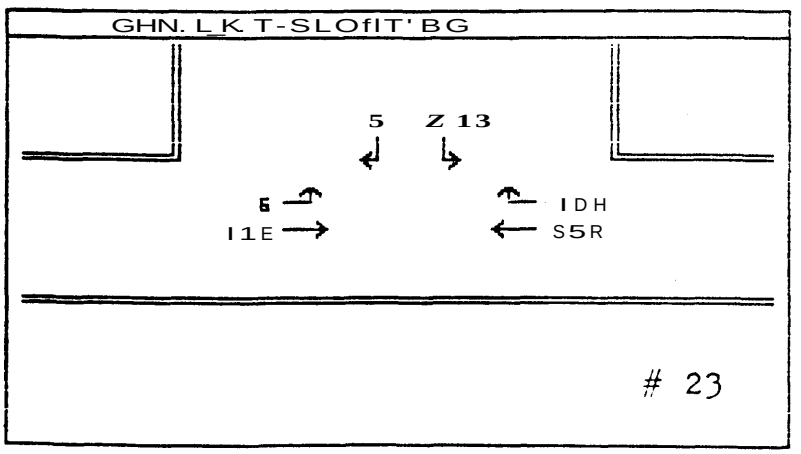


EXISTING INTERSECTION TRAFFIC SXPANDDE AT 3^/YR FOR 10 YEARS

P.M. PEAK HOUR

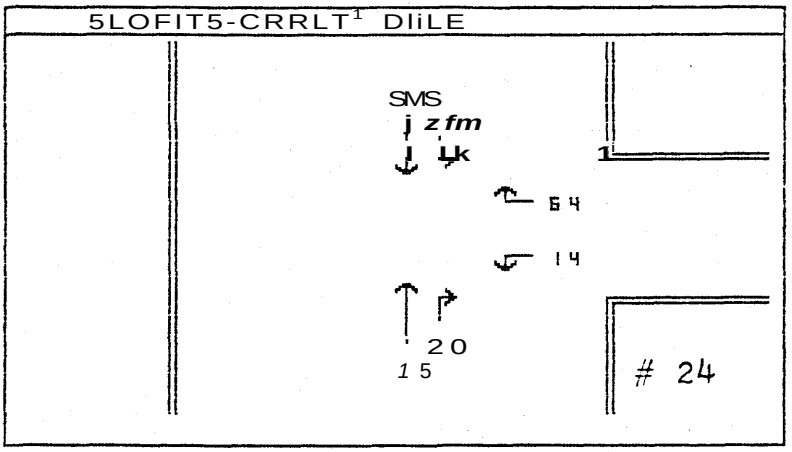


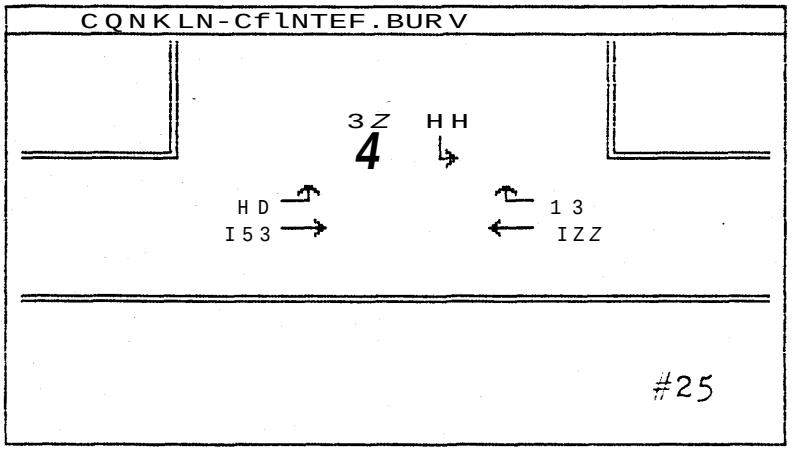




EXISTING INTERSECTION TRAFFIC EXPANDED'AT *3%/YR* FOR 10 YEARS

P.M. PEAK HOUR

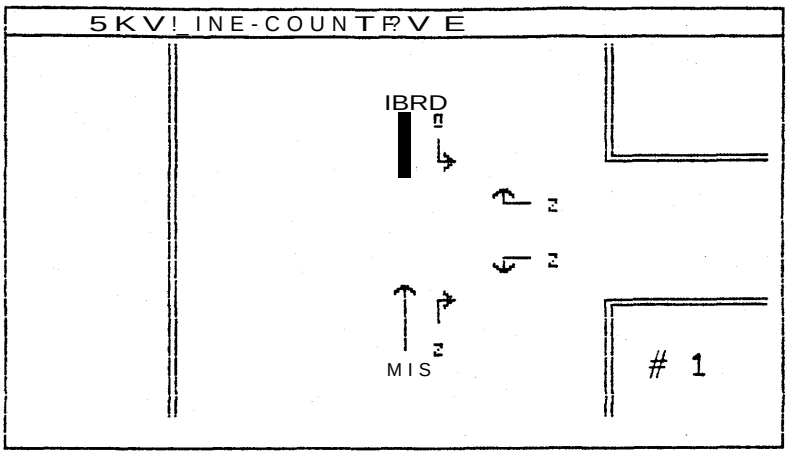


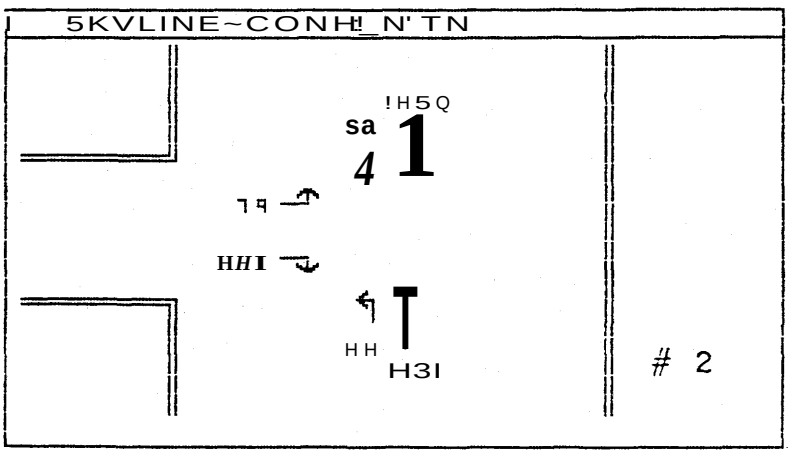


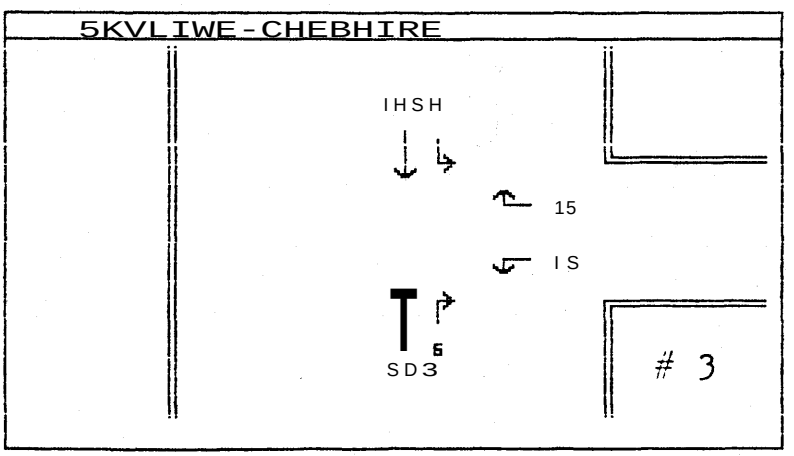
1993 BACKGROUND TRAFFIC AND SITE TRAFFIC

A.M. RESULTING TRAFFIC VOLUMES
WITH
STUDY SITES DEVELOPED AS ZONED

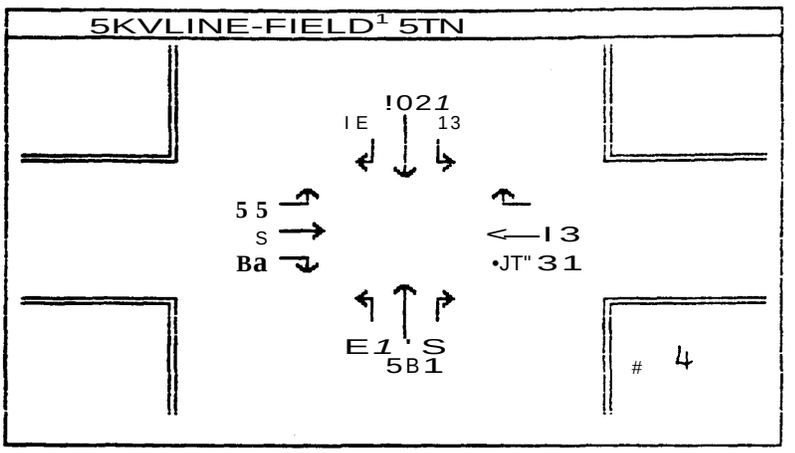
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

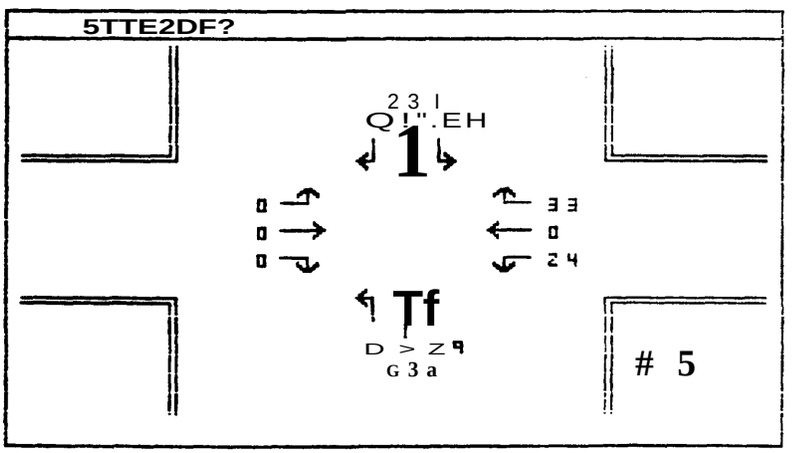


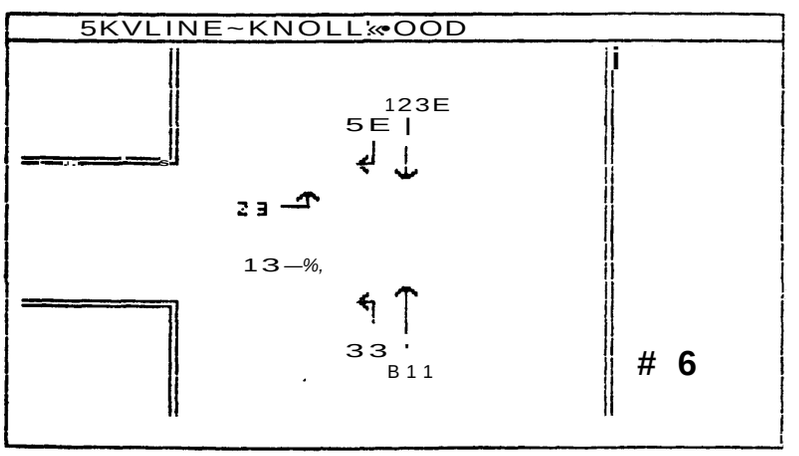




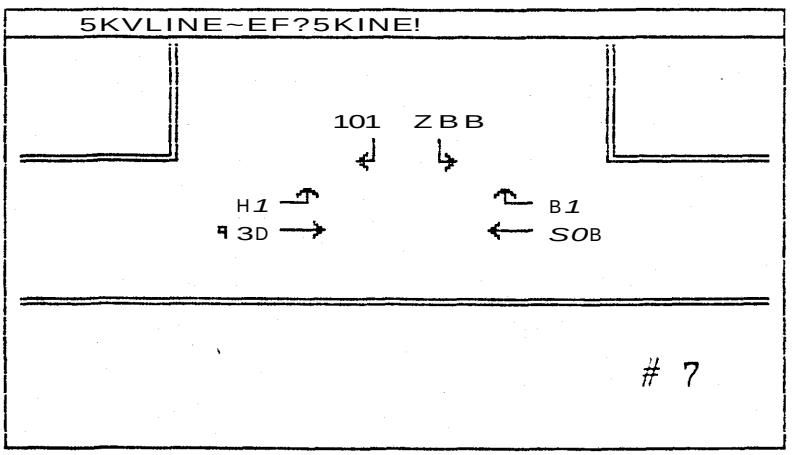
EXISTING INTERSECTION TRAFFIC EXPANDED AT *3?c/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

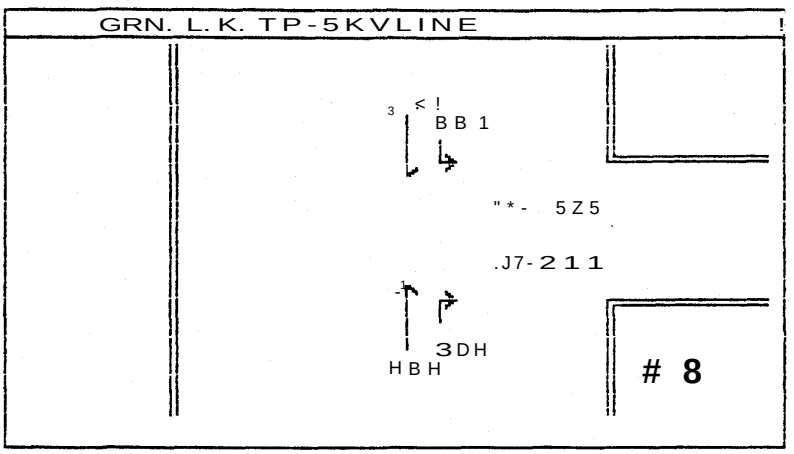


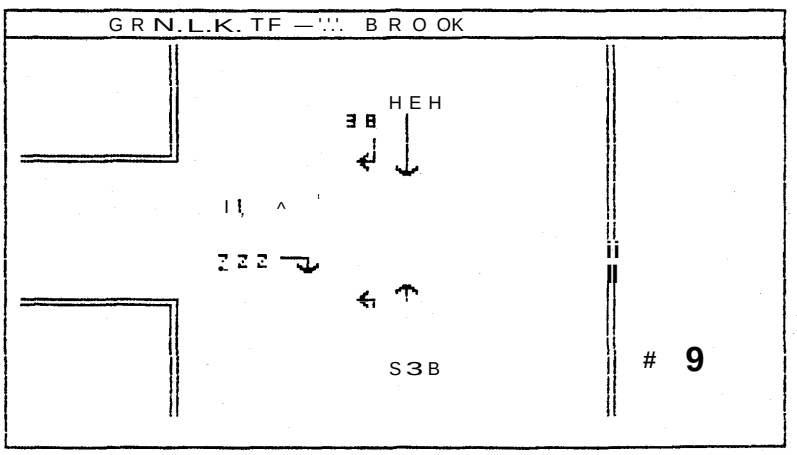




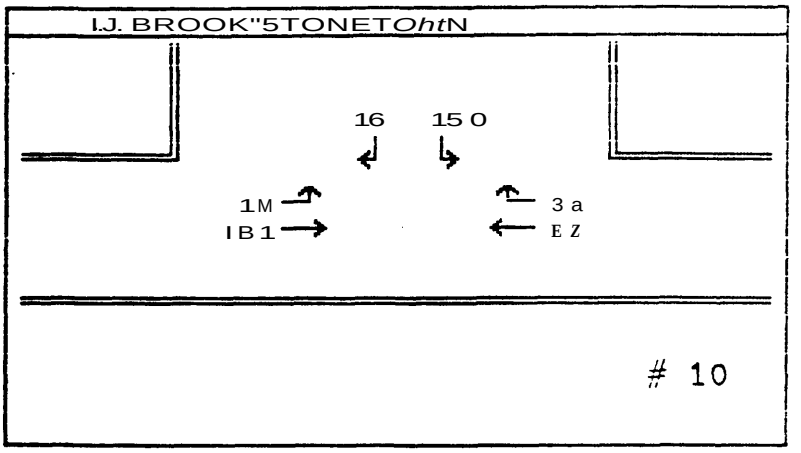
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

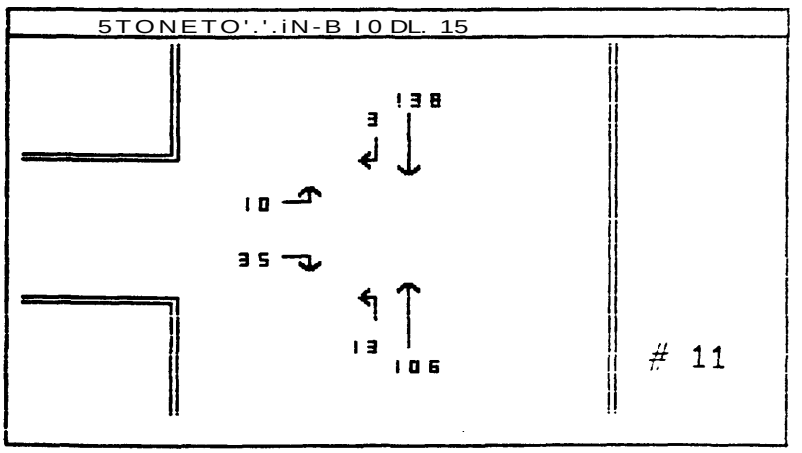


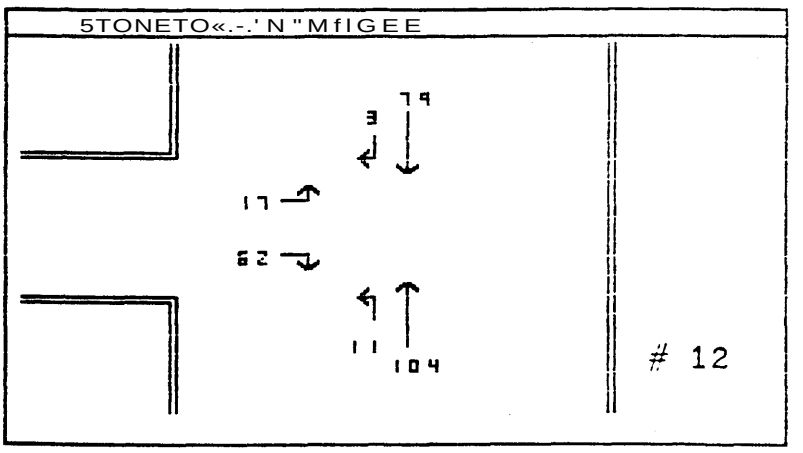




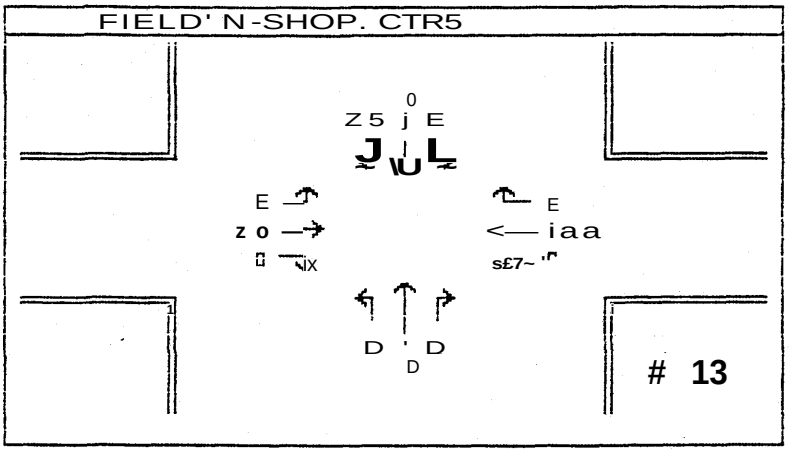
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED..
A.M. PEAK HOUR

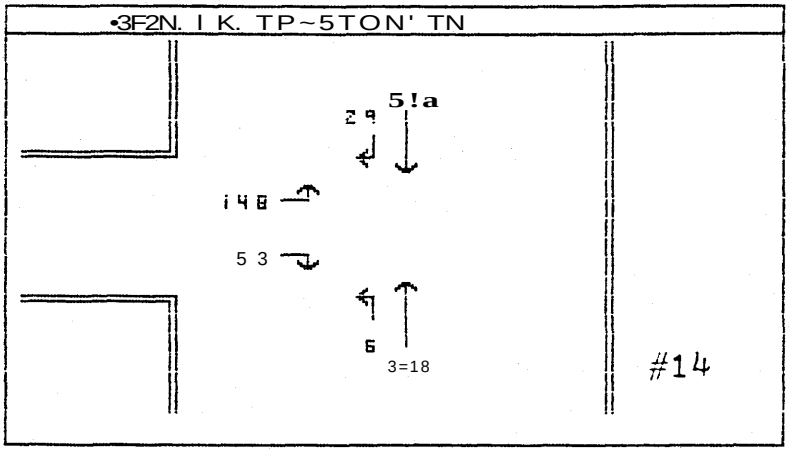


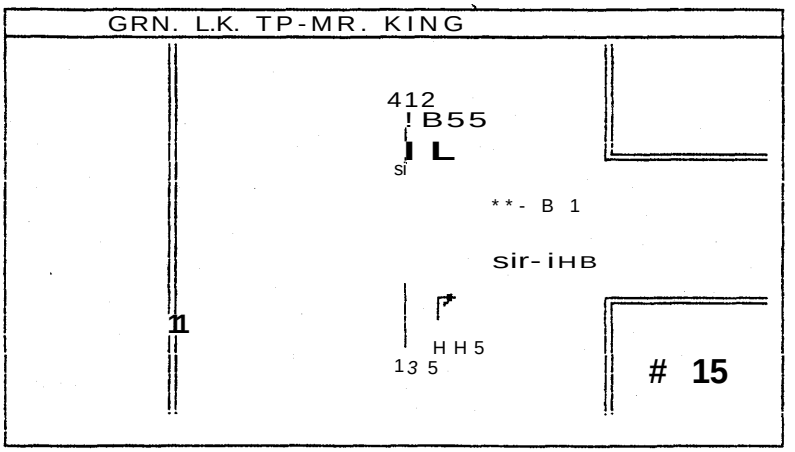




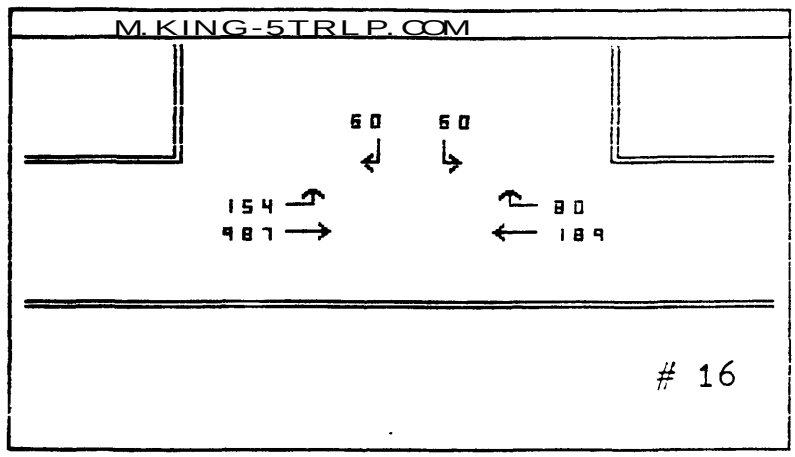
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

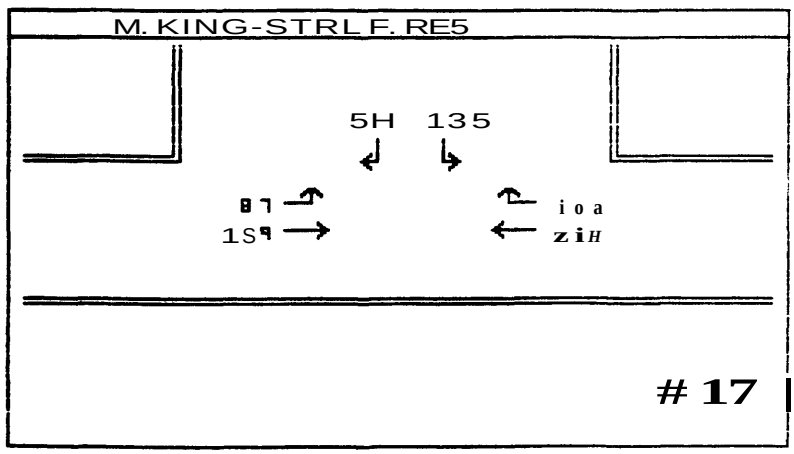


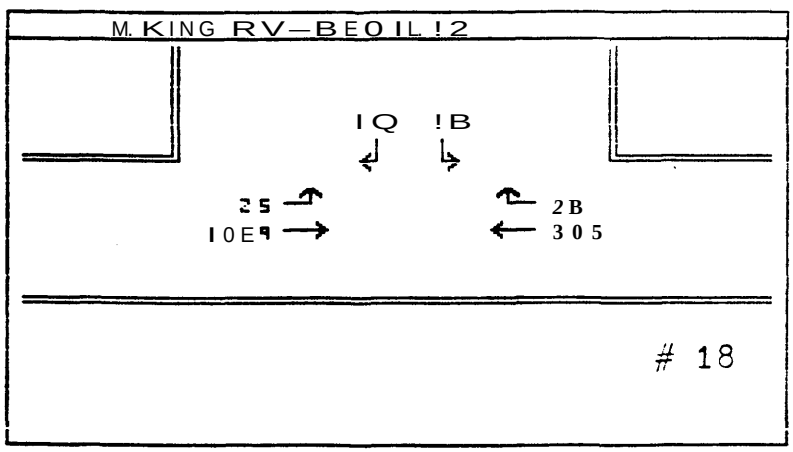




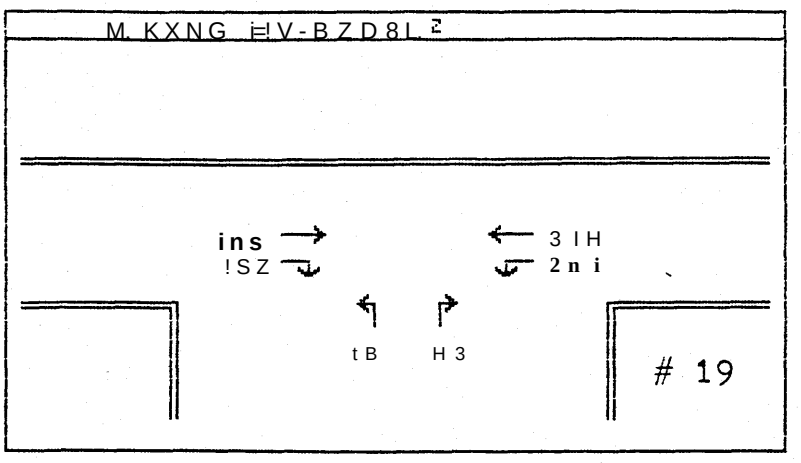
EXISTING INTERSECTION TRAFFIC EXPANDED AT *Jfo/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

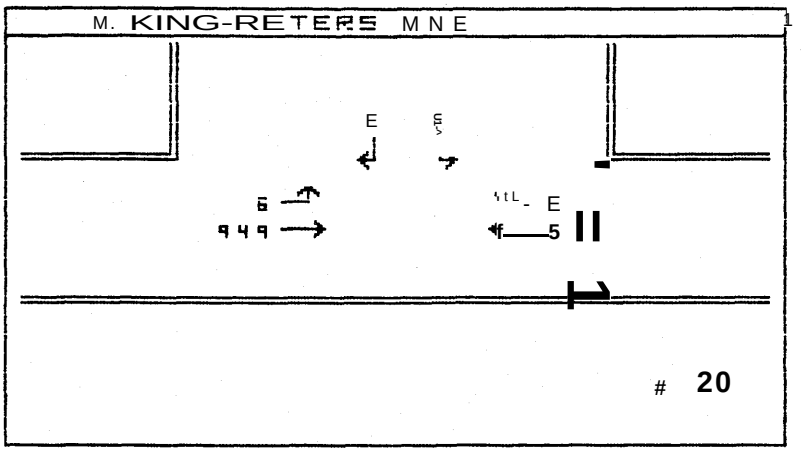




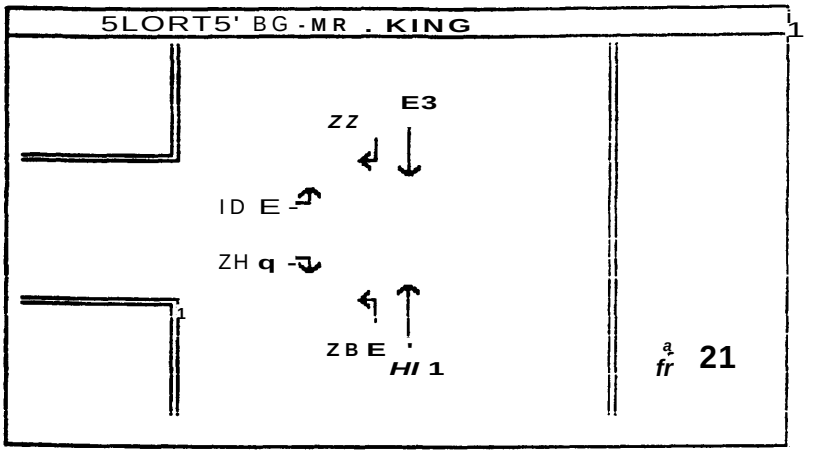


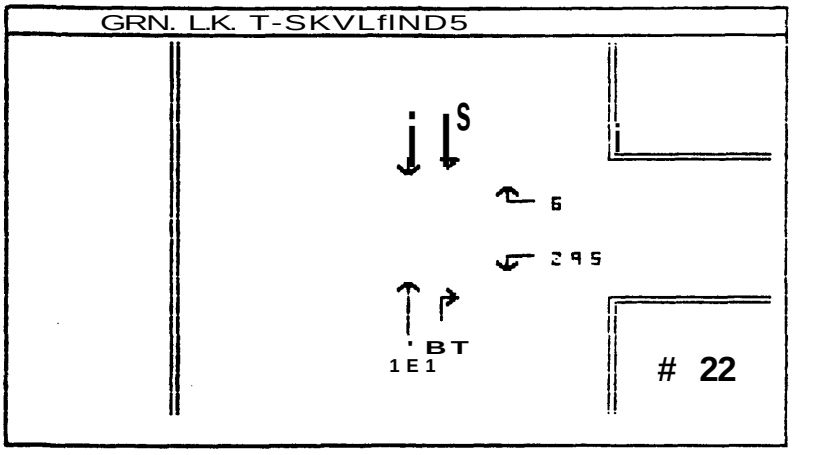
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

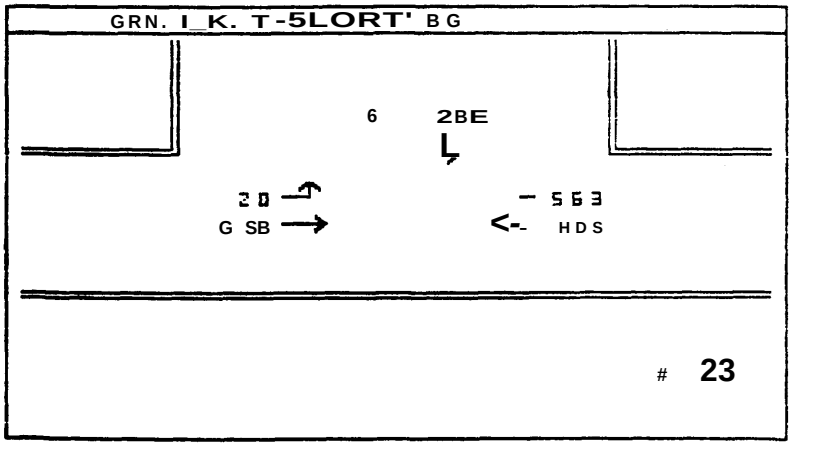




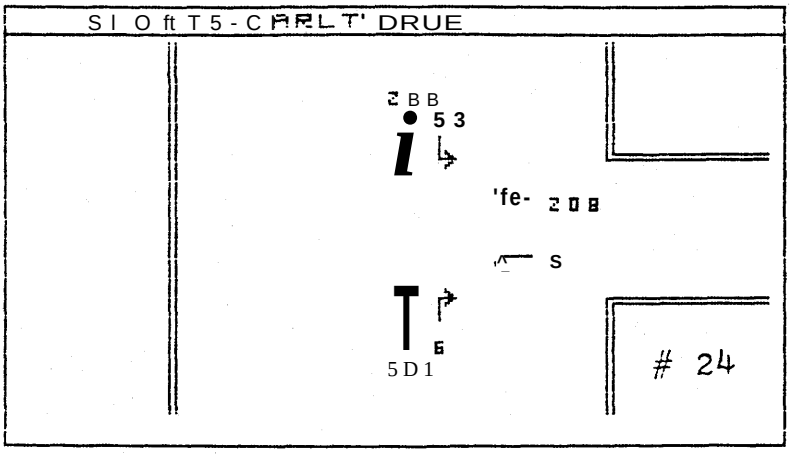
EXISTING INTERSECTION TRAFFIC EXPANDED AT *3%/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

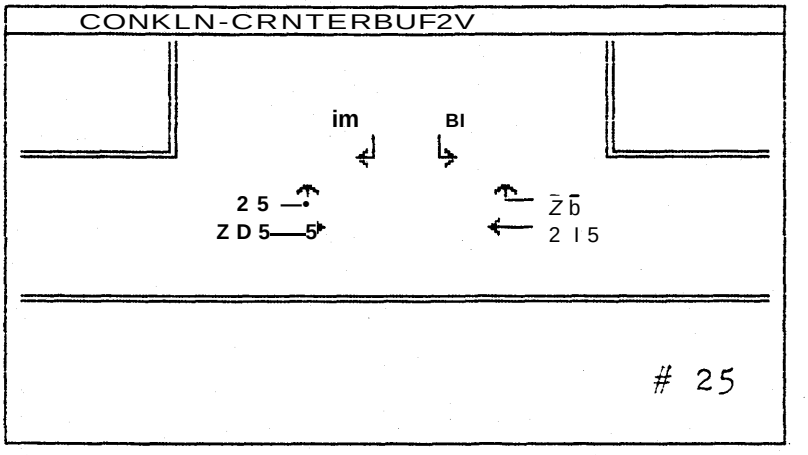






EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR





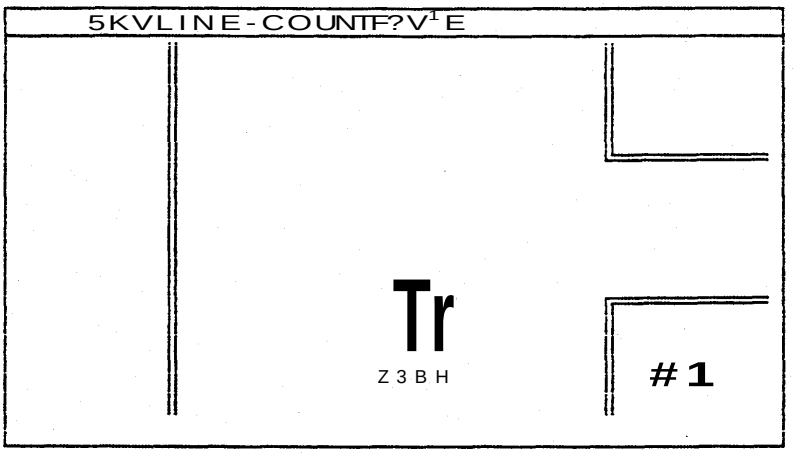
1QQ3 BACKGROUND TRAFFIC AND SITE TRAFFIC

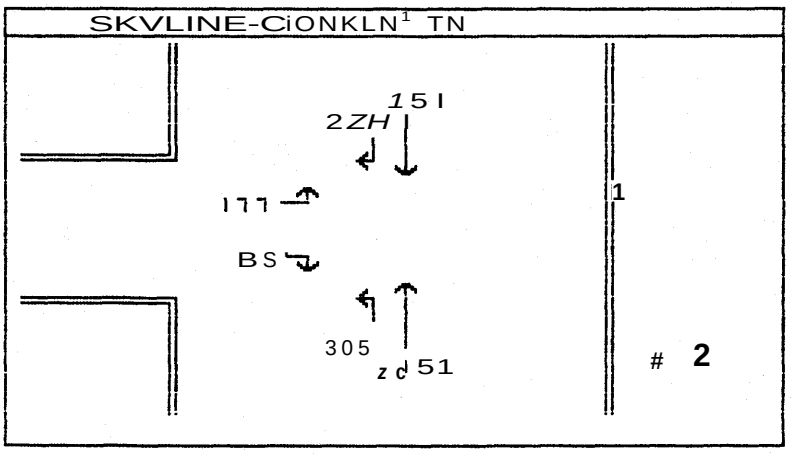
P.M. RESULTING TRAFFIC VLOUMES

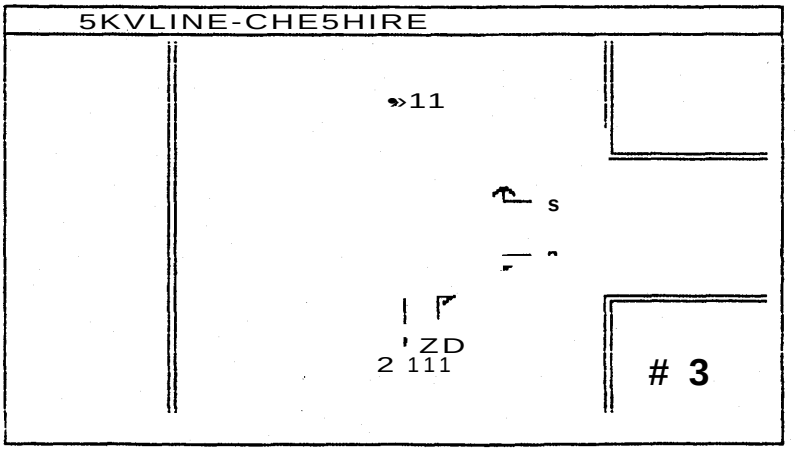
WITH

STUDY SITES DEVELOPED AS ZONED

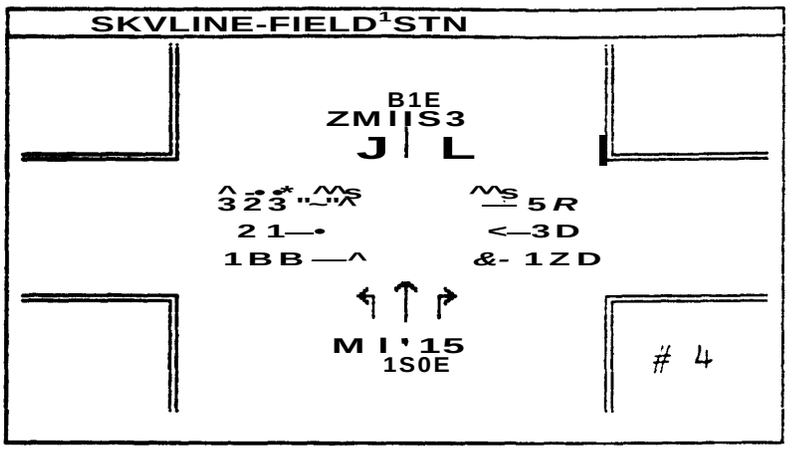
EXISTING INTERSECTION TRAFFIC EXPANDED AT *3%/XR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

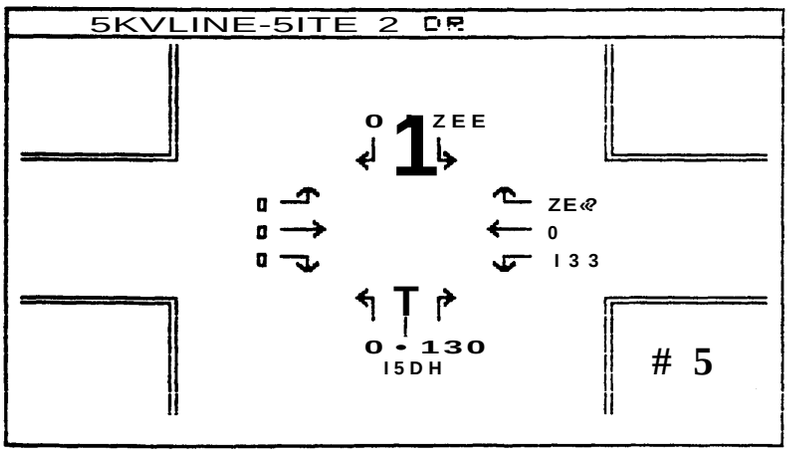


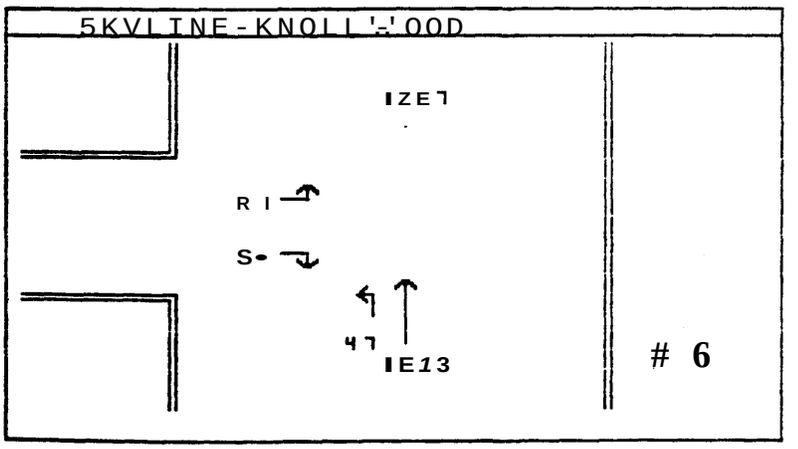




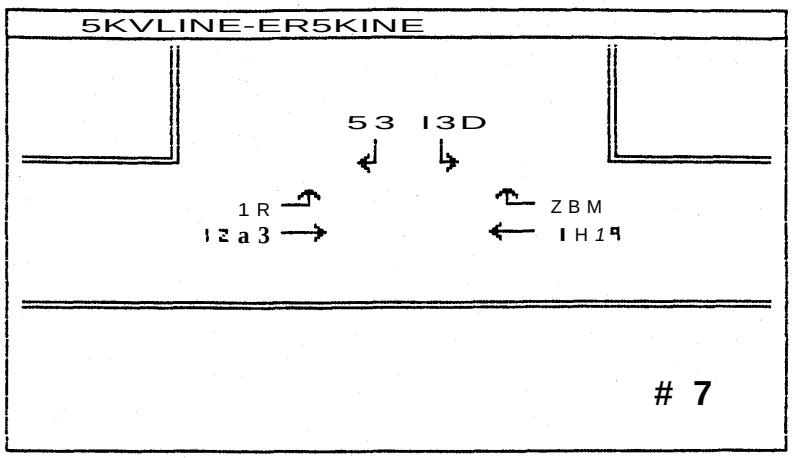
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

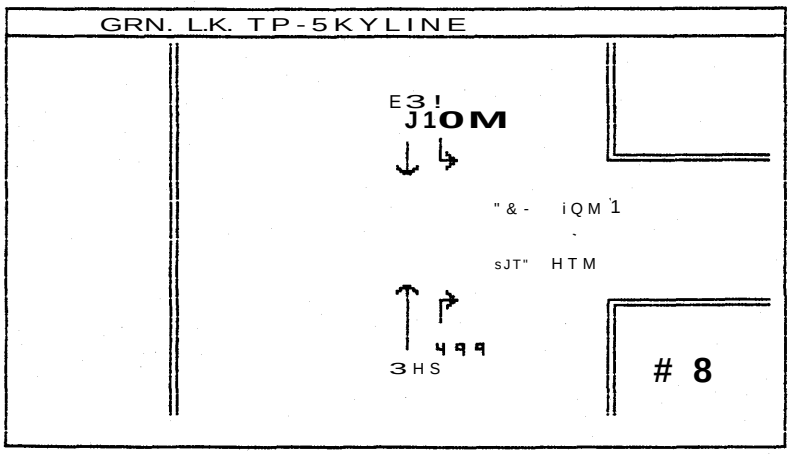


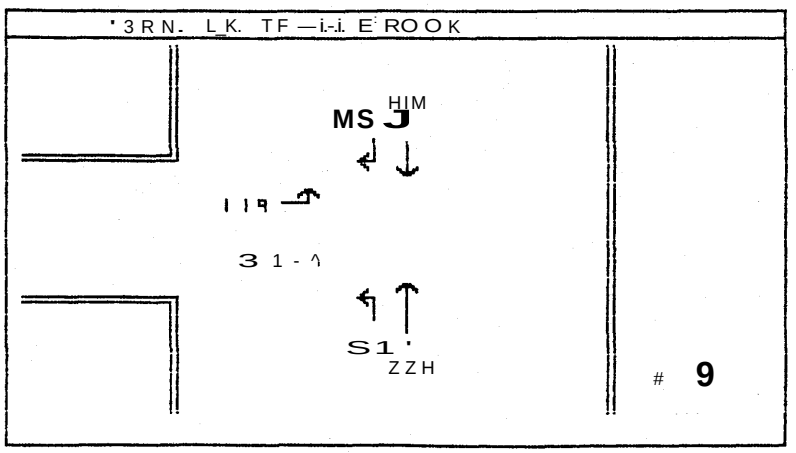




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

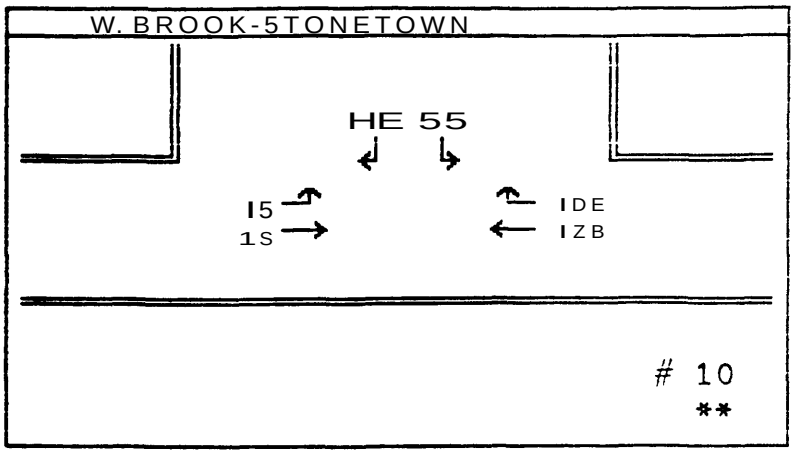


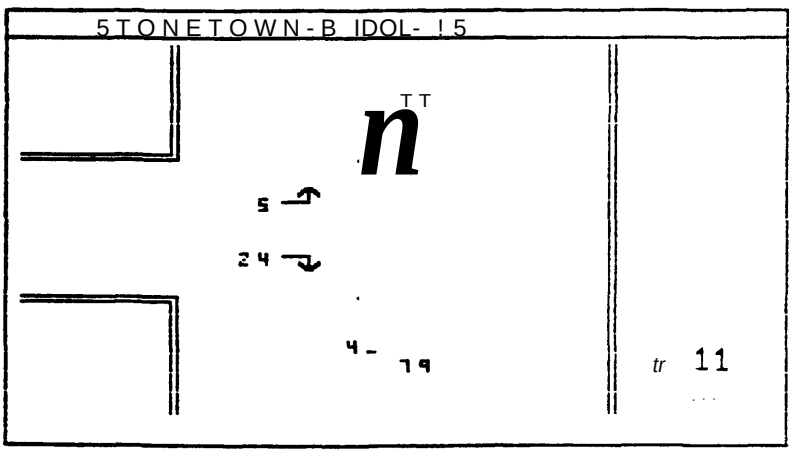


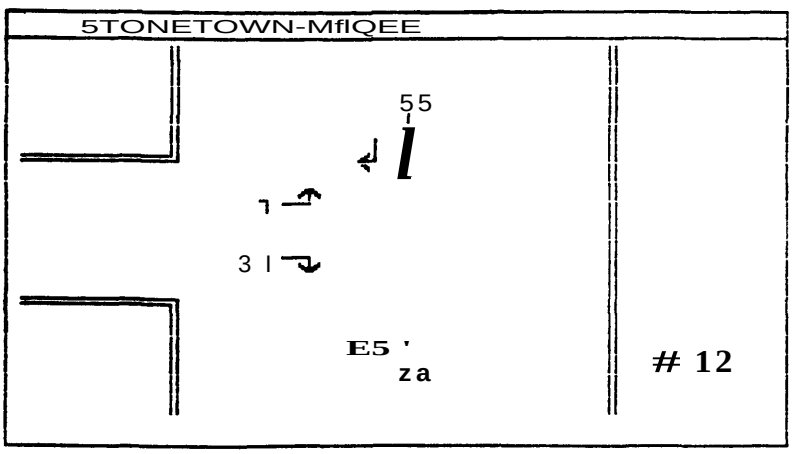


** NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC EXPANDED AT *3%/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

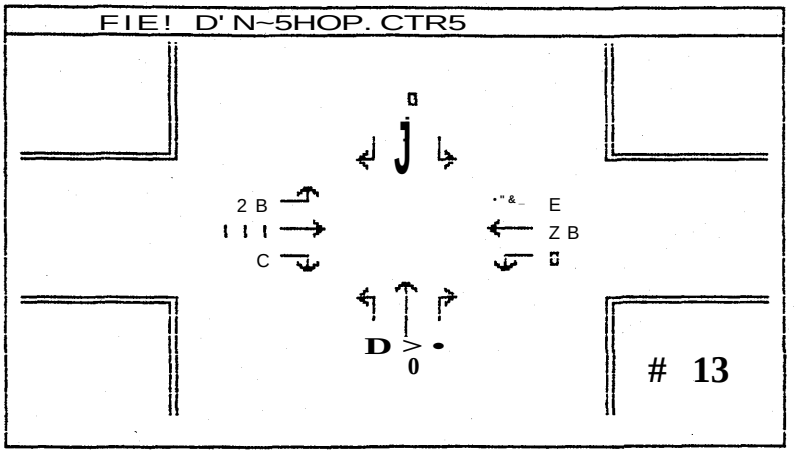


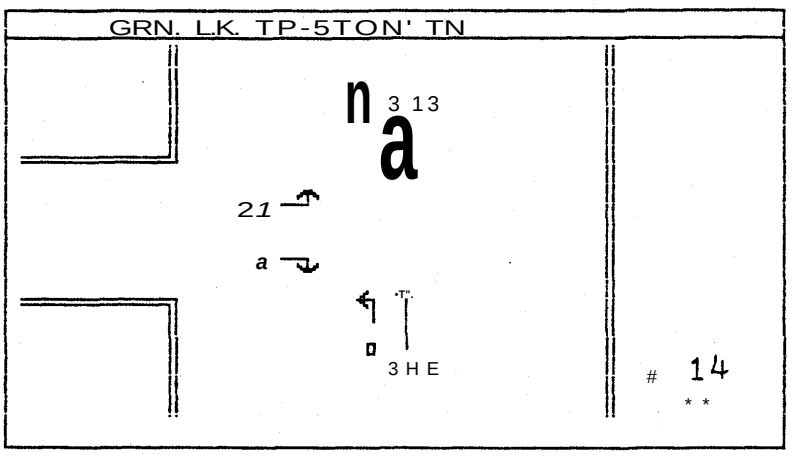


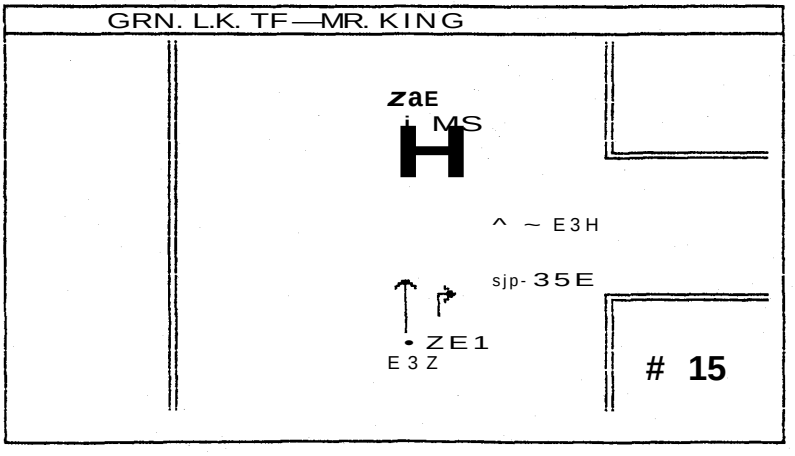


•• **NEW TRAFFIC ONLY**

EXISTING INTERSECTION TRAFFIC EXPANDED AT *3fo/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

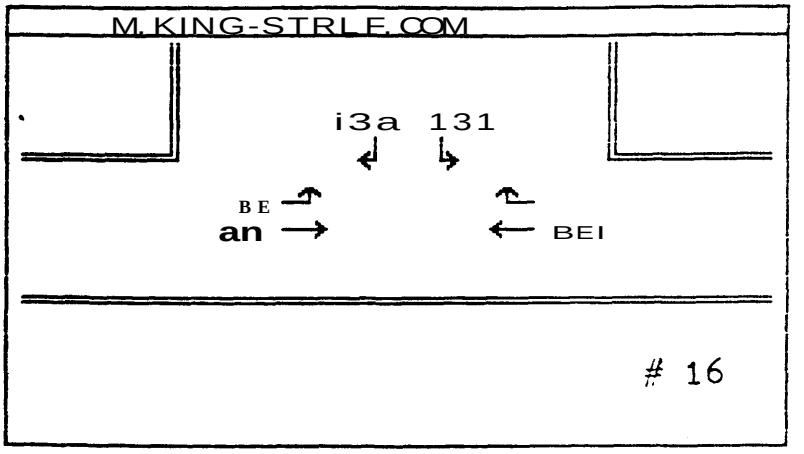


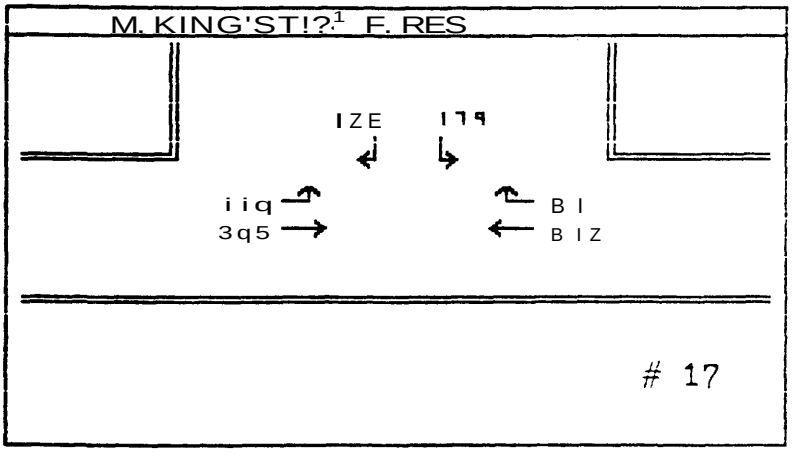


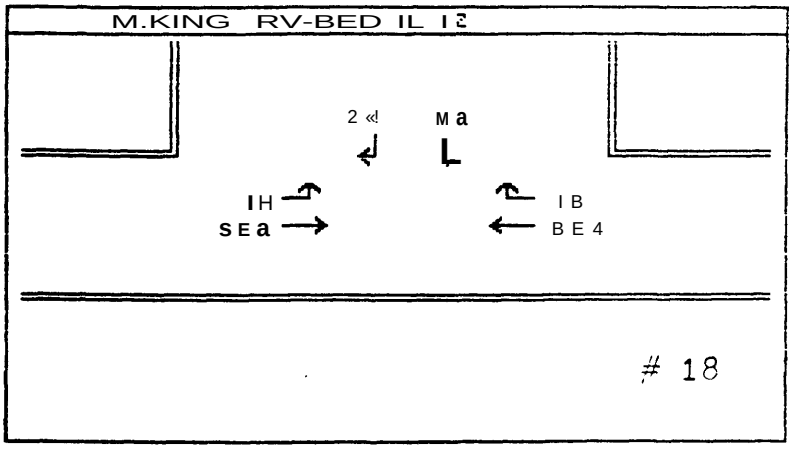


** NEW TRAFFIC ONLY

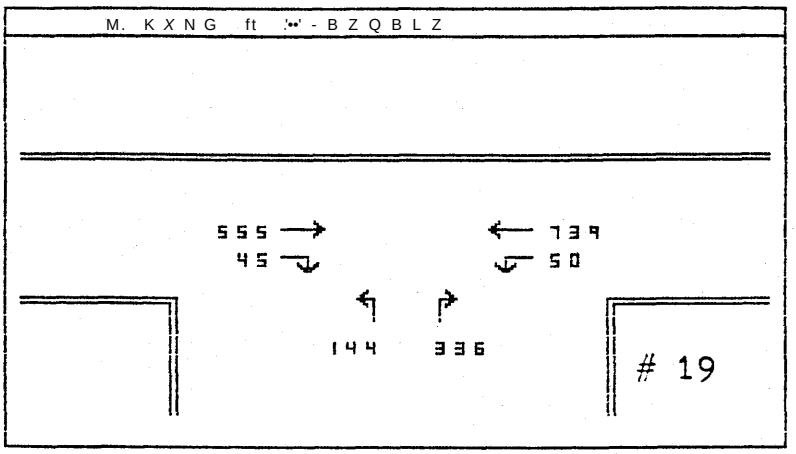
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

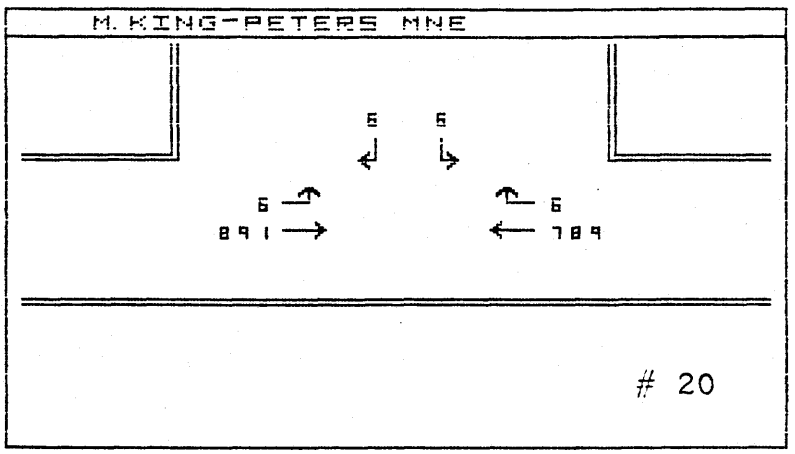






EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

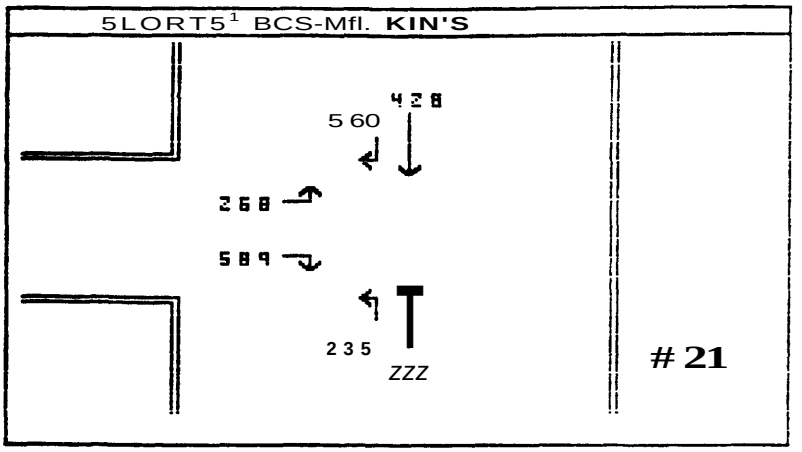


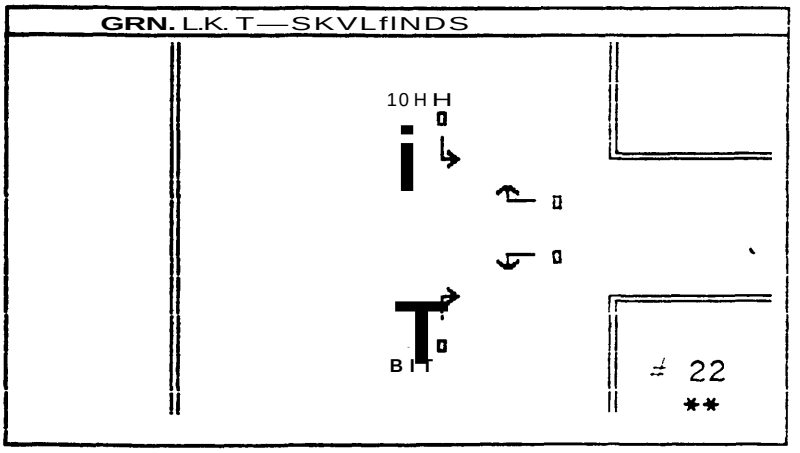


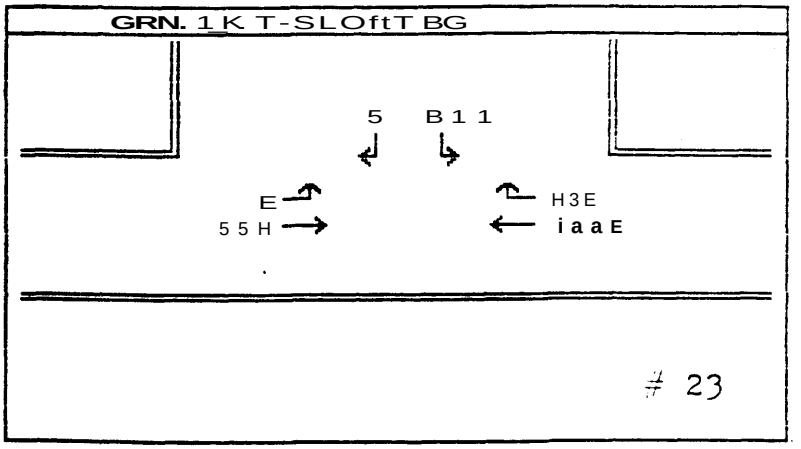
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS

PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED

P.M. PEAK **HOUR**

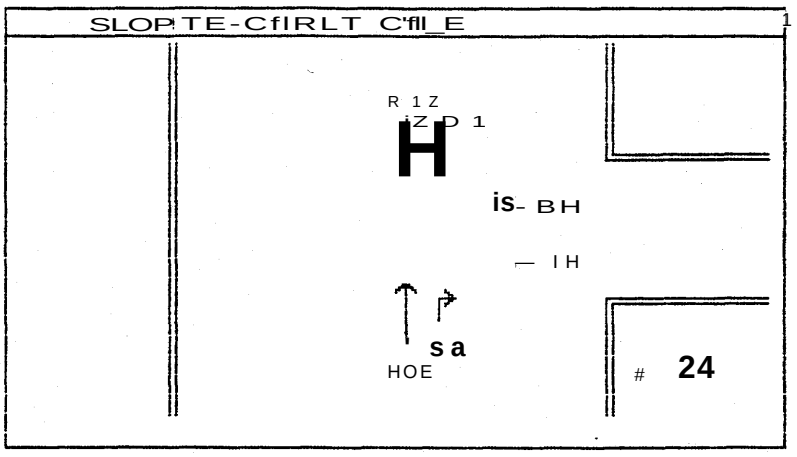


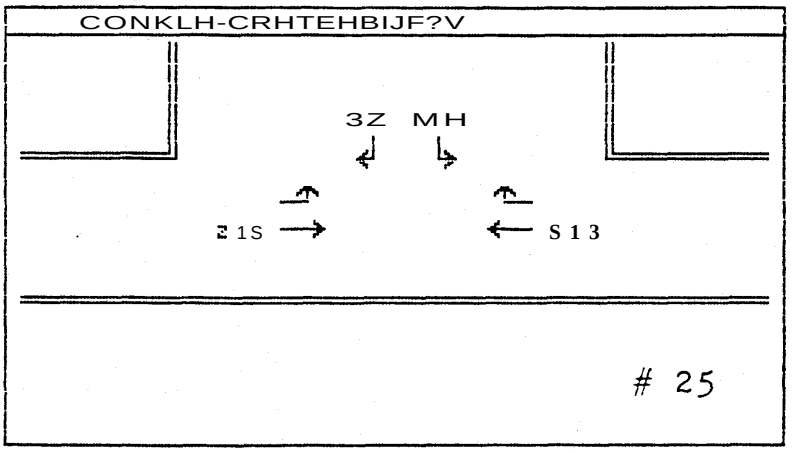




•• **NEW TRAFFIC ONLY**

EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR





1993 BACKSKKOND TRAFFIC AND SITE TRAFFIC

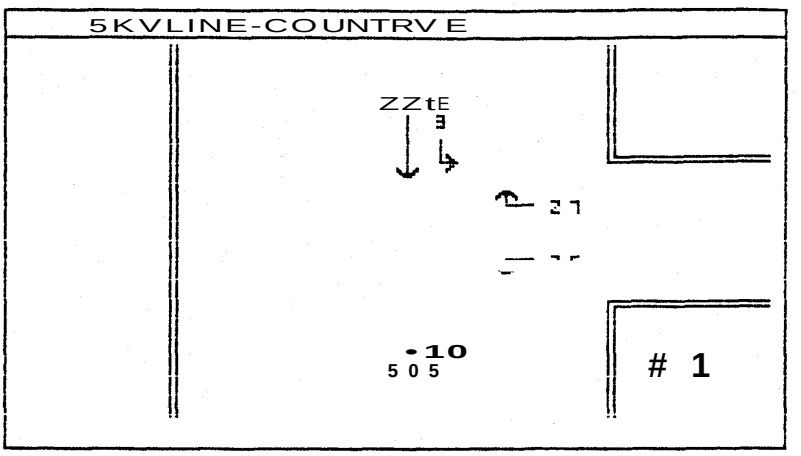
A.M. RESULTING TRAFFIC VOLUMES

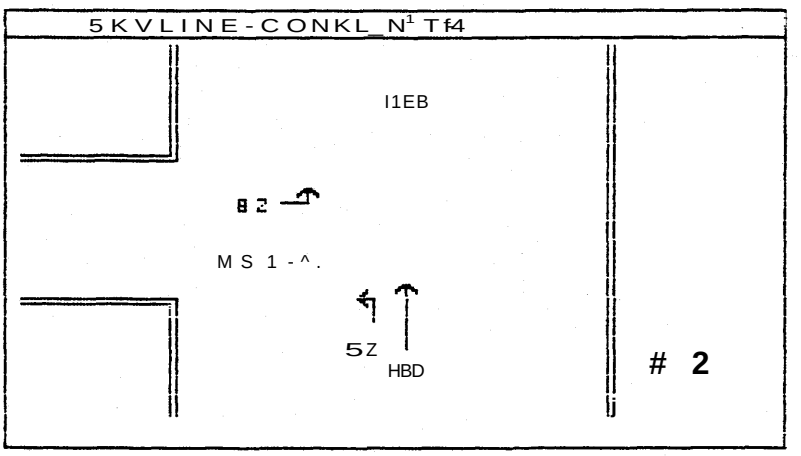
WITH

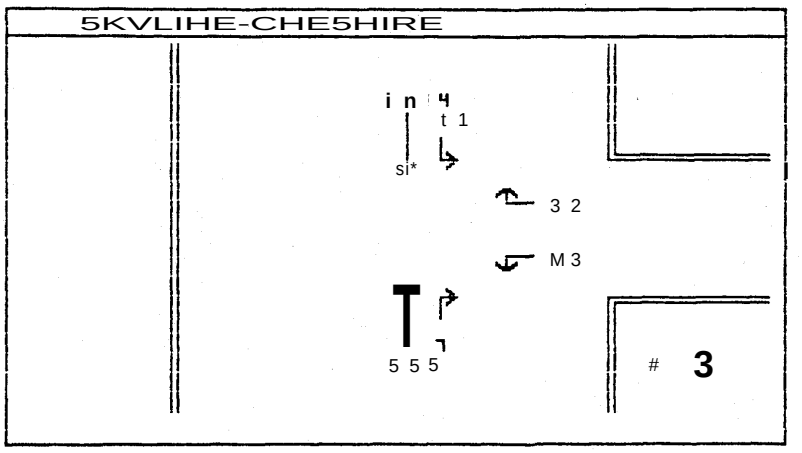
STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

Access to Site 2 via Intersection 13
on Fieldstone Drive unless otherwise noted
(Last Sheet)

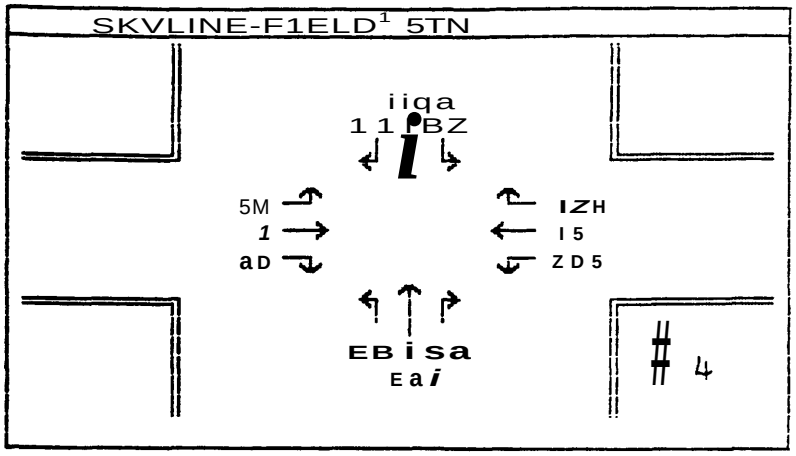
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3#/T2 FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

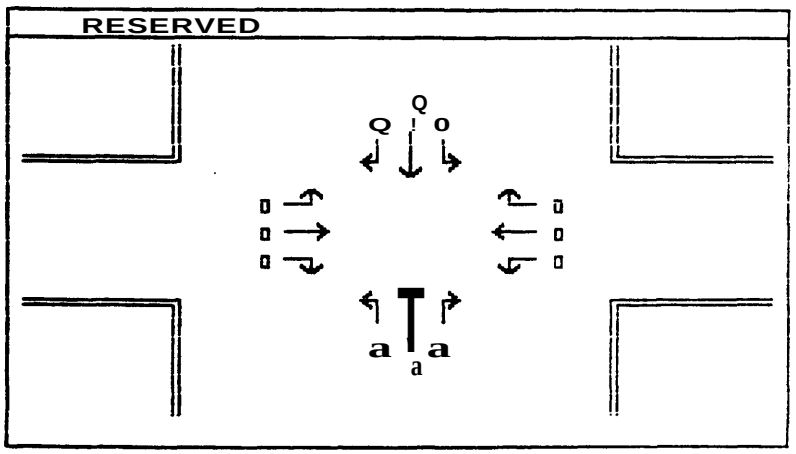


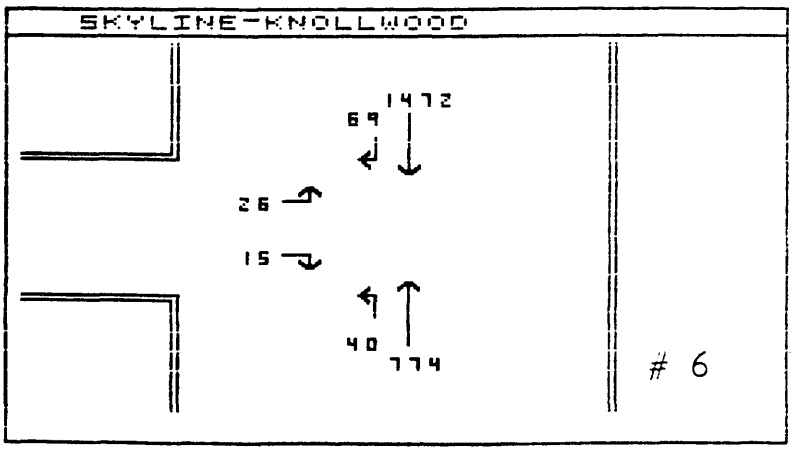




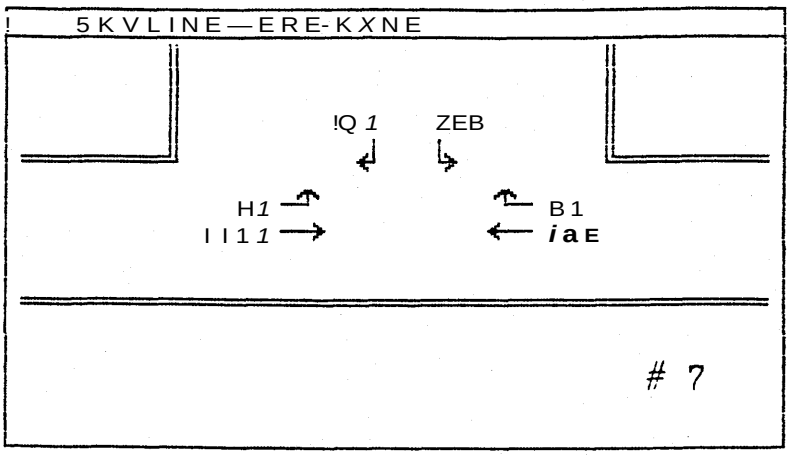
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. **PEAK** HOUR

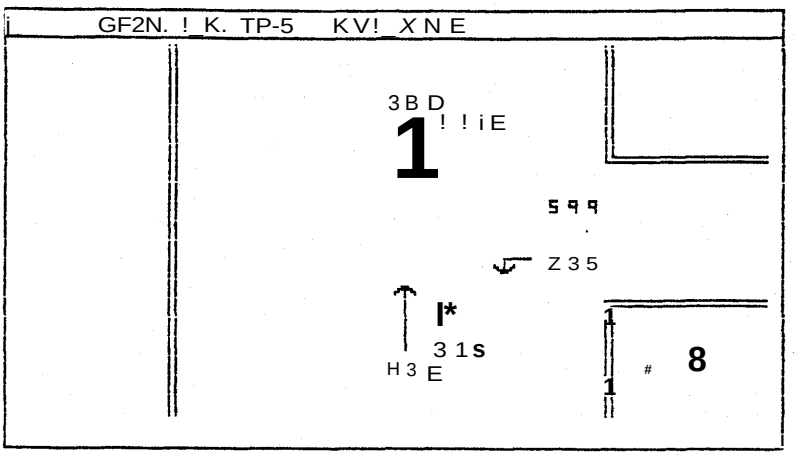


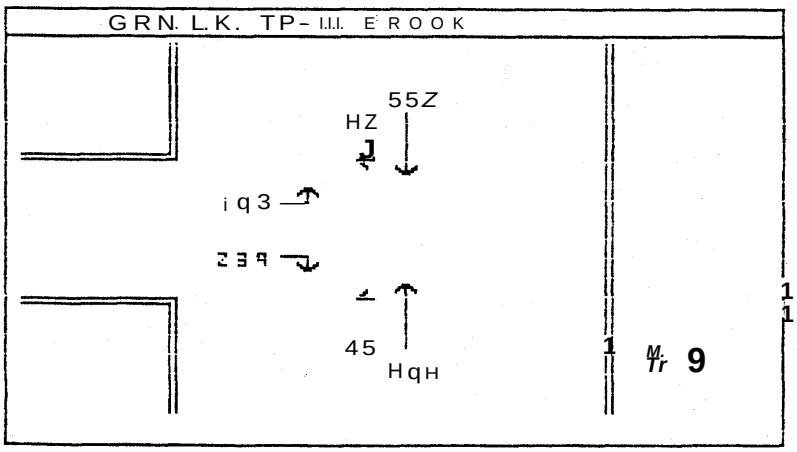




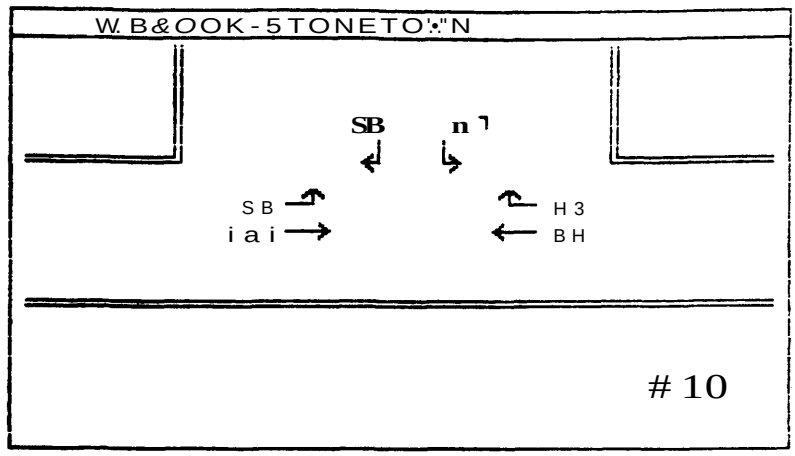
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

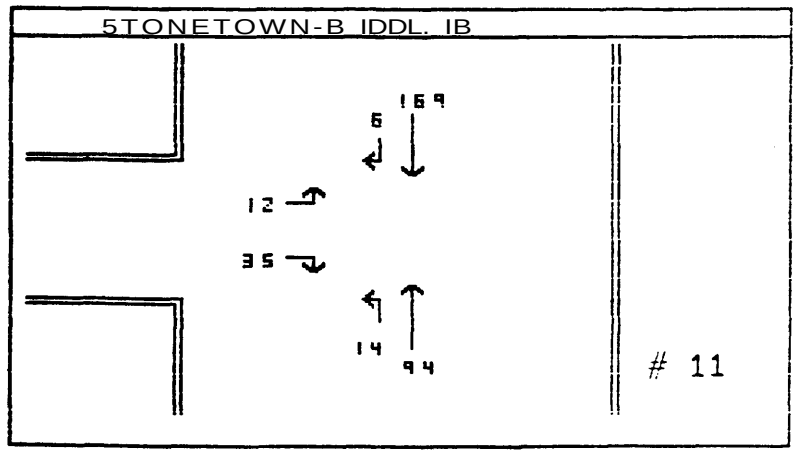


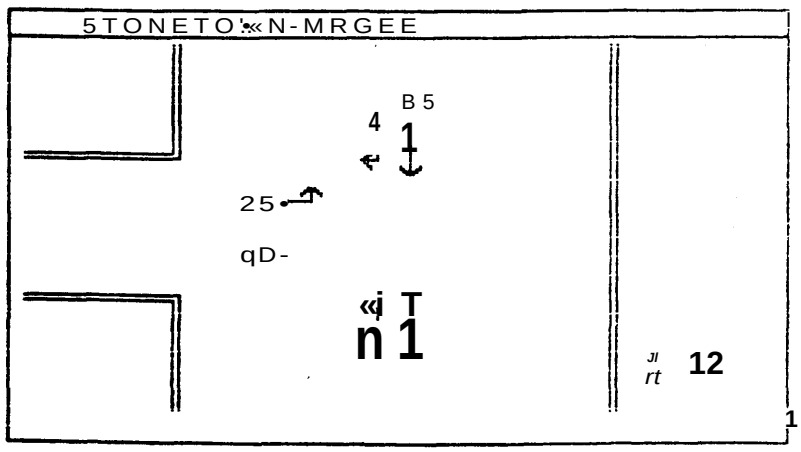




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3<VYR FOR 10 YEARS *
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED EY OTHERS
A.M. PTSAK HOUR

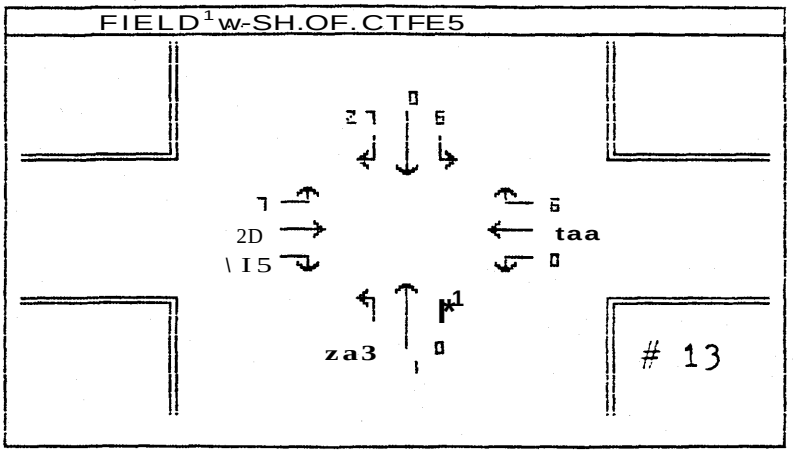


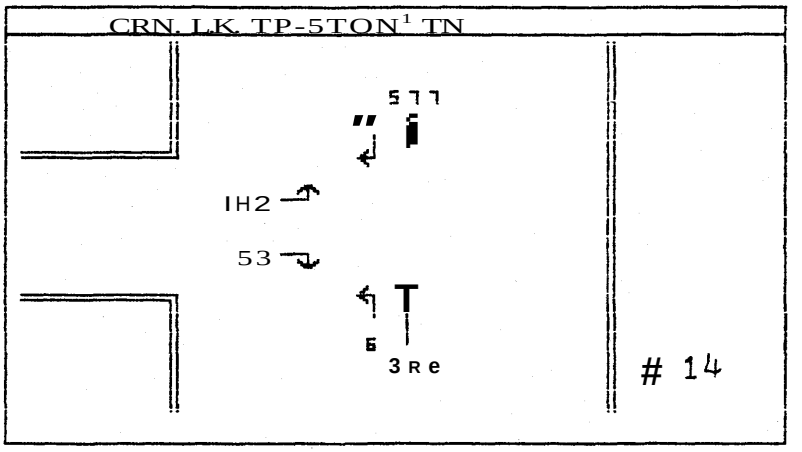


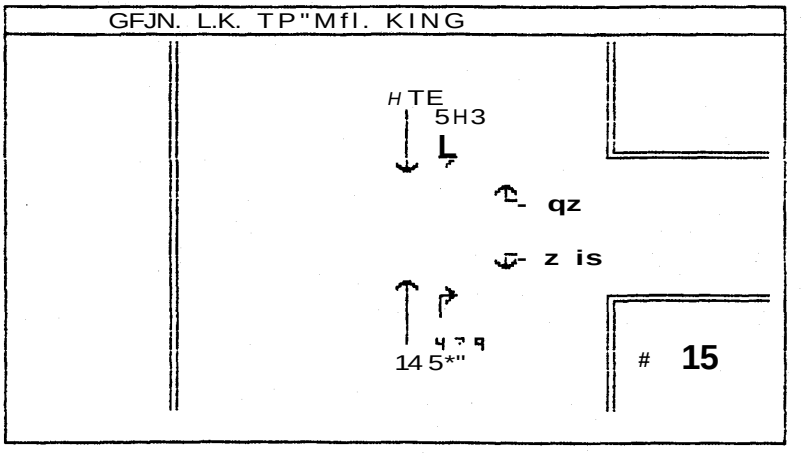


1

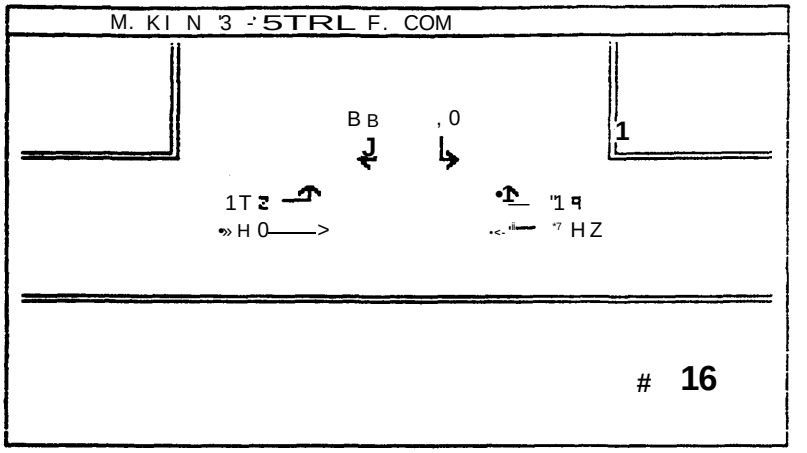
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

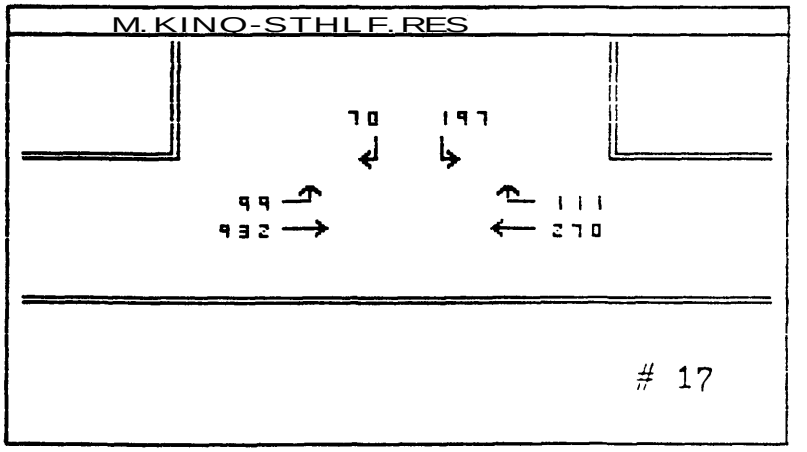


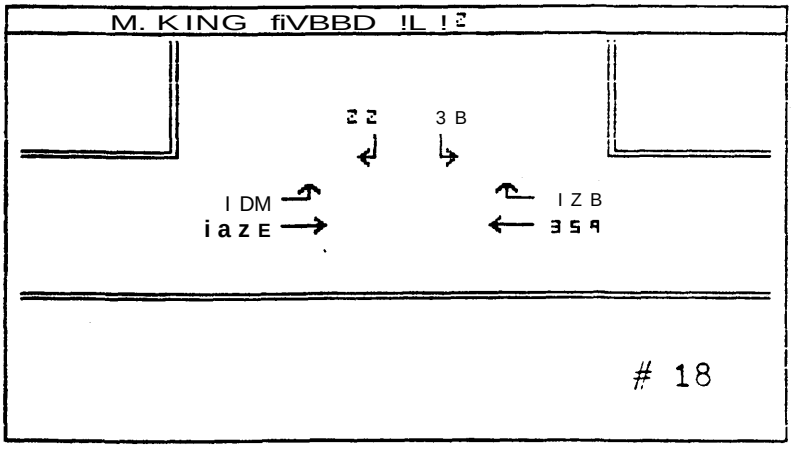




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS *
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A. M. PEAK HOUR

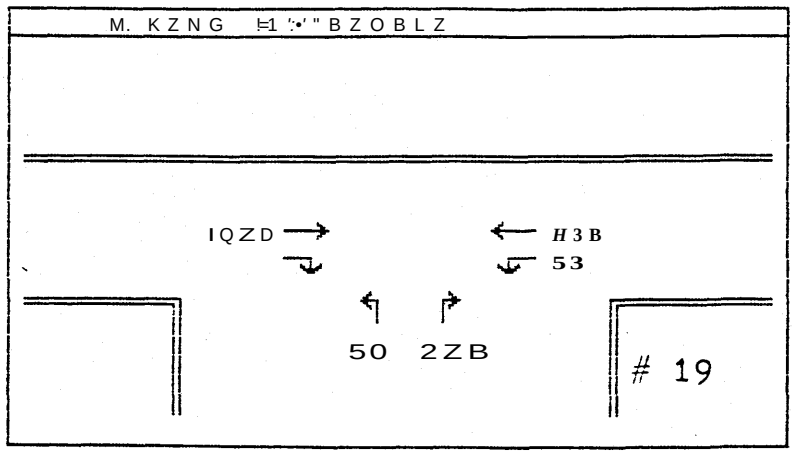


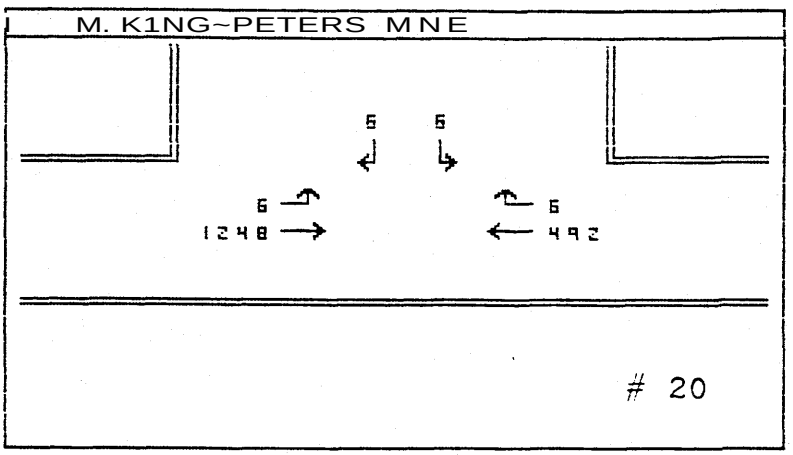




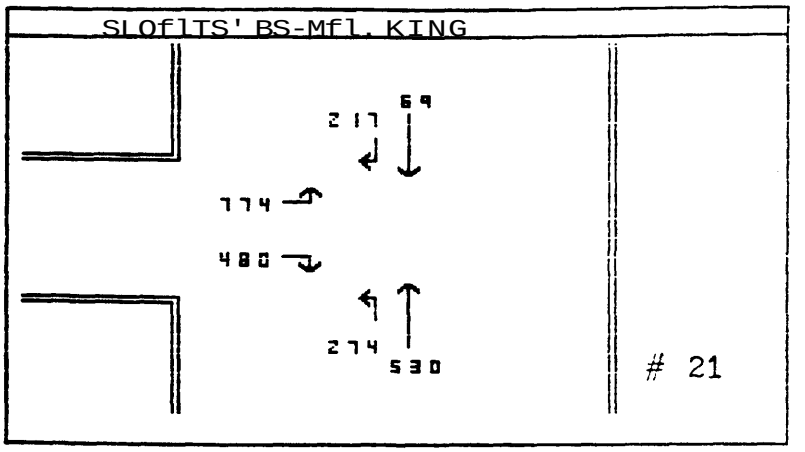
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3f./YR FOR 10 YEARS PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

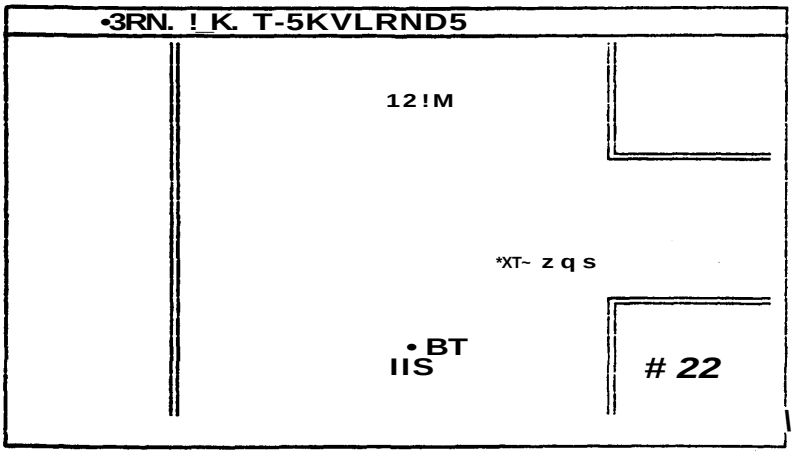
A.M. PEAK HOUR

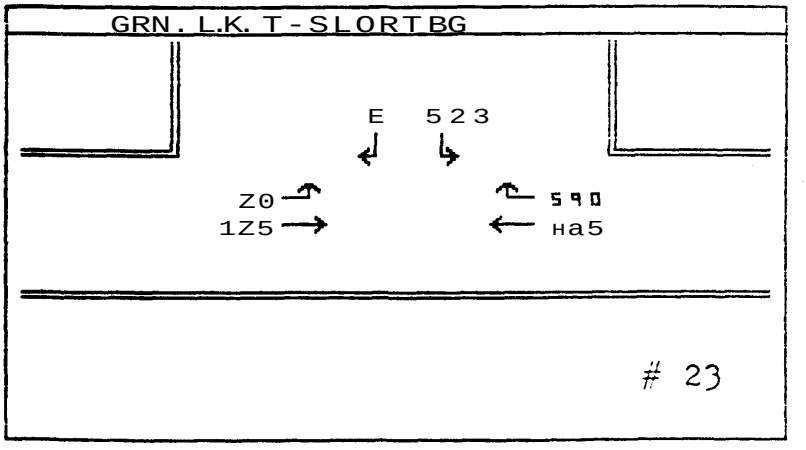




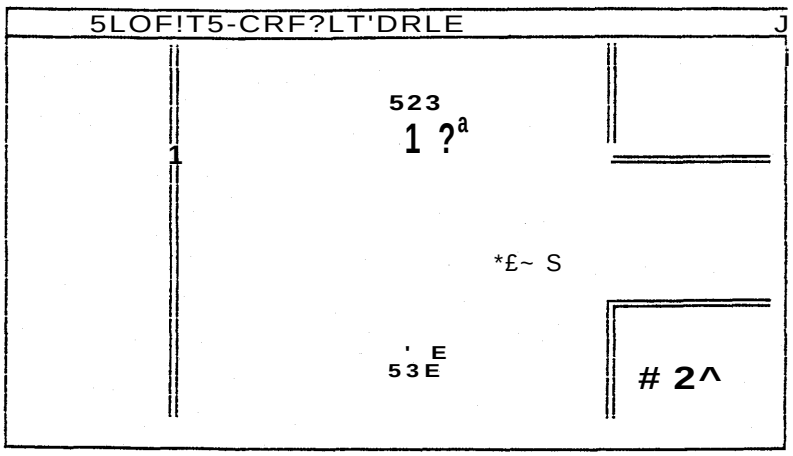
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEAftS *
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

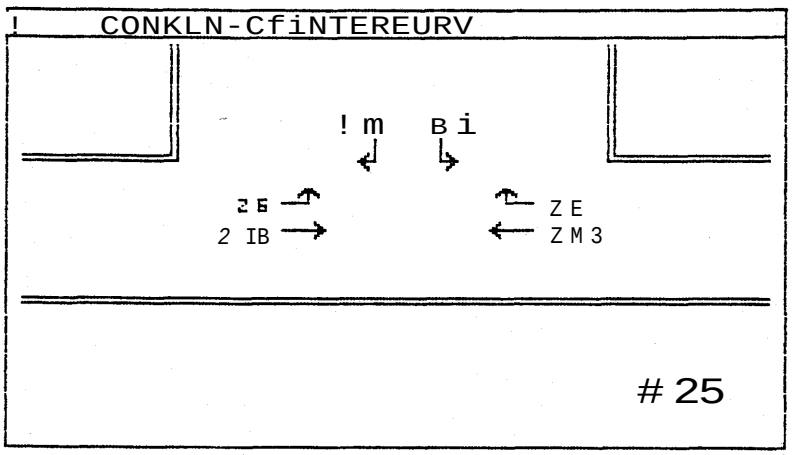




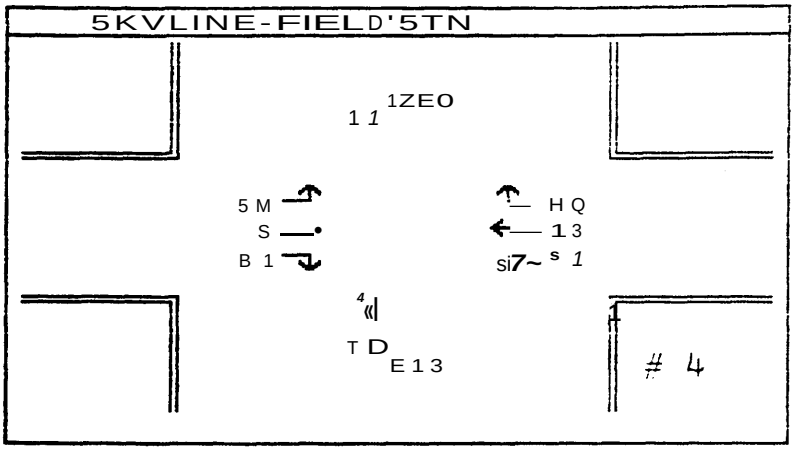


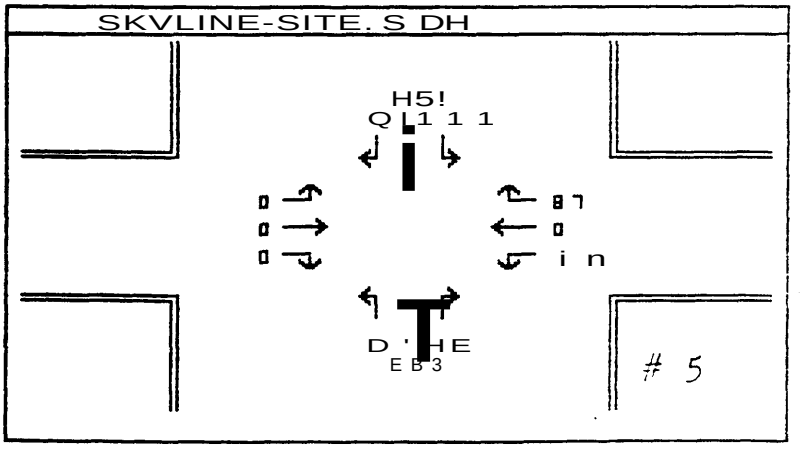
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3f*/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

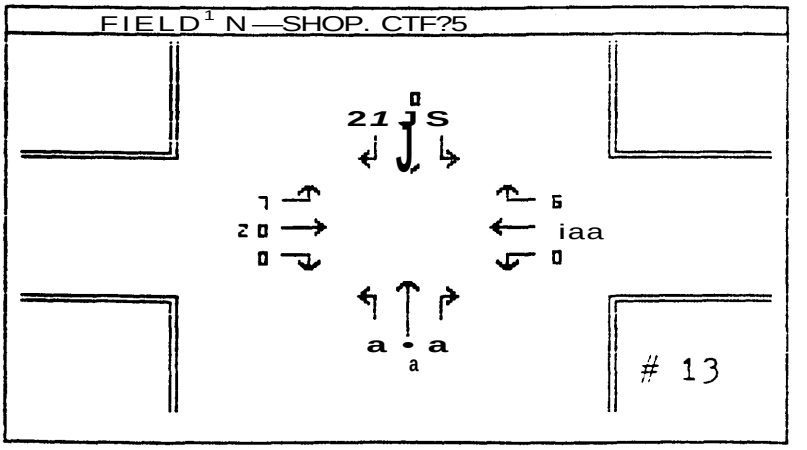




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR ItNR 10 YEARS "
PLUS **TRAFFIC FROM** STUDY SITES DSVELOPSD AS PROPOSED BY OTHERS
A.M. PEAK HOUR







1993 BACKGROUND TRAFFIC AND SITS TRAFFIC

P.M. RESULTING TRAFFIC VOLUMES

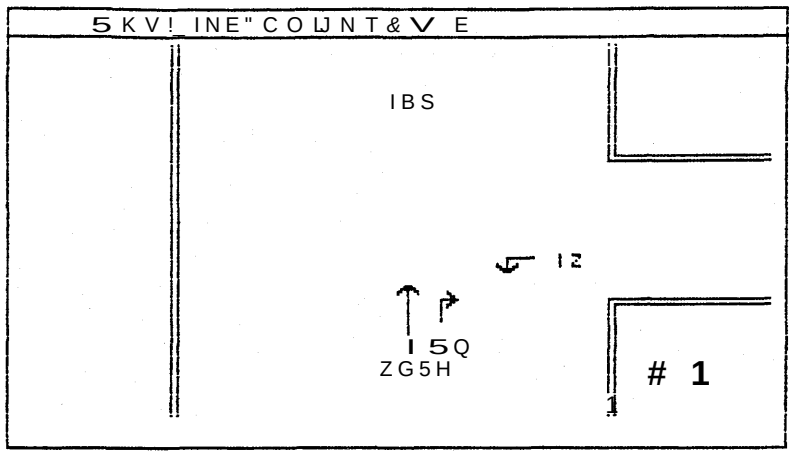
WITH

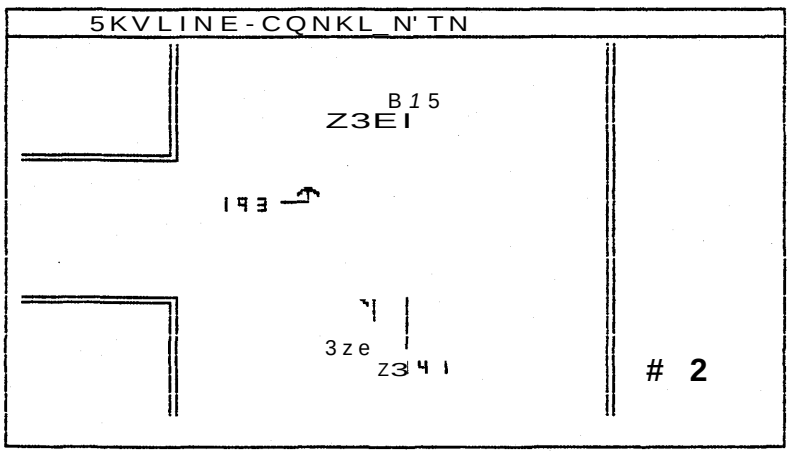
STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

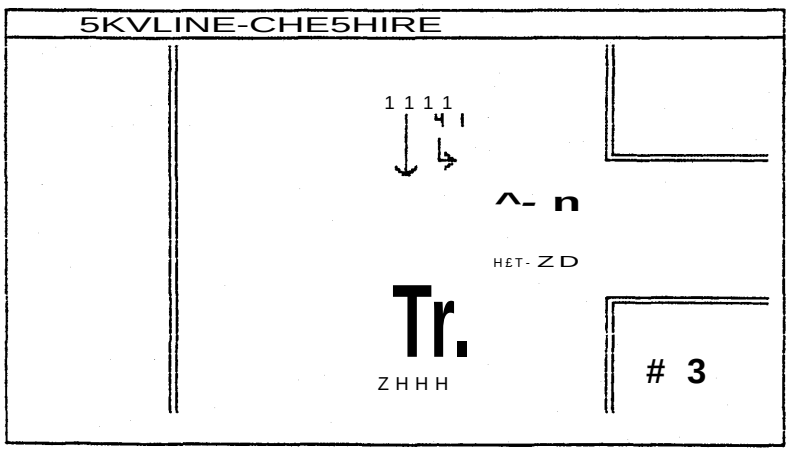
Access to Site 2 via Intersection 13
on Fieldstone Drive unless otherwise noted
(Last Sheet)

EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

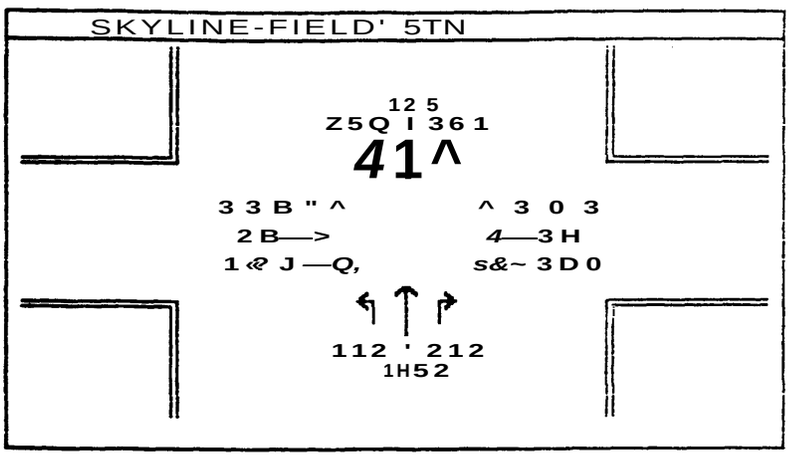
P.M. PEAK HOUR

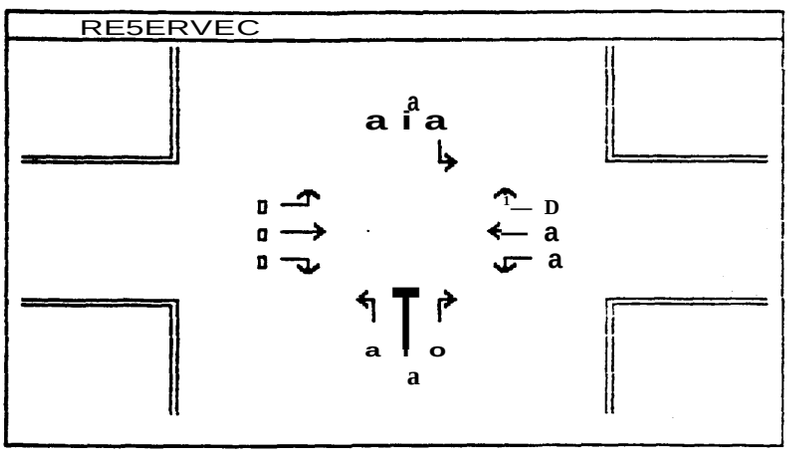


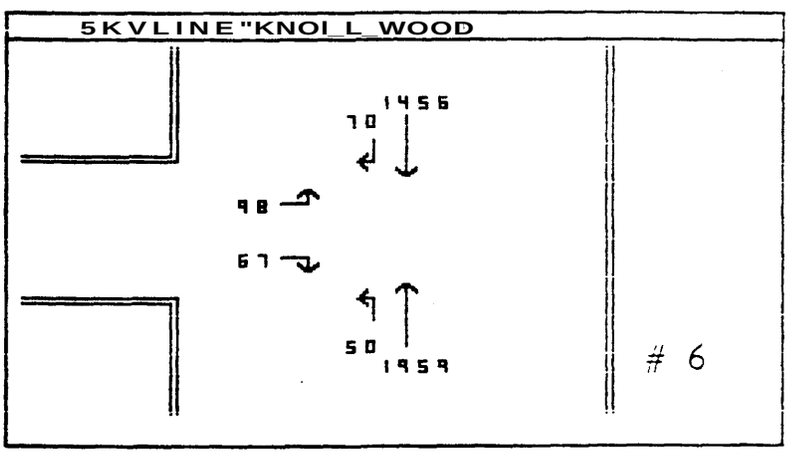




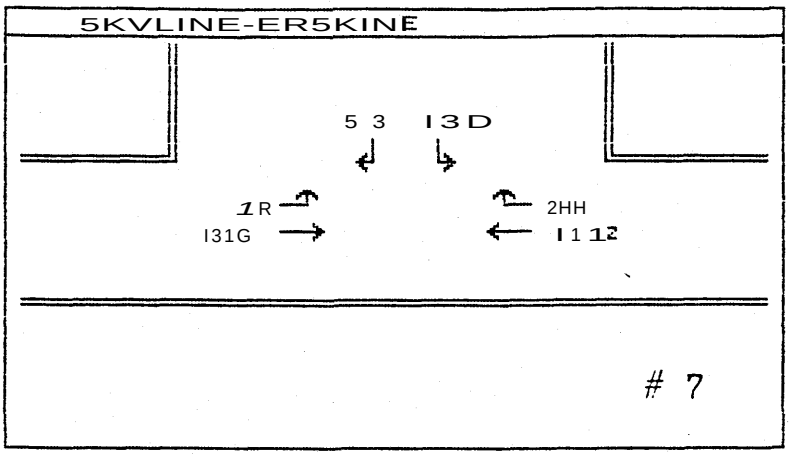
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3#/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

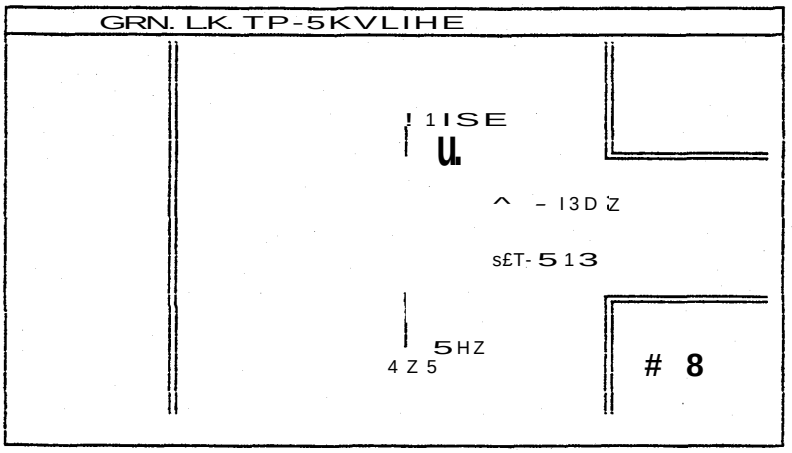


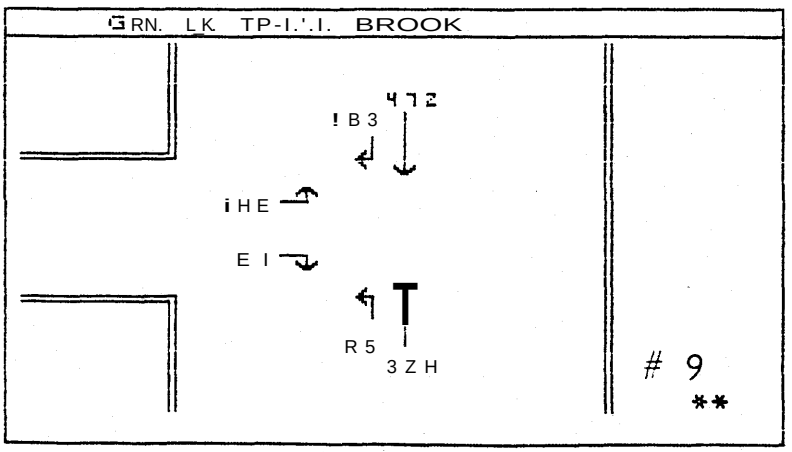




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

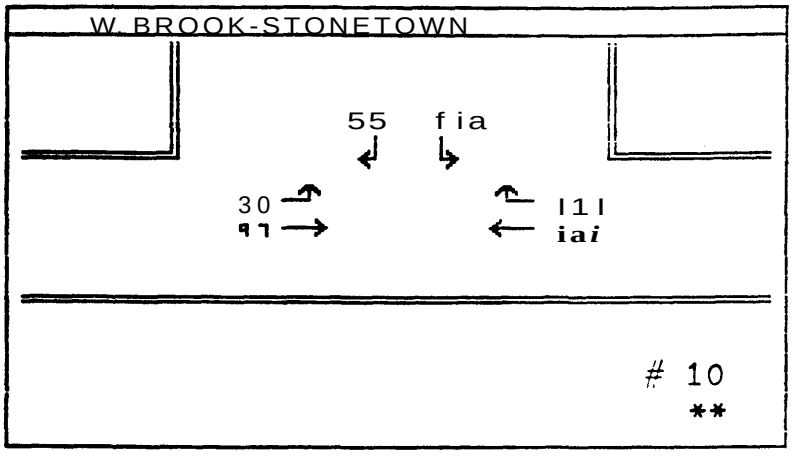


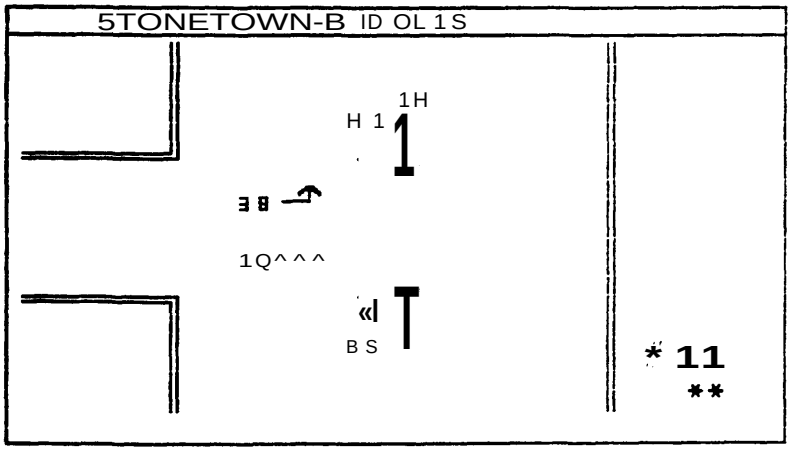


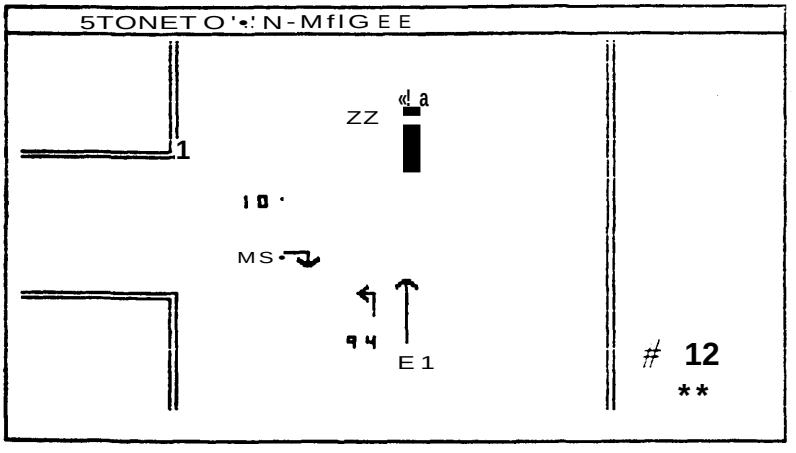


** NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

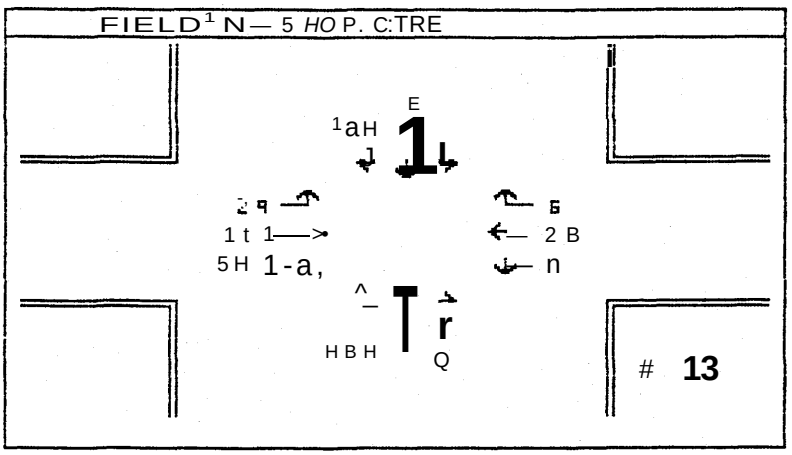


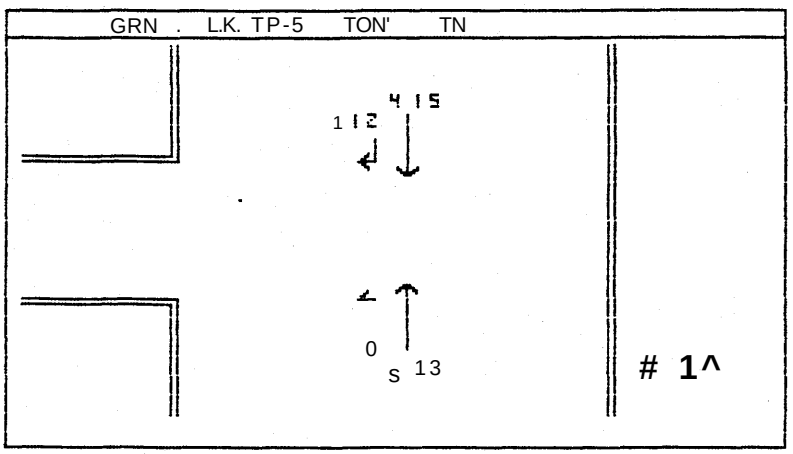


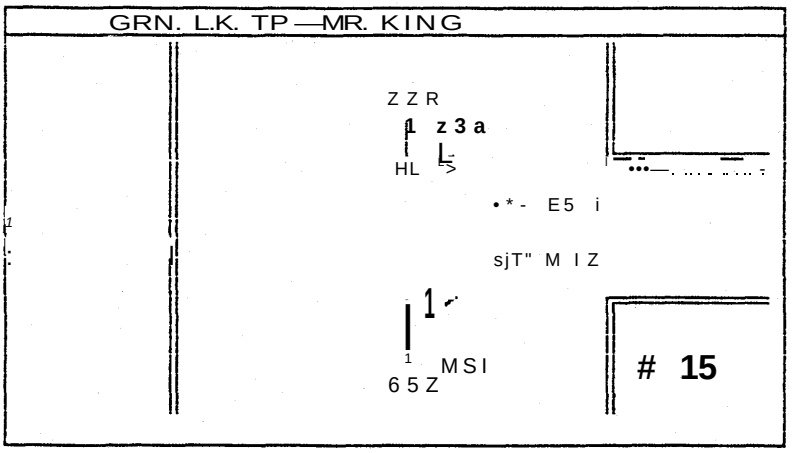


•• NSl^ TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM'STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

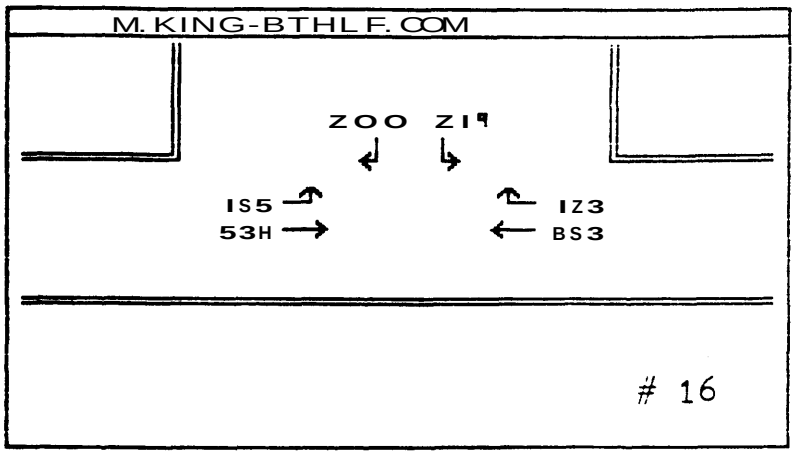


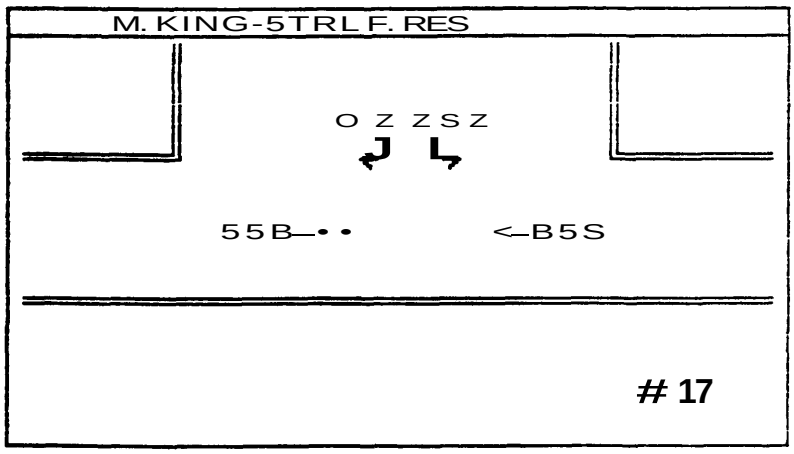


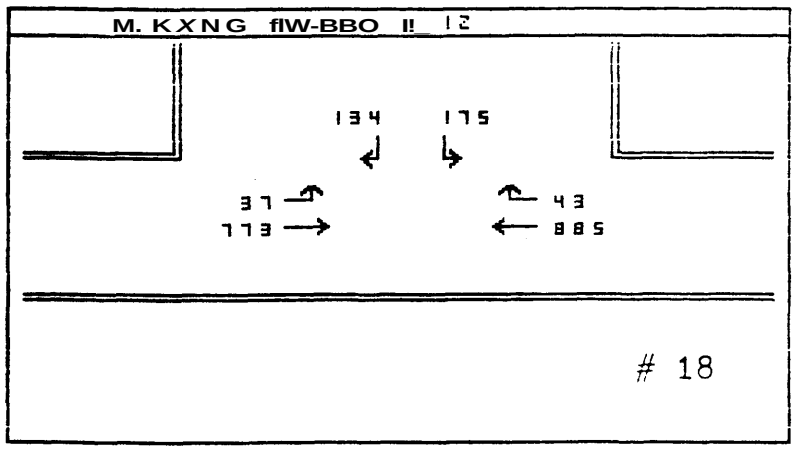


** NEW TRAFFIC ONLY

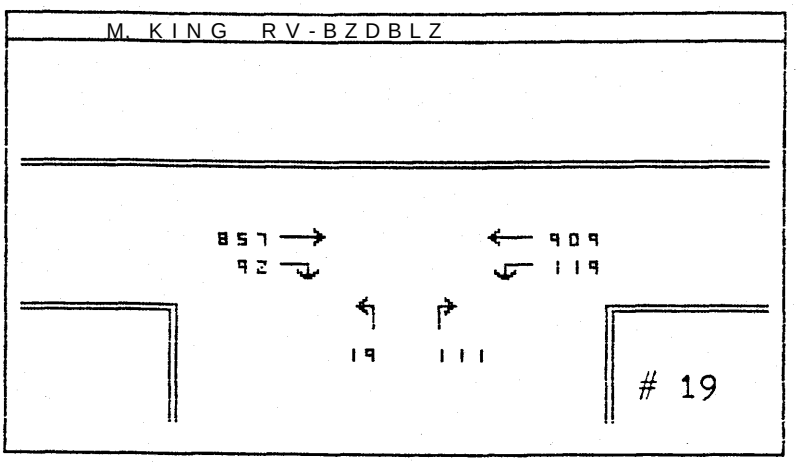
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR **10** YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

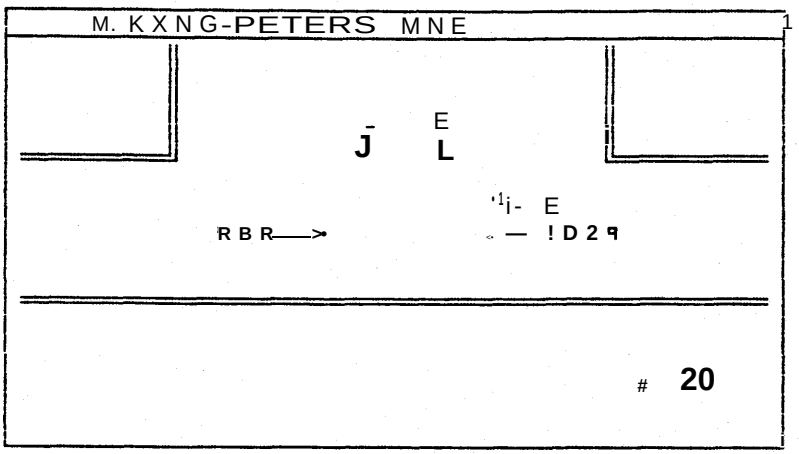




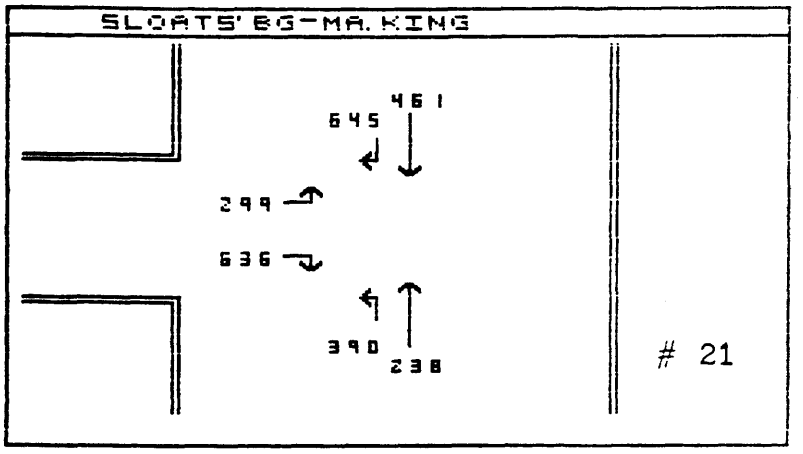


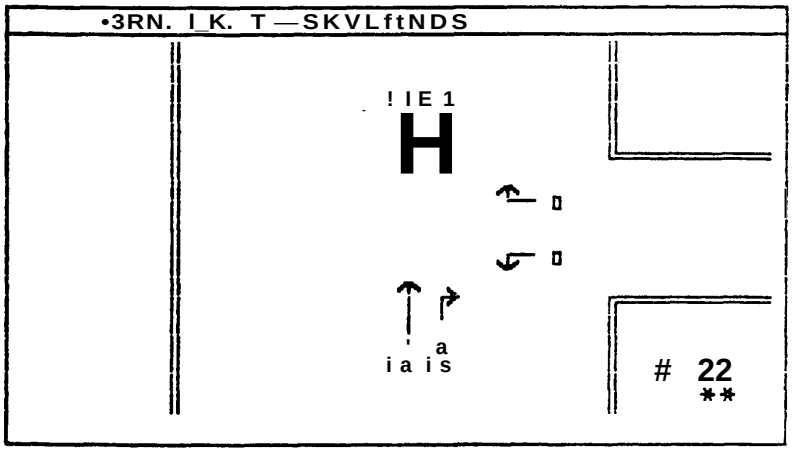
EXISTING INTERSECTION TRAFFIC EXPANDED AT *JfofiK* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

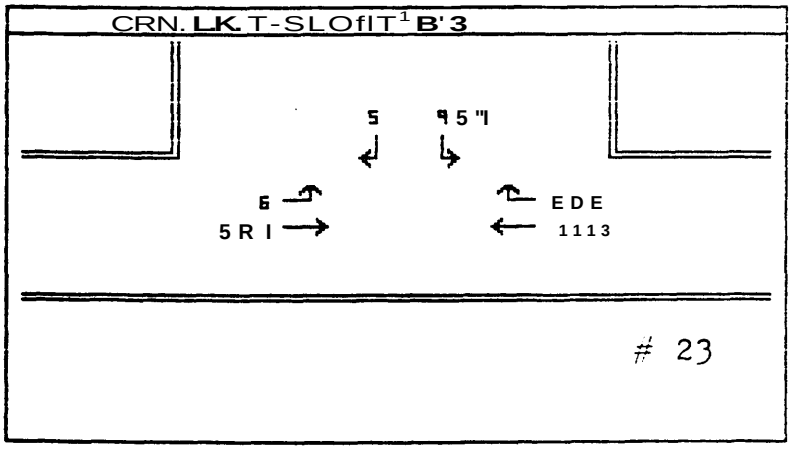




EXISTING INTERSECTION TRAFFIC EXPANDED AT *3fo/YR* FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. **PEAK HOUR**

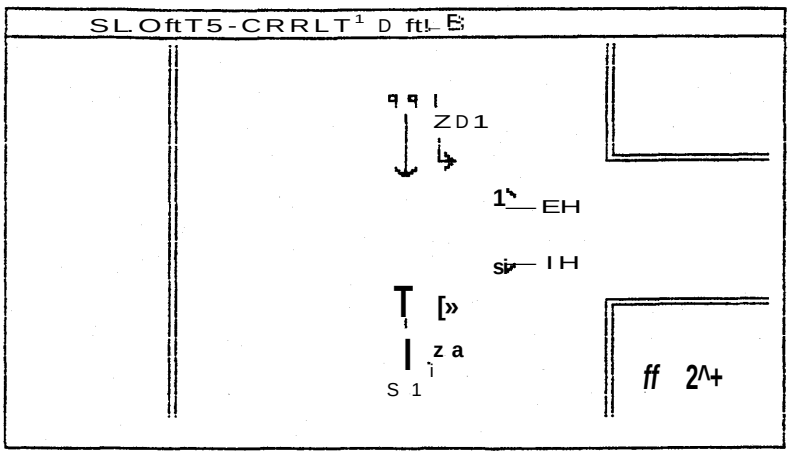


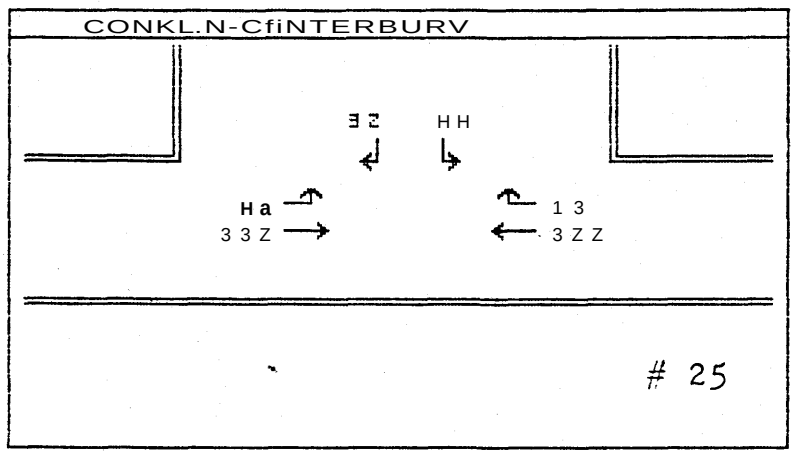




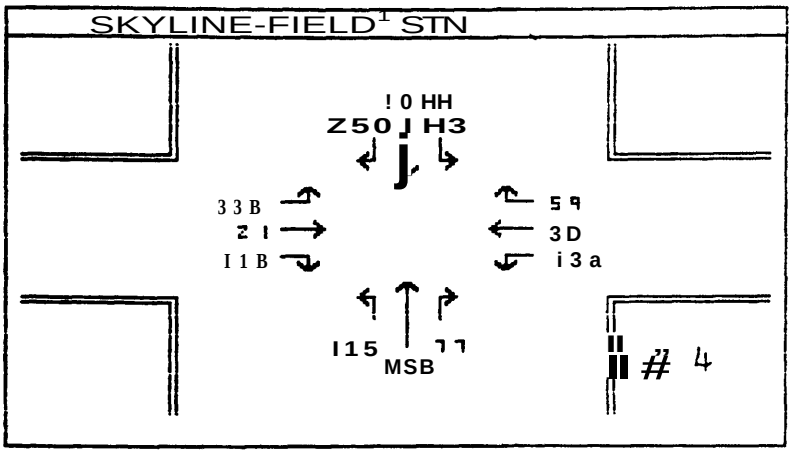
•• **NEVJ TRAFFIC ONLY**

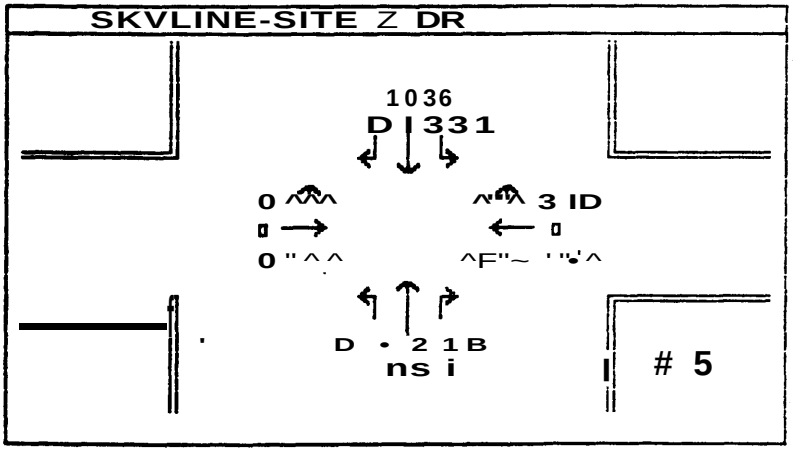
EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

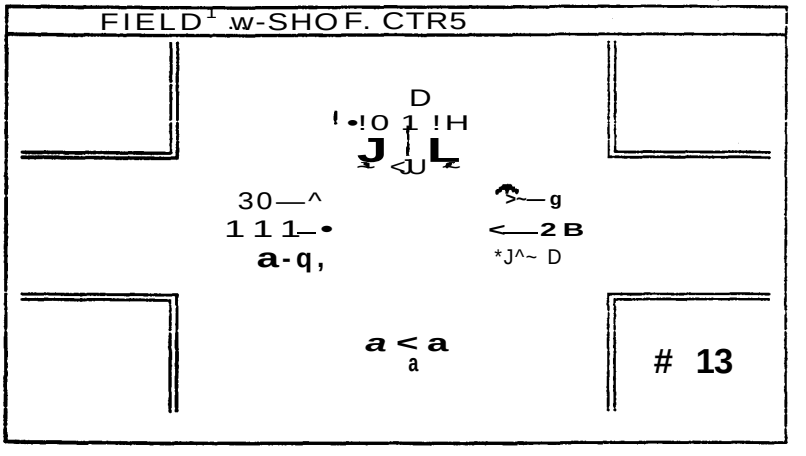




EXISTING INTERSECTION TRAFFIC EXPANDED AT 3^/YR FOR 10 YEARS '
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
WITH ACCESS **TO** SITE 2 FROM SKYLINE DRIVE
P.M. PEAK HOUR







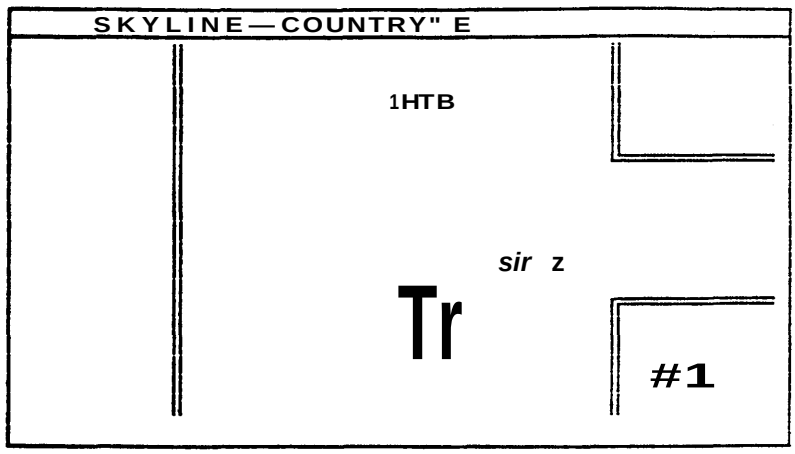
1983 BACKGROUND TRAFFIC AND SITE TRAFFIC

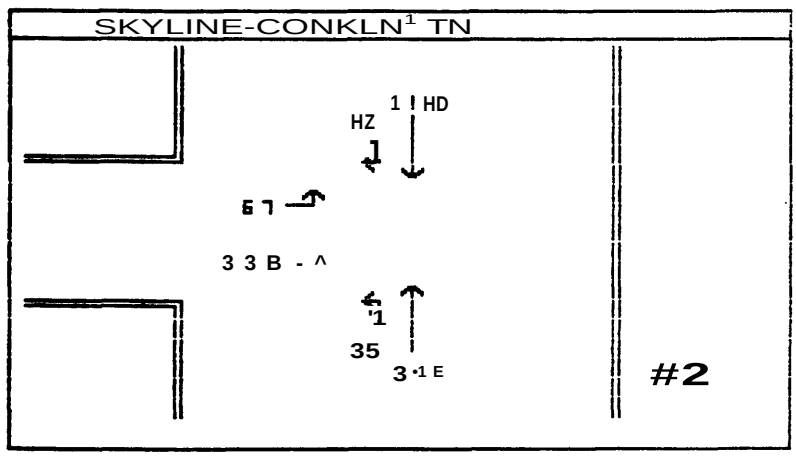
A.M. EXISTING TRAFFIC VOLUMES

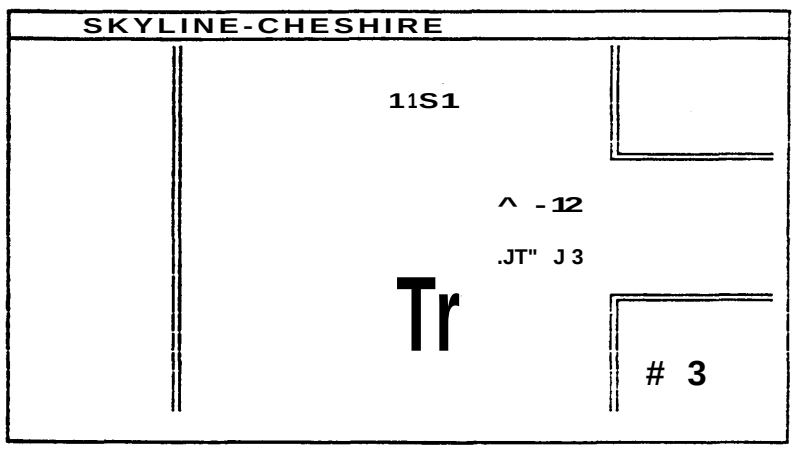
WITH

STUDY SITES DEVELOPED AS ZONED

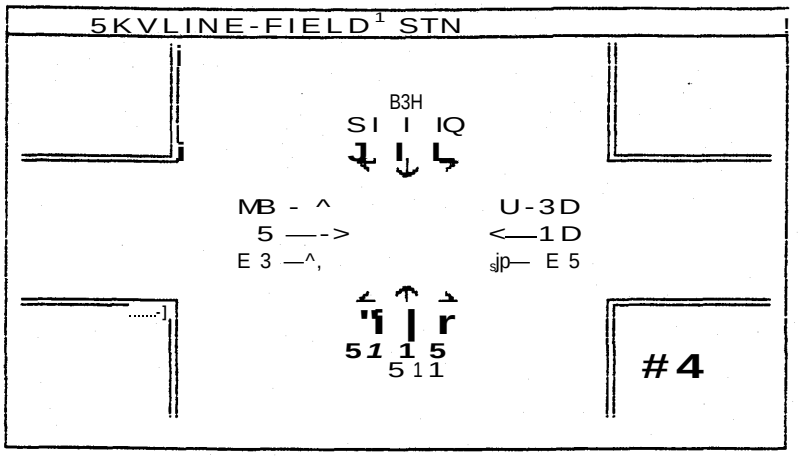
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

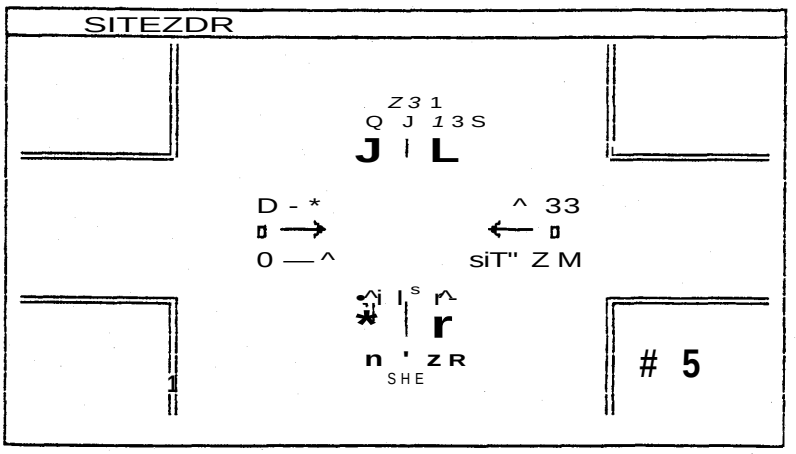


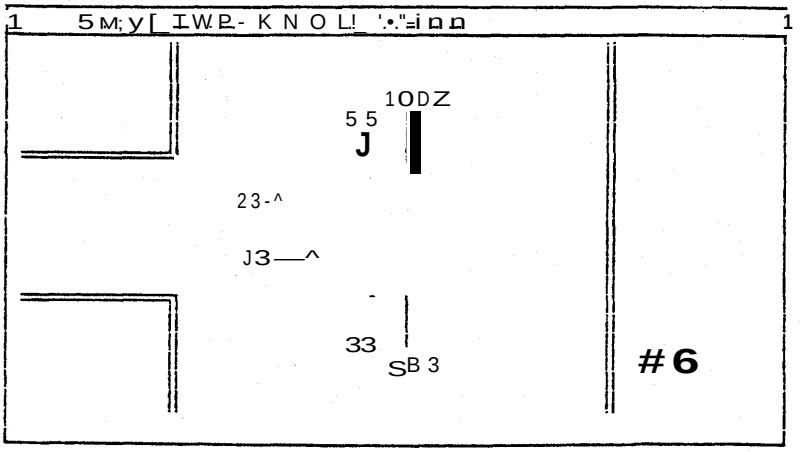




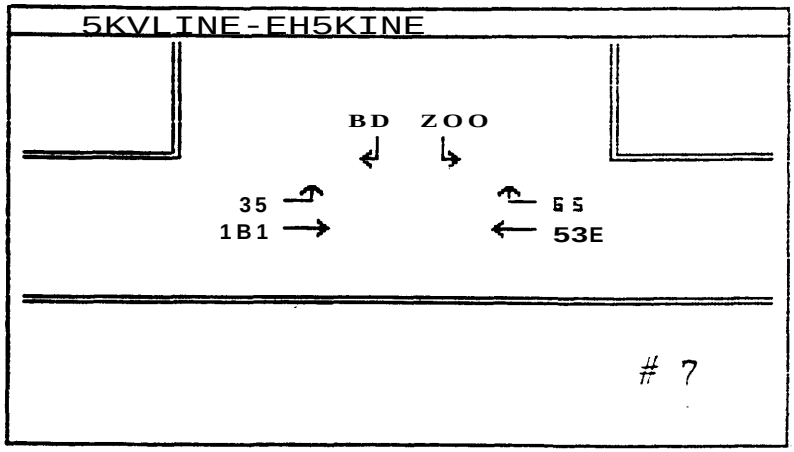
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

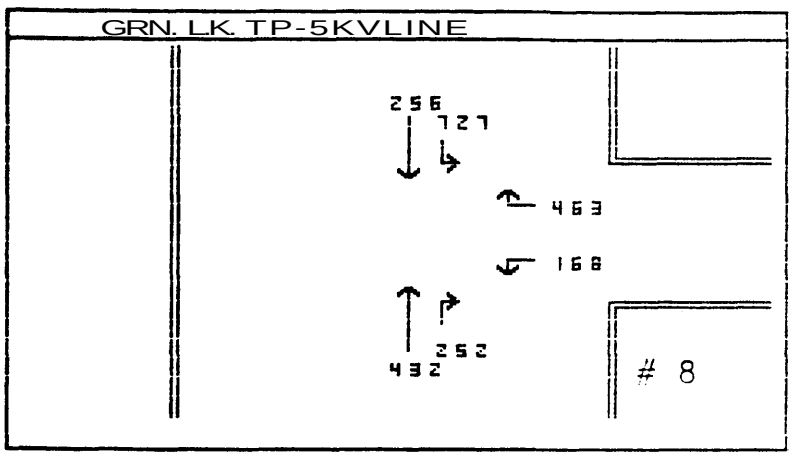


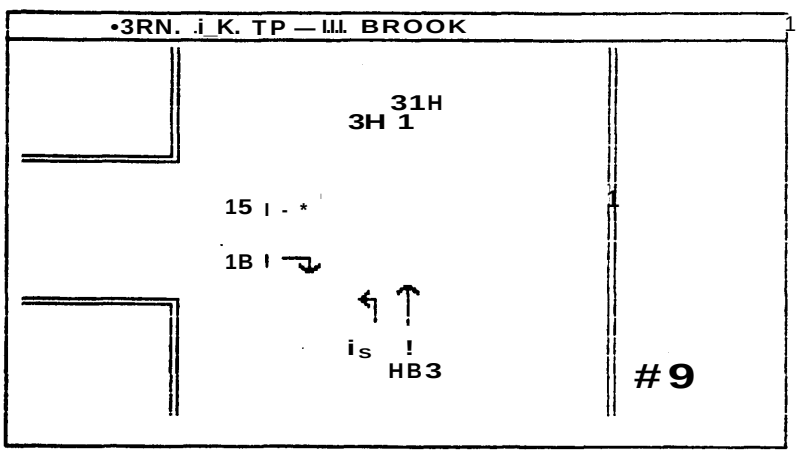




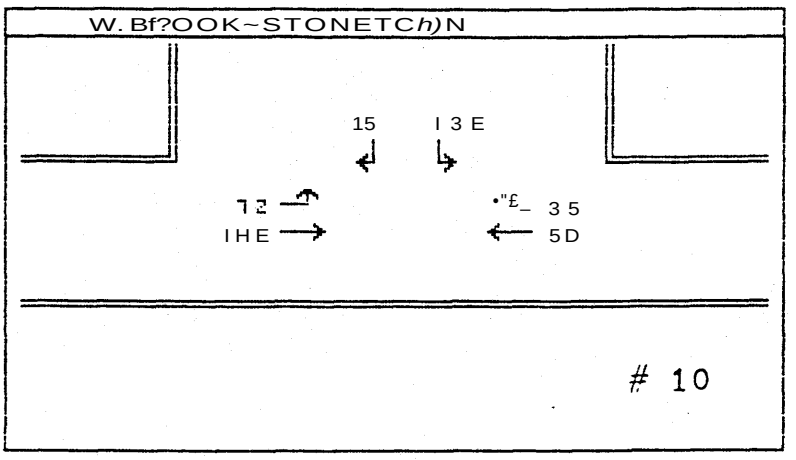
' 'J ' " EXISTING "INTERSECTION TRAFFIC
PUJS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

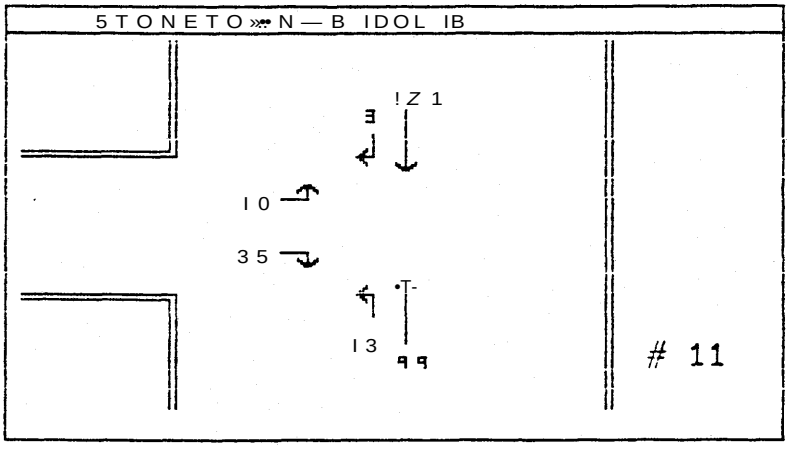


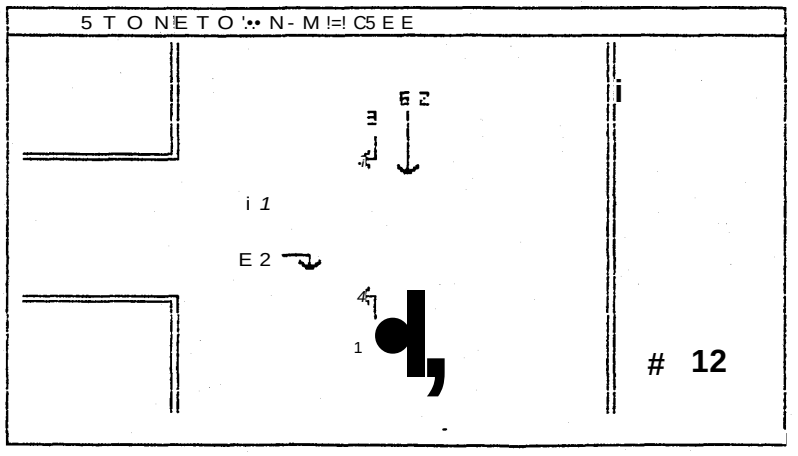




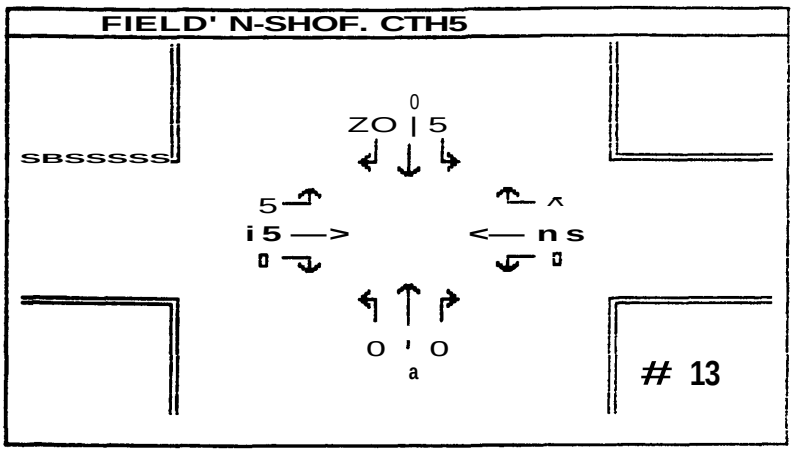
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

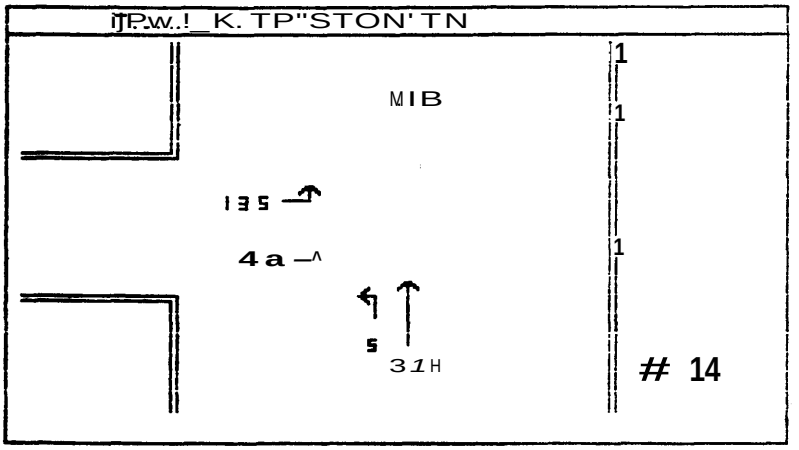


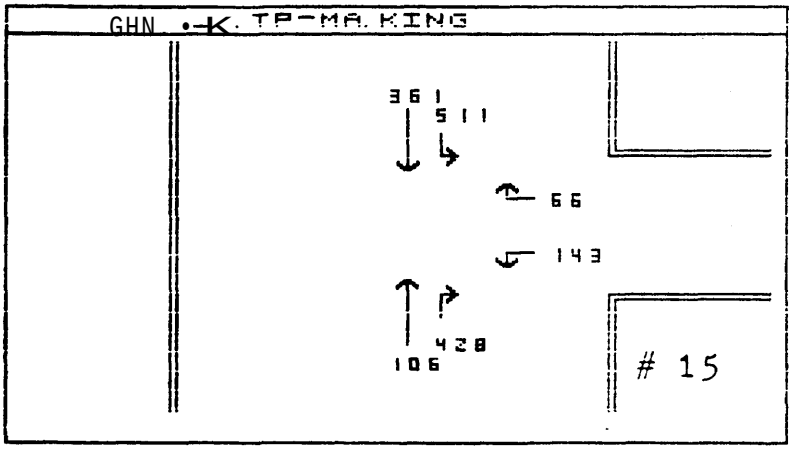




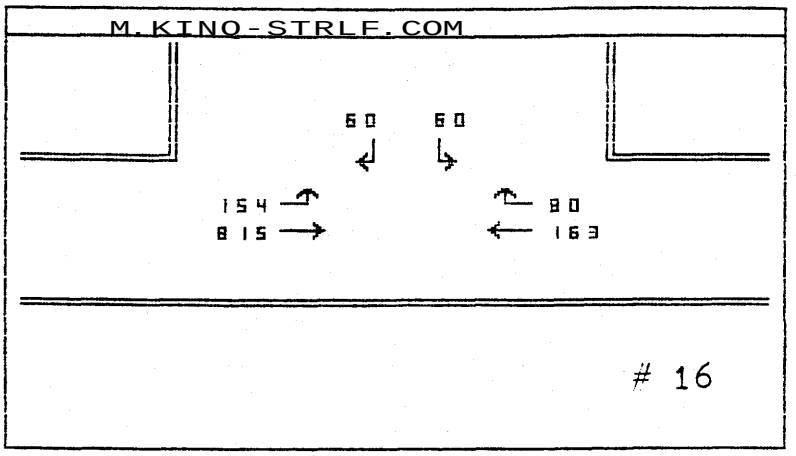
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

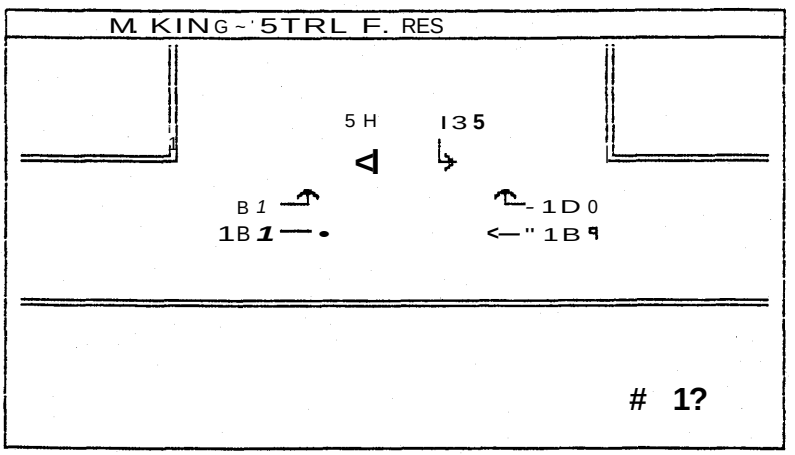


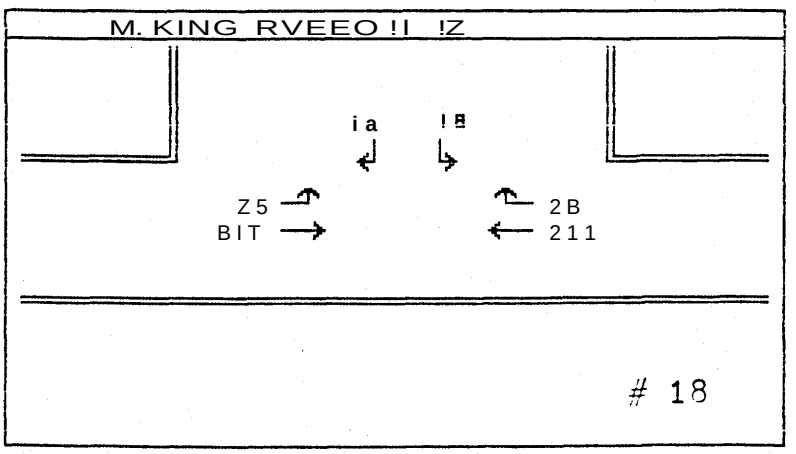




EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR



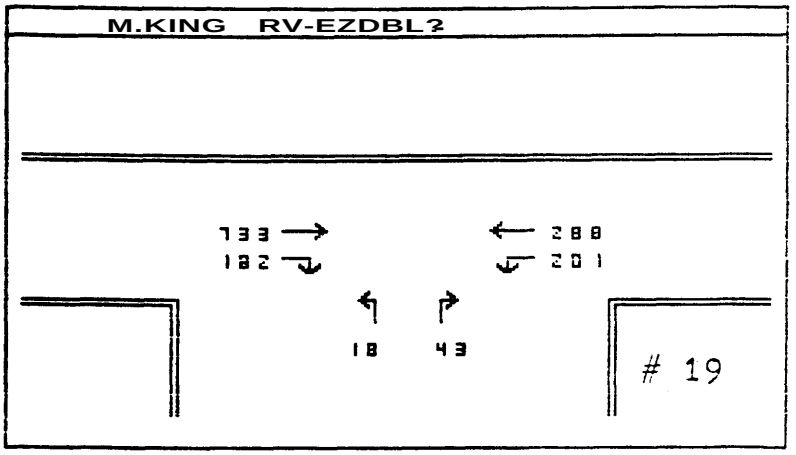


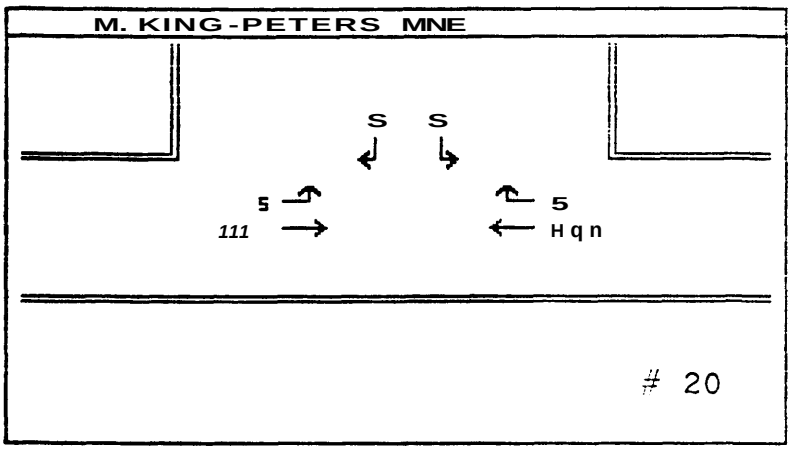


EXISTING INTERSECTION TRAFFIC

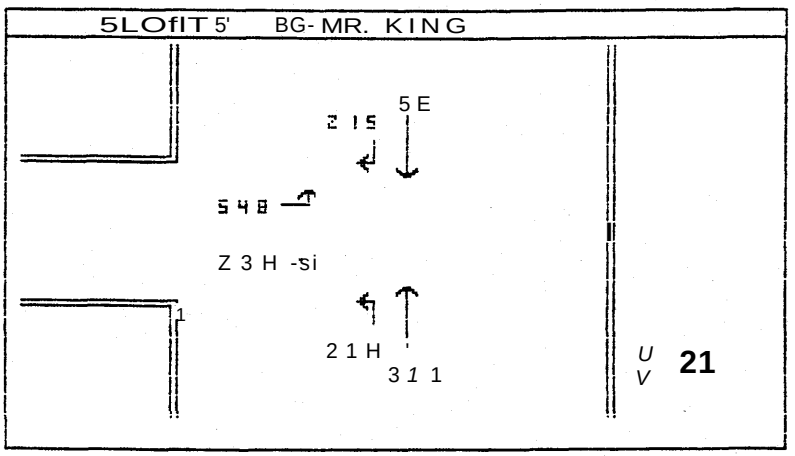
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED

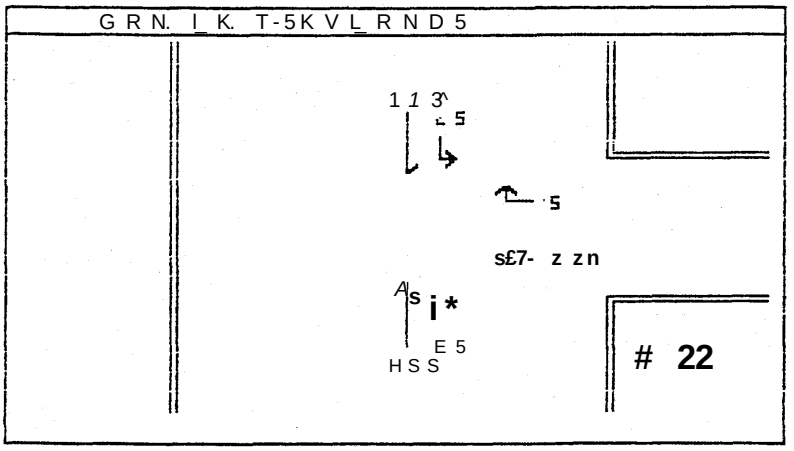
A.M. PEAK HOUR

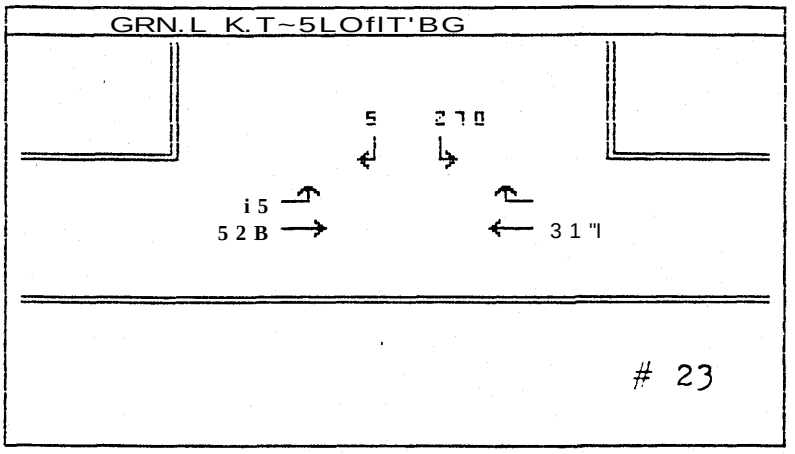




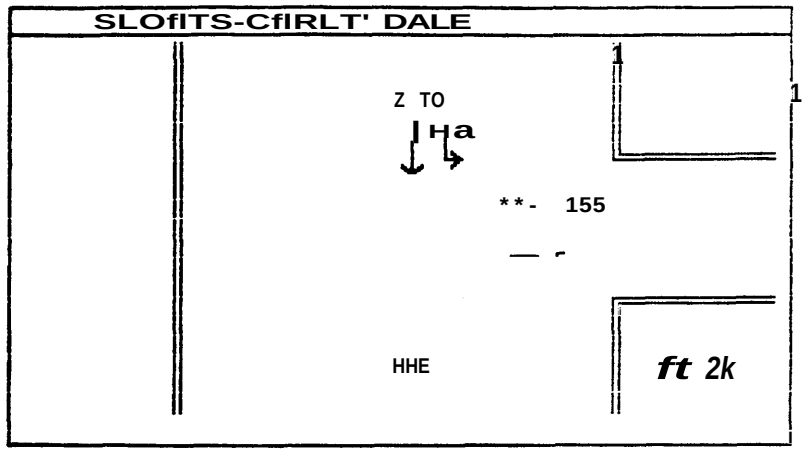
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR

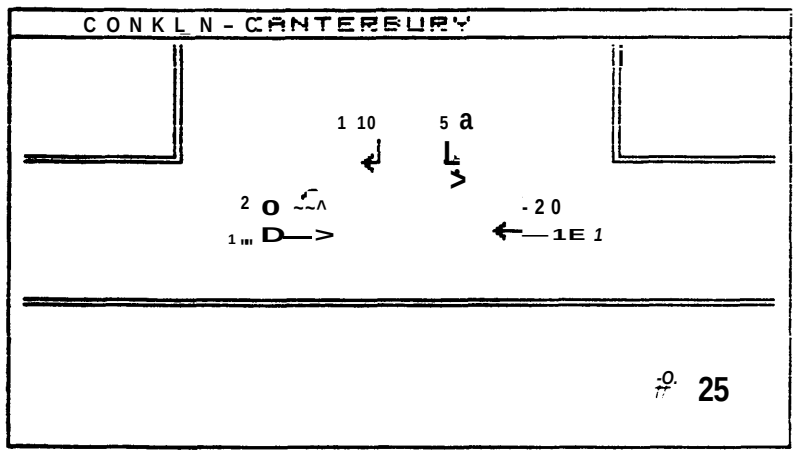






EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
A.M. PEAK HOUR





1983 BACKGROUND TRAFFIC AND SITE TRAFFIC

P.M. EXISTING TRAFFIC VOLUMES

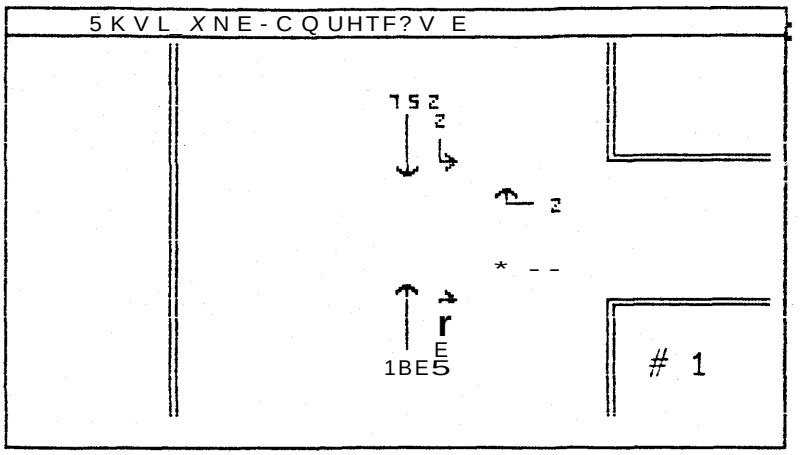
WITH

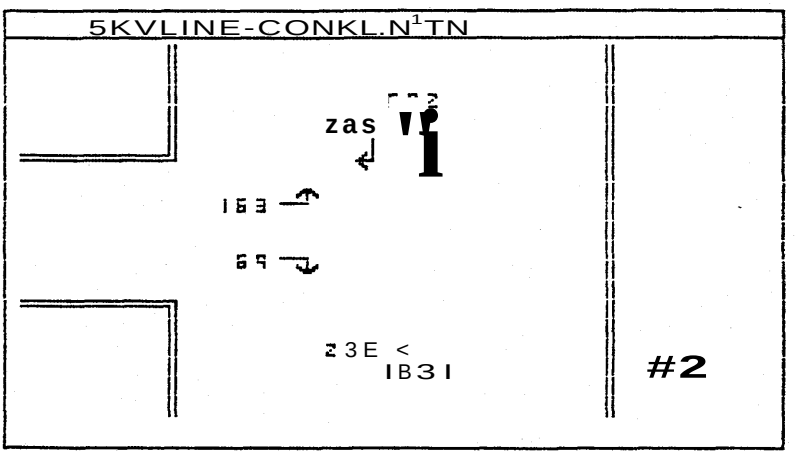
STUDY SITES DEVELOPED AS ZONED

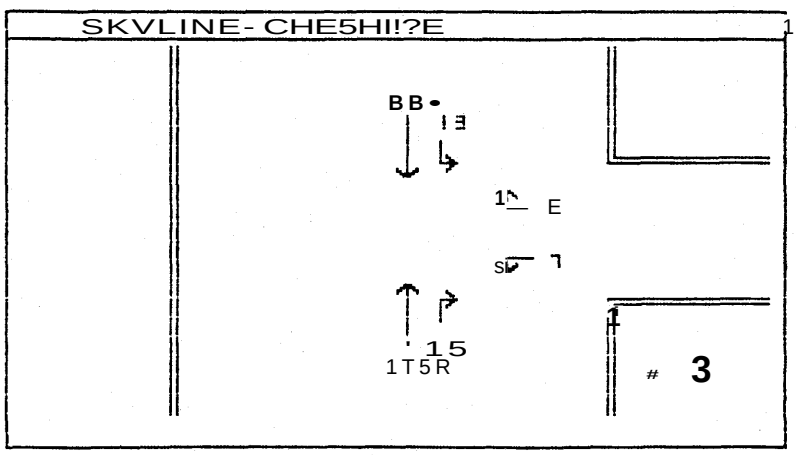
EXISTING INTERSECTION TRAFFIC

PLUS ^TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED

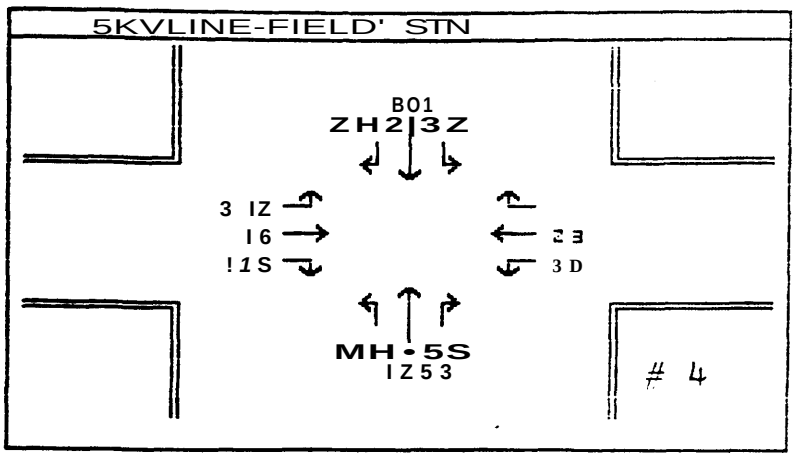
P.M. PEAK HOUR

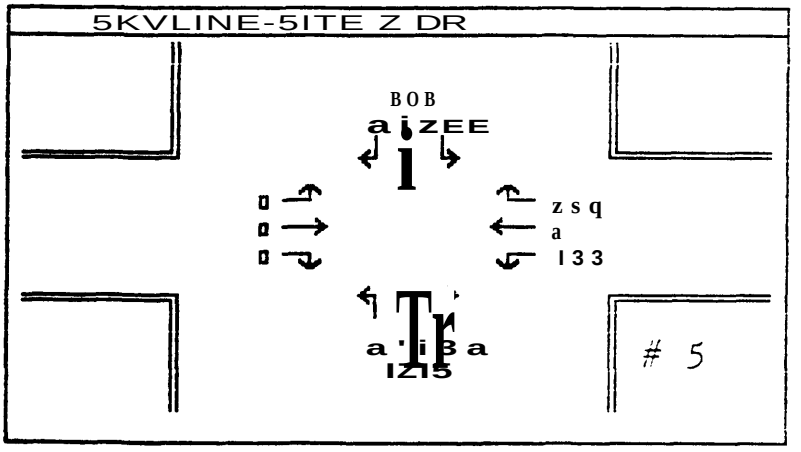


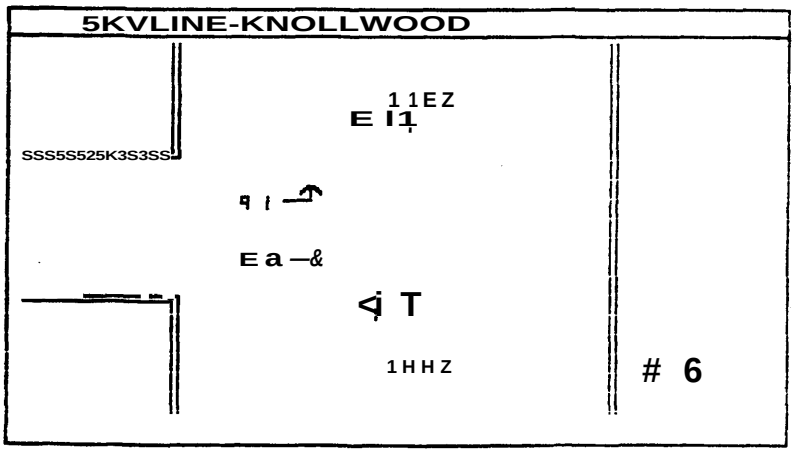




EXISTING INTSRSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR



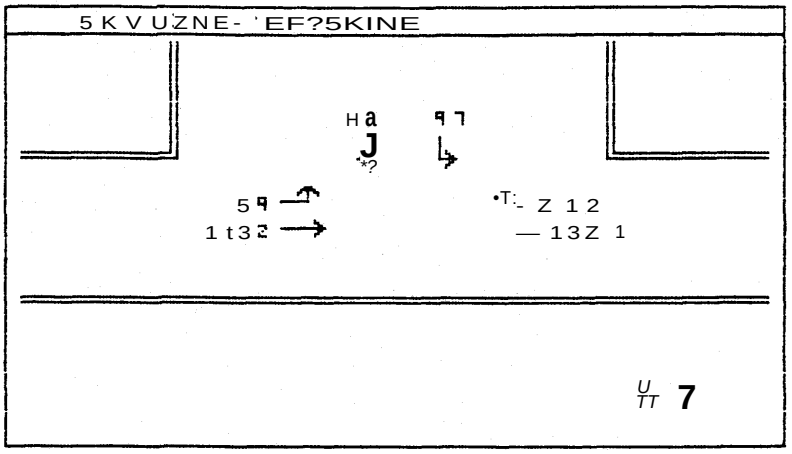


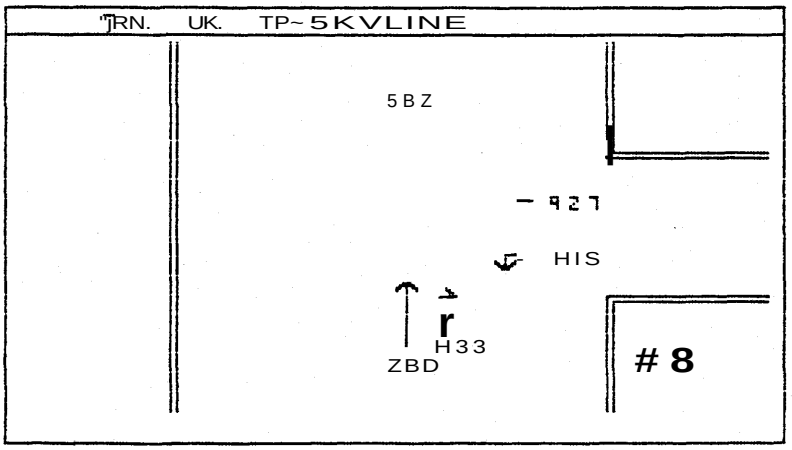


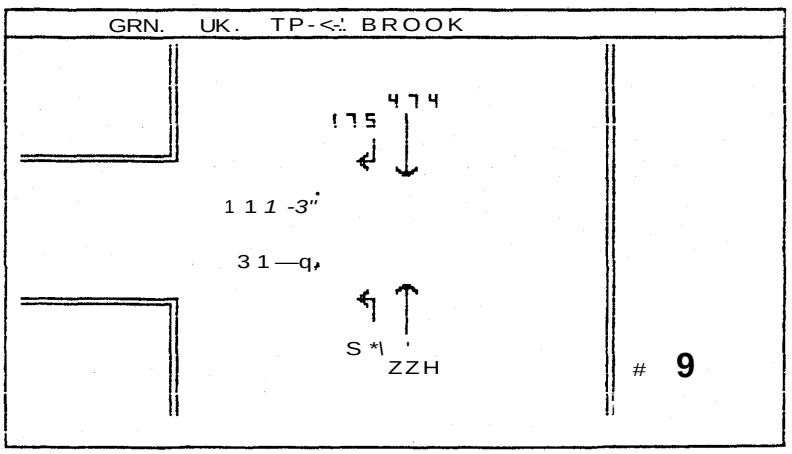
EXISTING INTERSECTION TRAFFIC

PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED

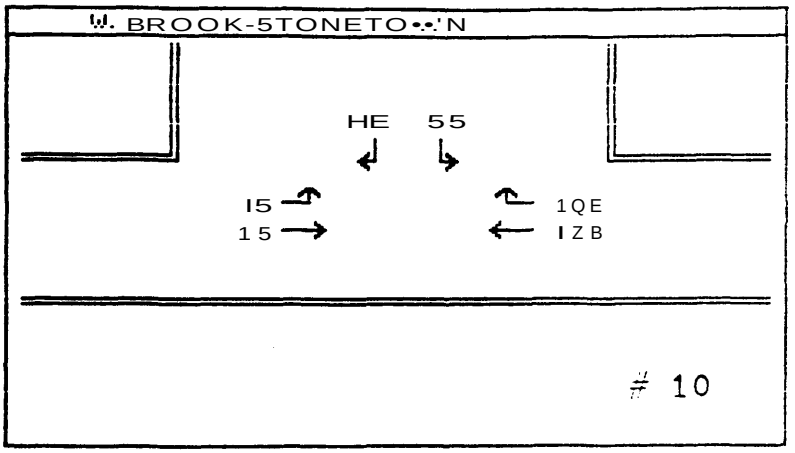
P.M. PEAK HOUR

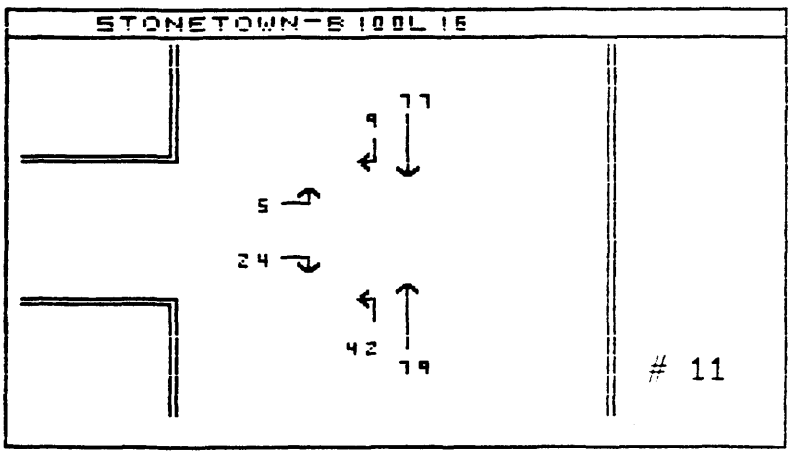


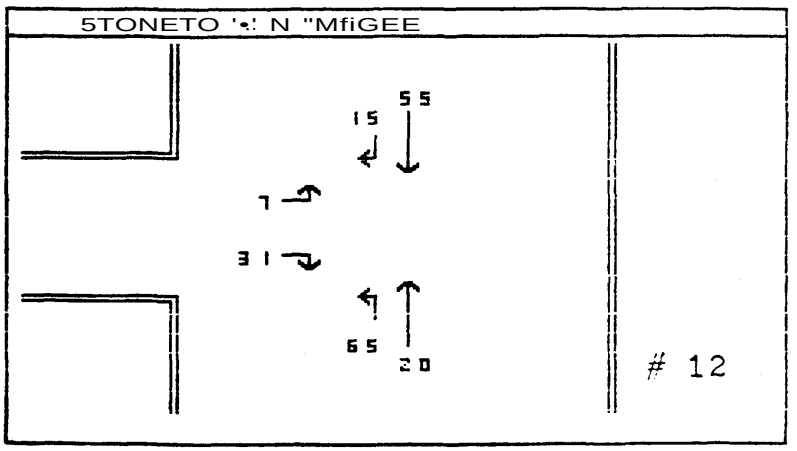




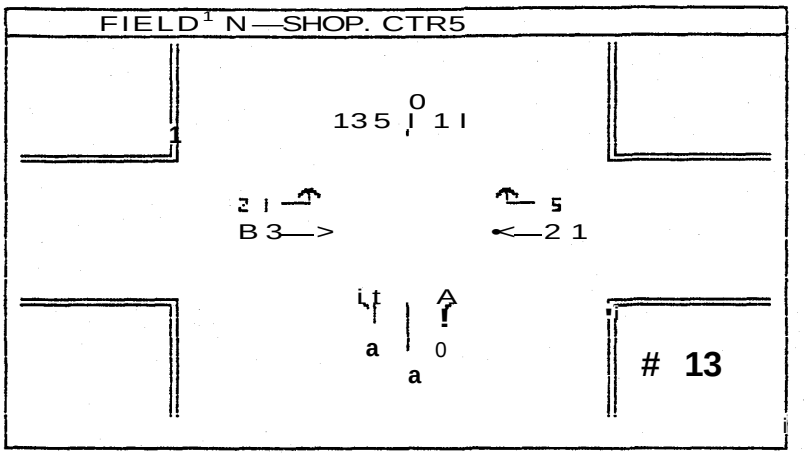
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

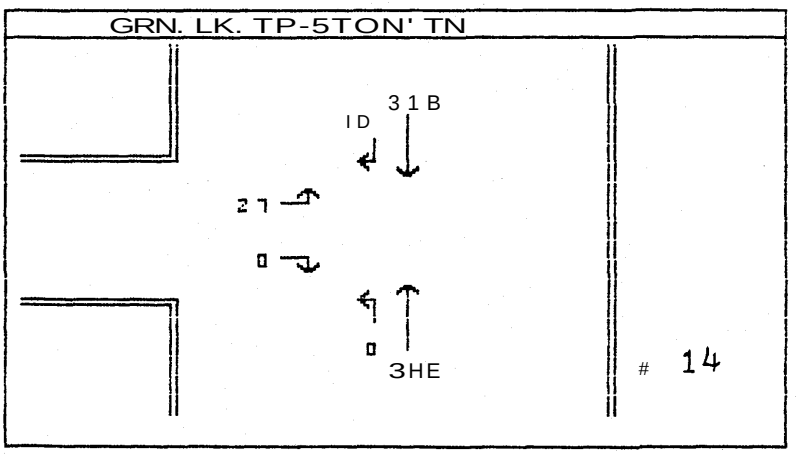


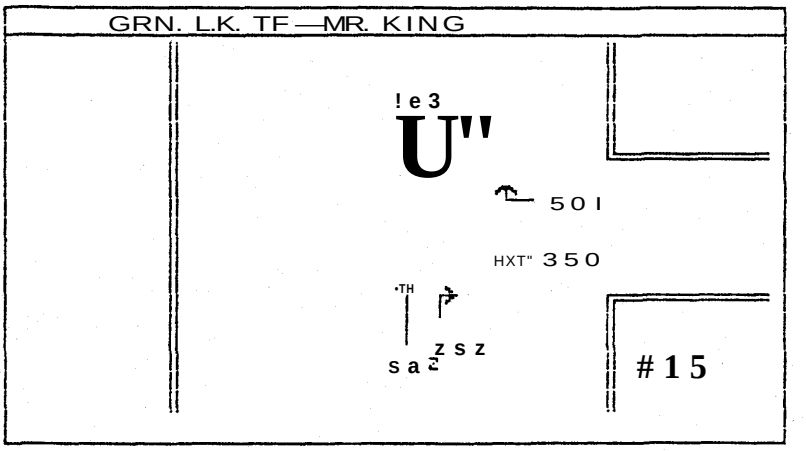




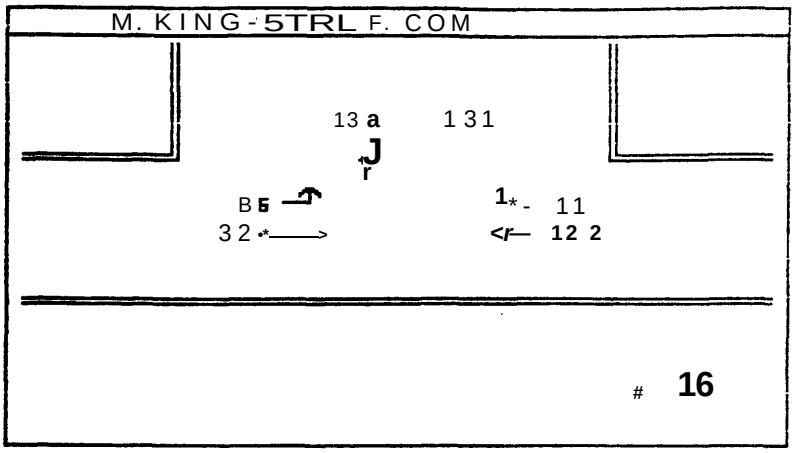
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

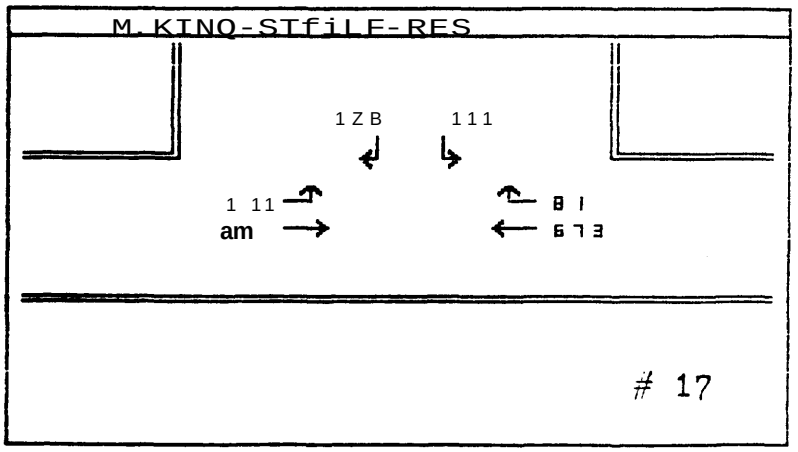


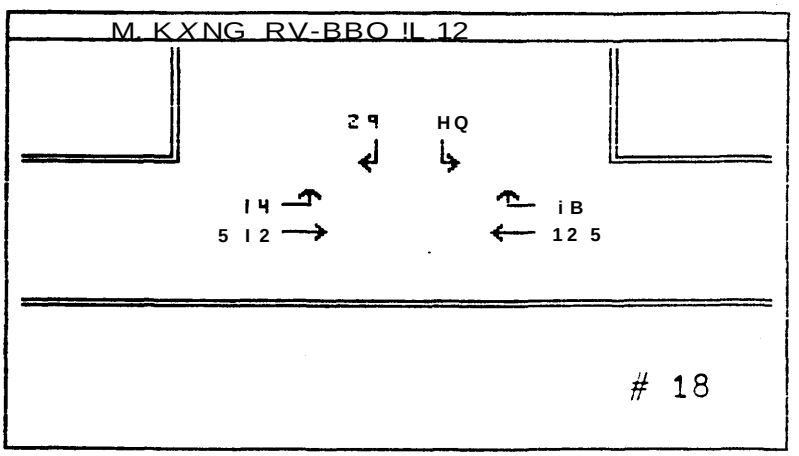




EXISTING INTERSECTION TRAFFIC
PIUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR



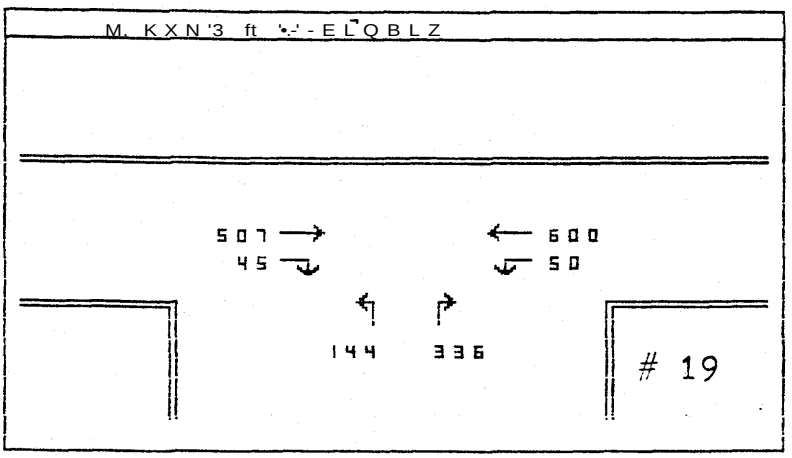


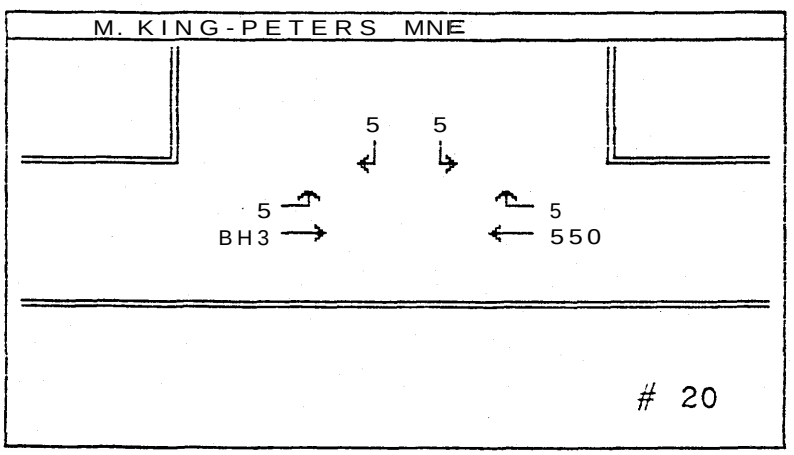


EXISTING INTERSECTION TRAFFIC

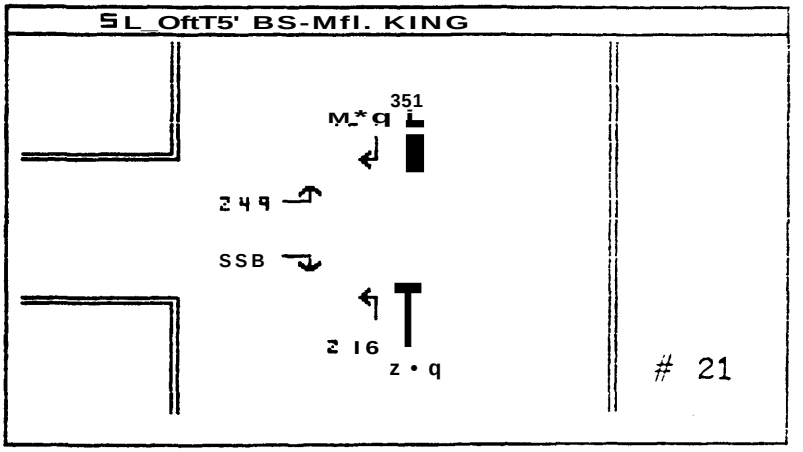
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED

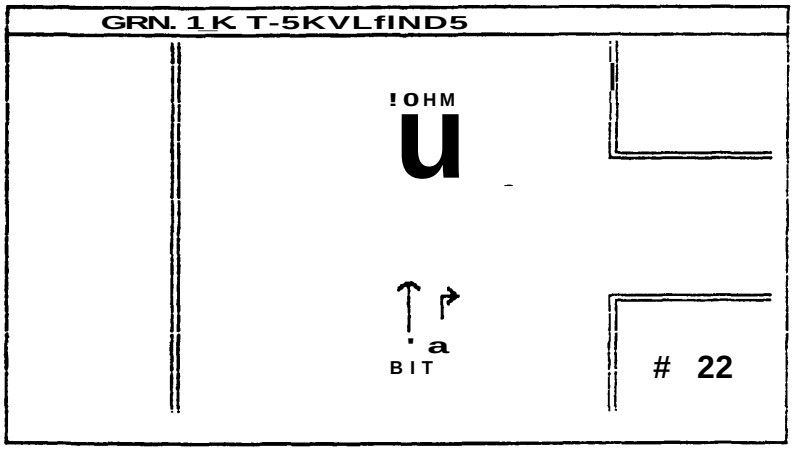
P.M. PEAK HOUR

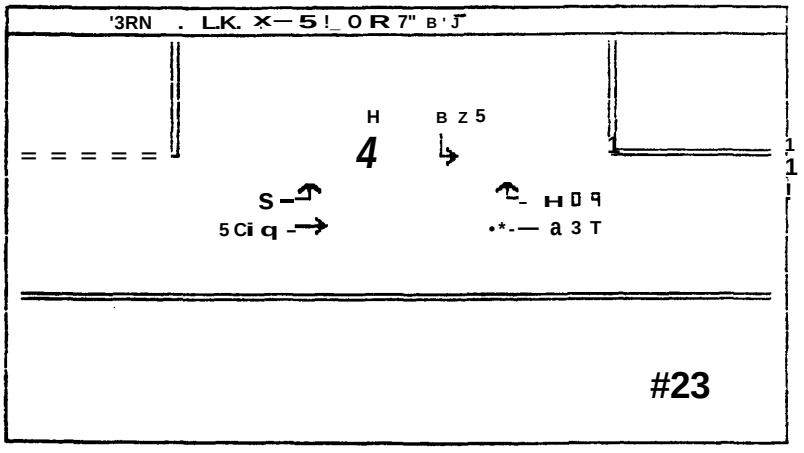




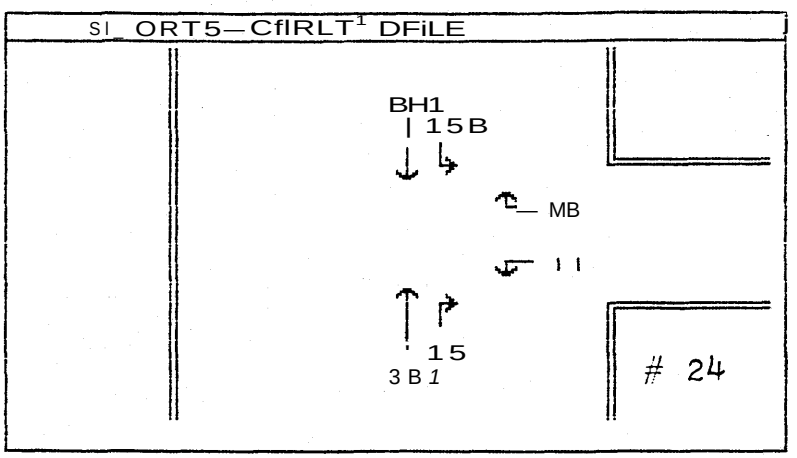
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR

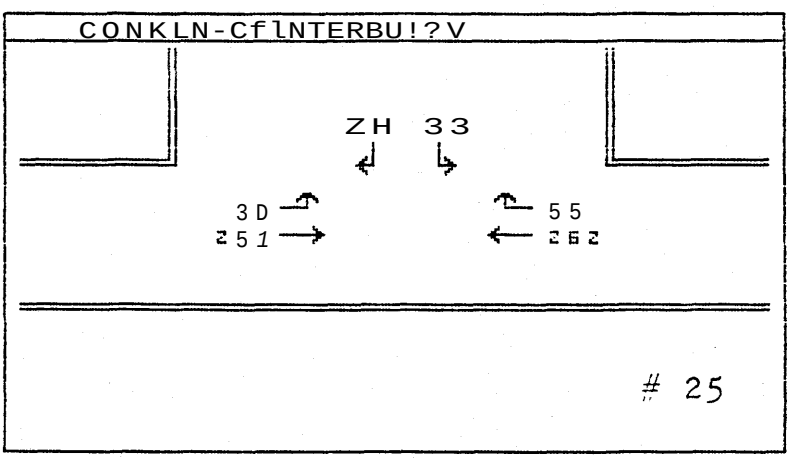






EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS ZONED
P.M. PEAK HOUR





1983 BACKGROUND TRAFFIC AND SITE TRAFFIC

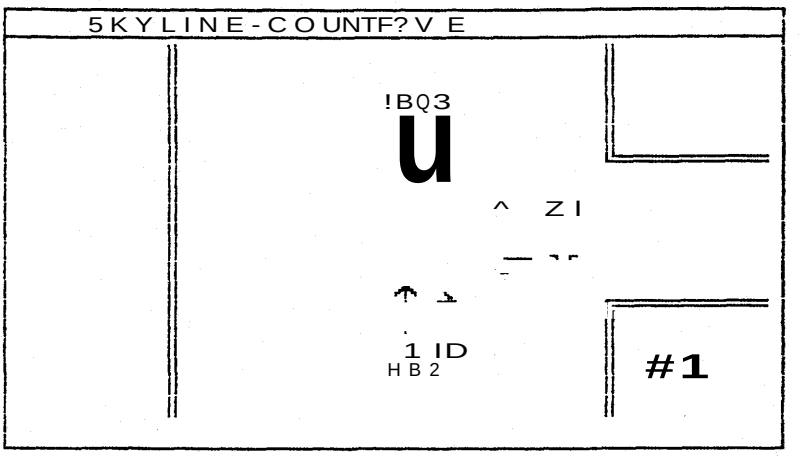
A.M. EXISTING TRAFFIC VOLUMES

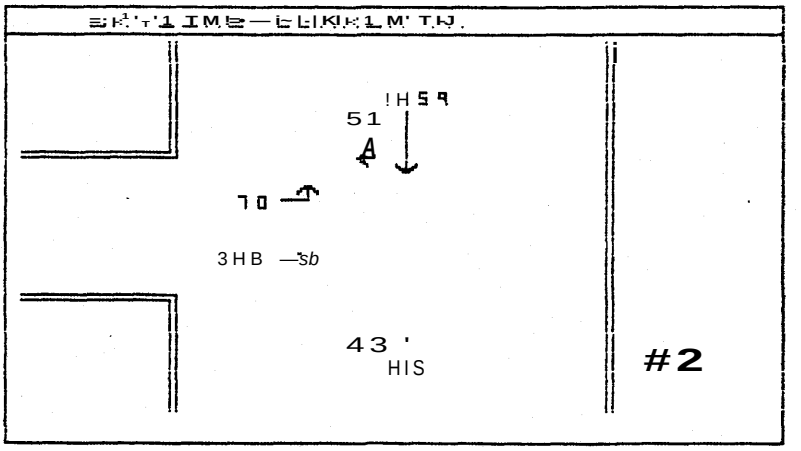
WITH

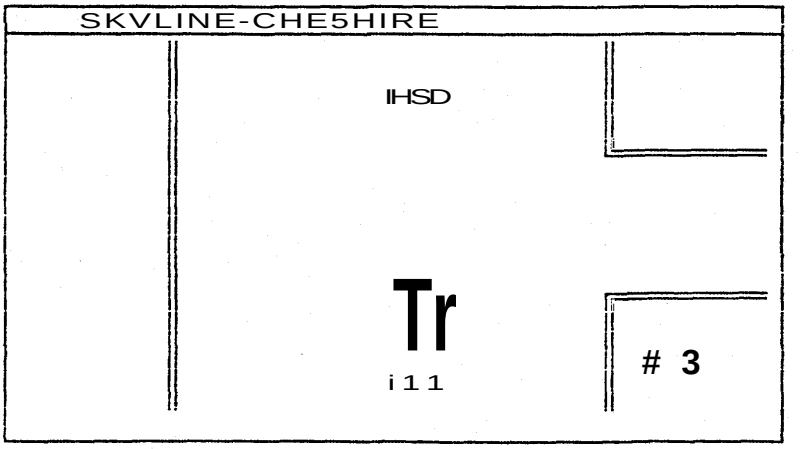
STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

Access to Site 2 via Intersection 13
on Fieldstone Drive unless otherwise noted
(Last Sheet)

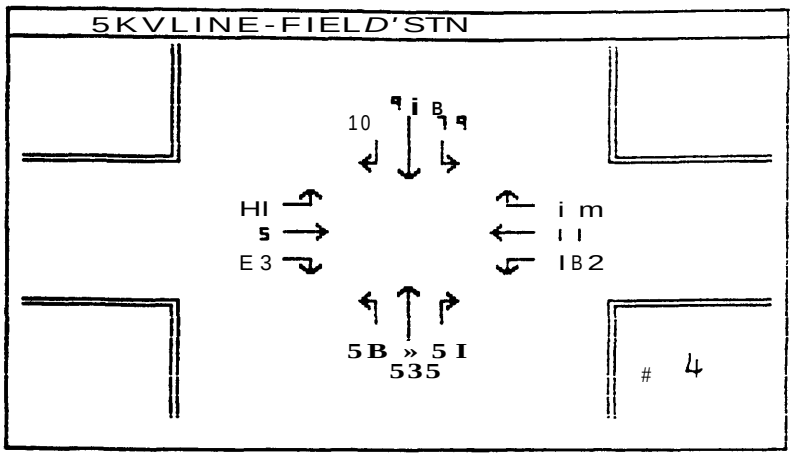
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

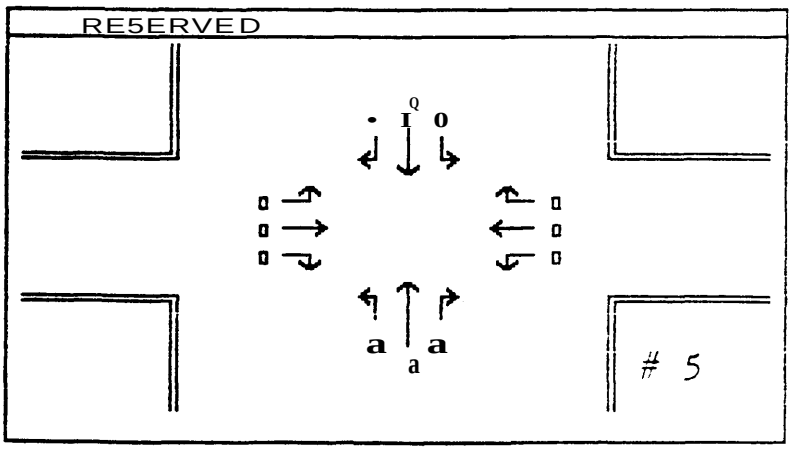


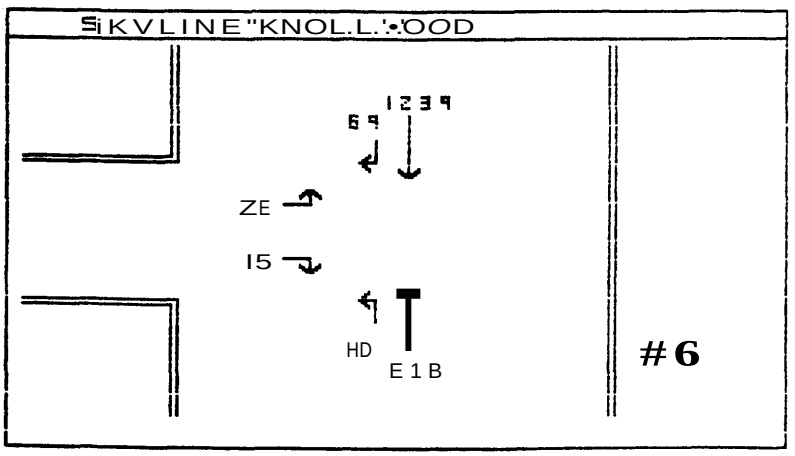




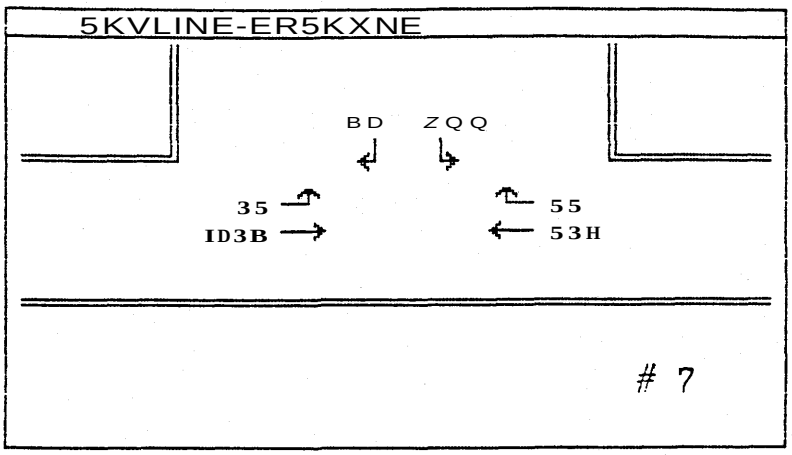
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

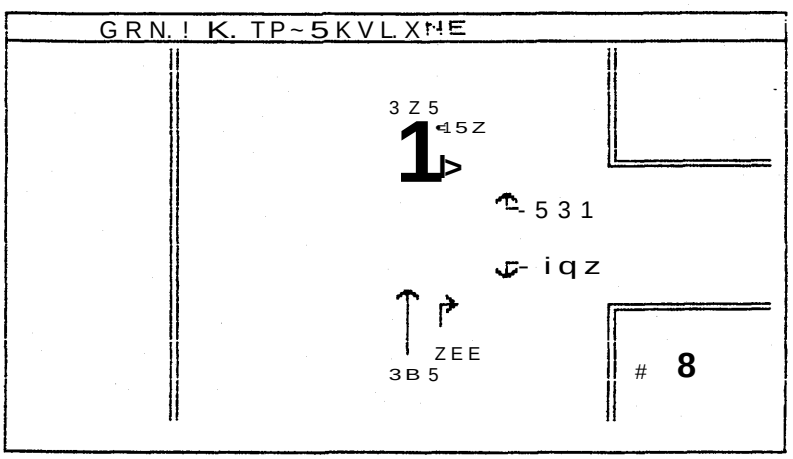


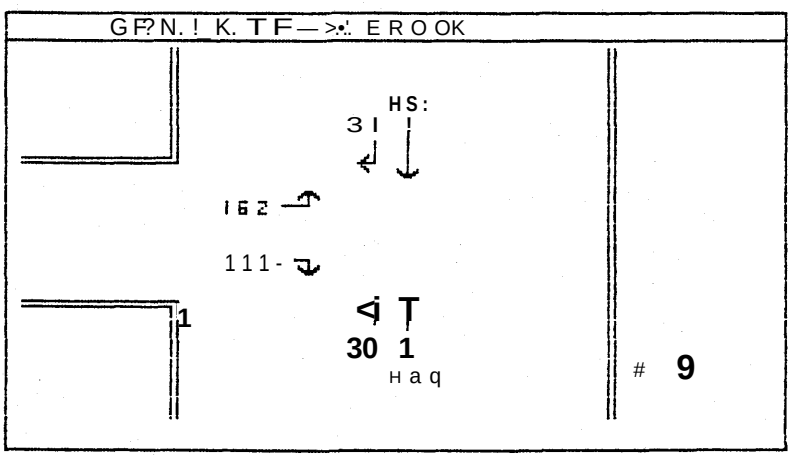




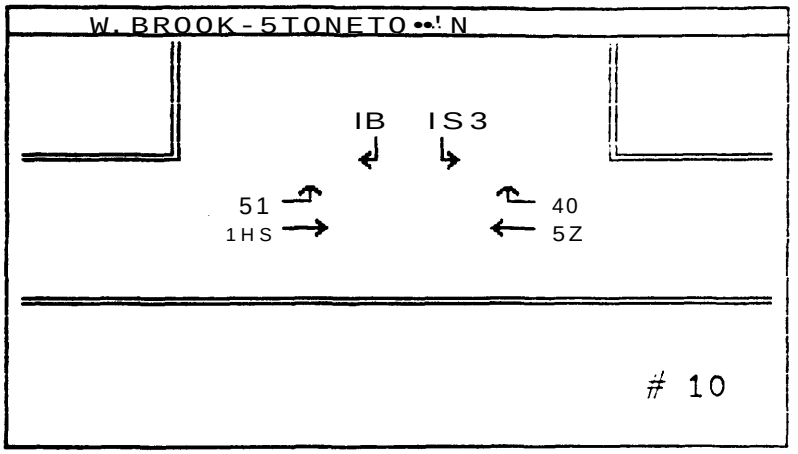
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR

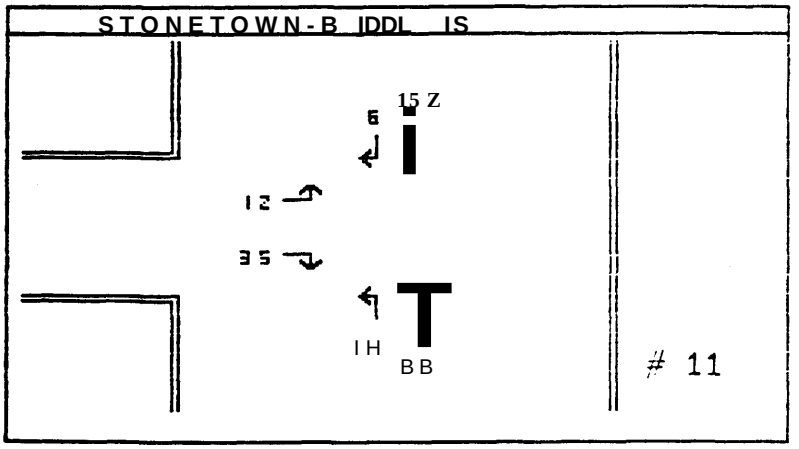


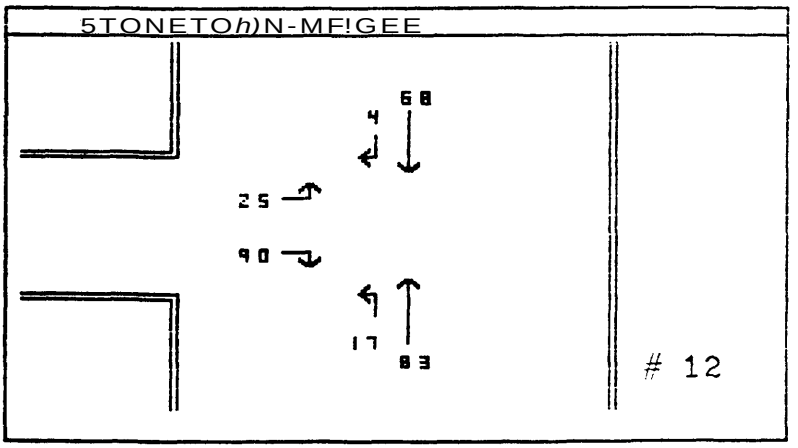




EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. **PEAK HOUR**



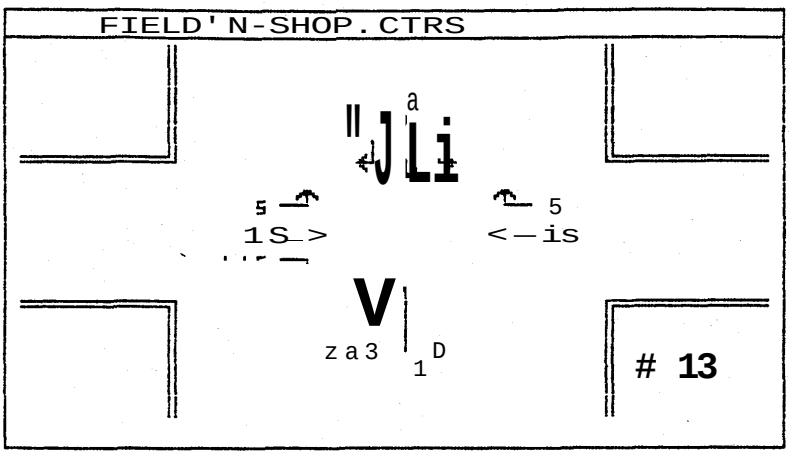


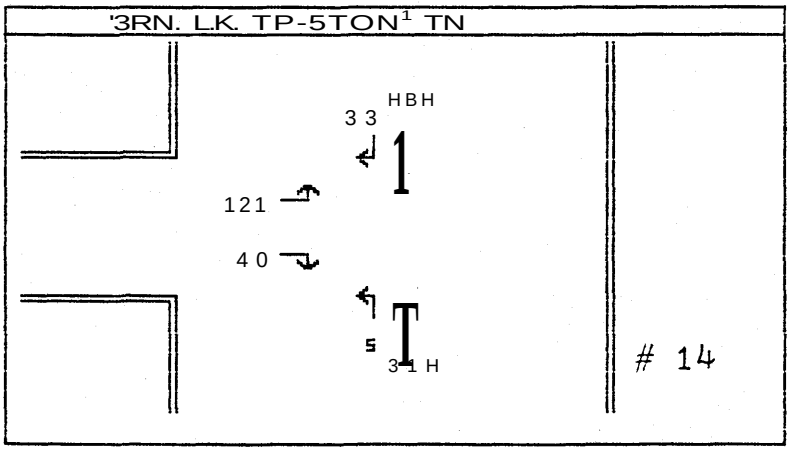


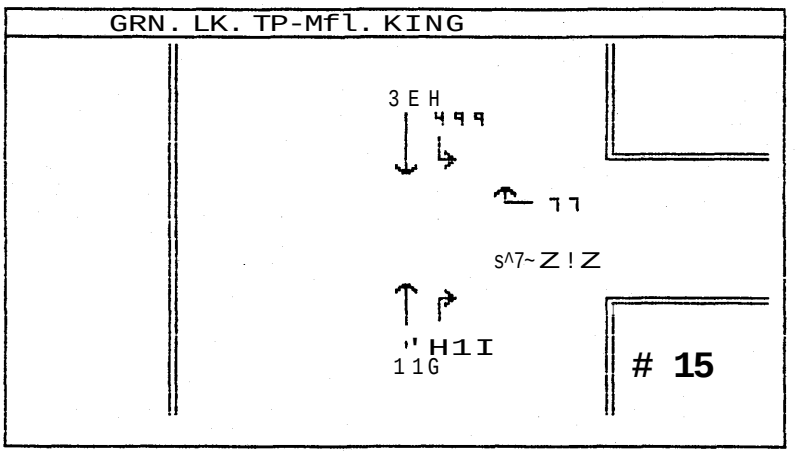
EXISTING INTBRSECTION TRAFFIC

PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

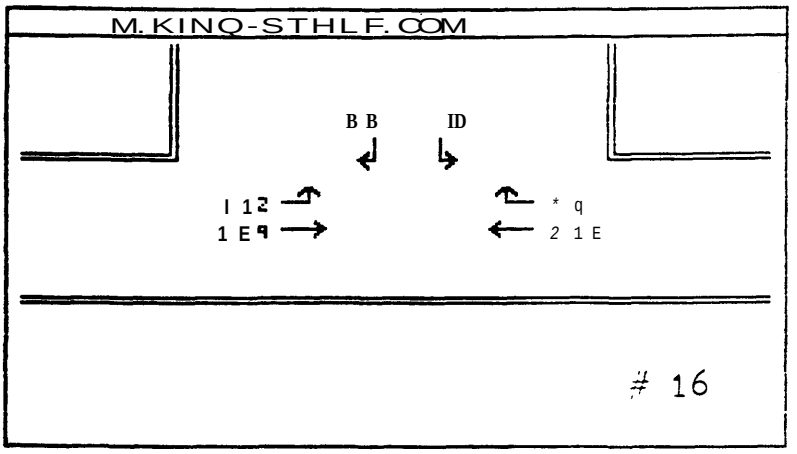
A.M. PEAK HOUR

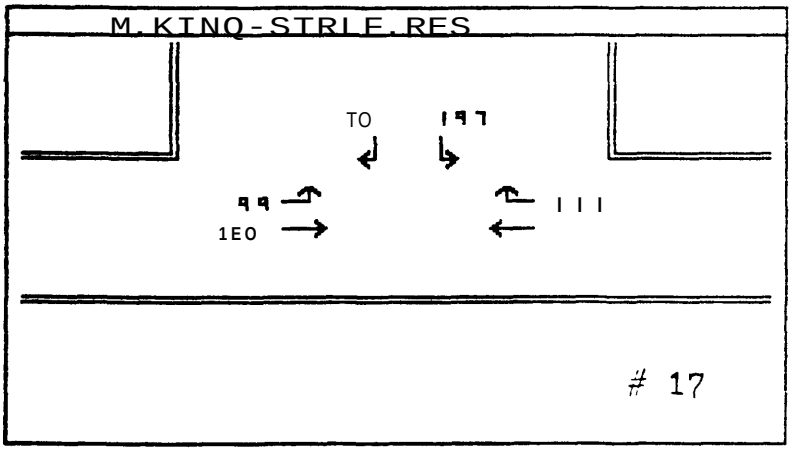


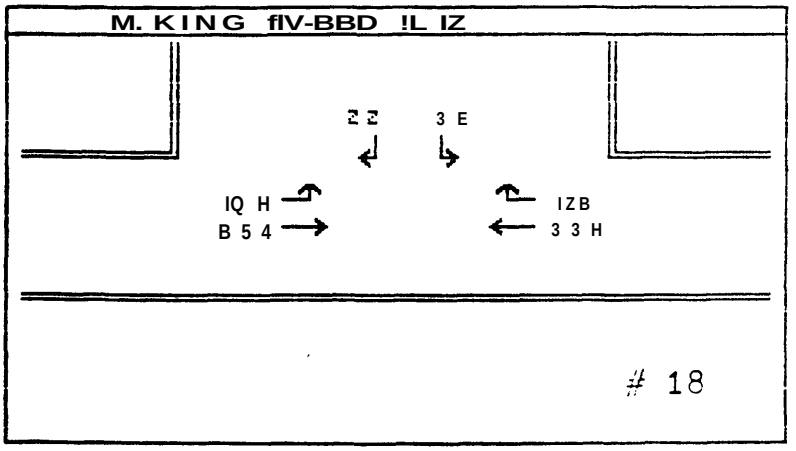




EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED EY OTHERS
A.M. PEAK HOUR



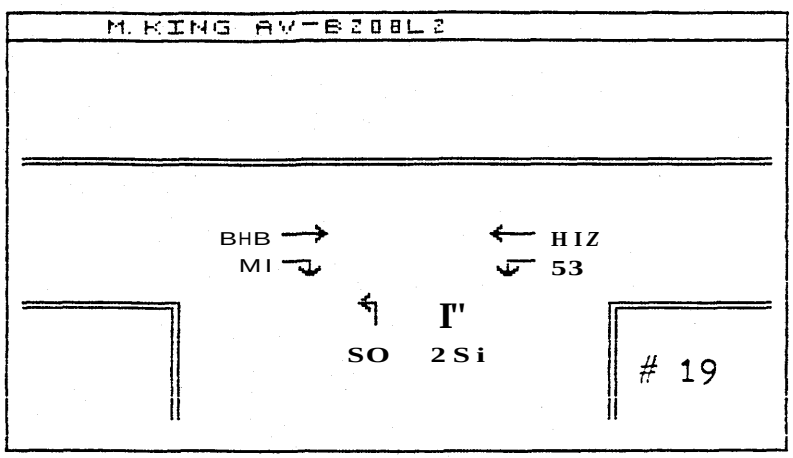


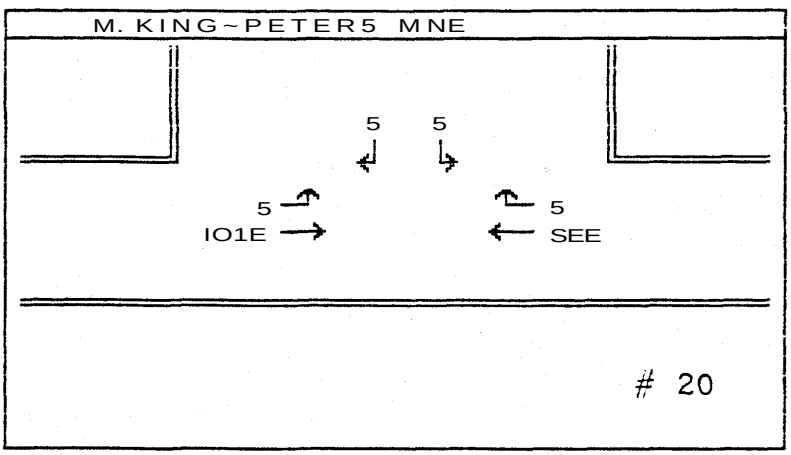


EXISTING INTERSECTION TRAFFIC

PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

A.M. PEAK HOUR

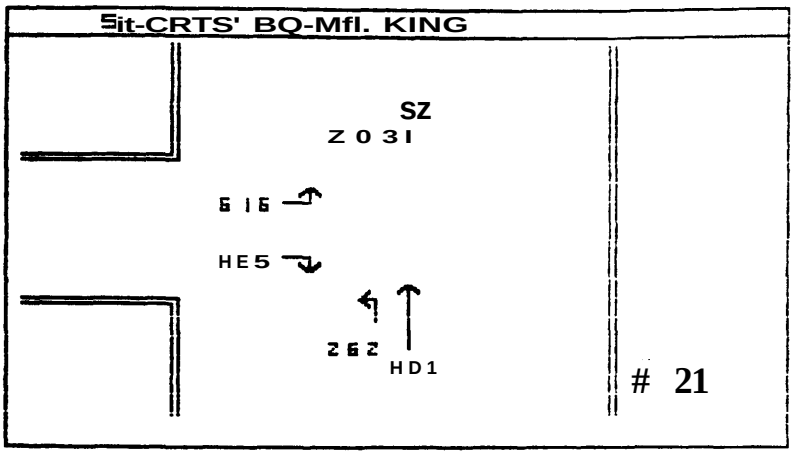


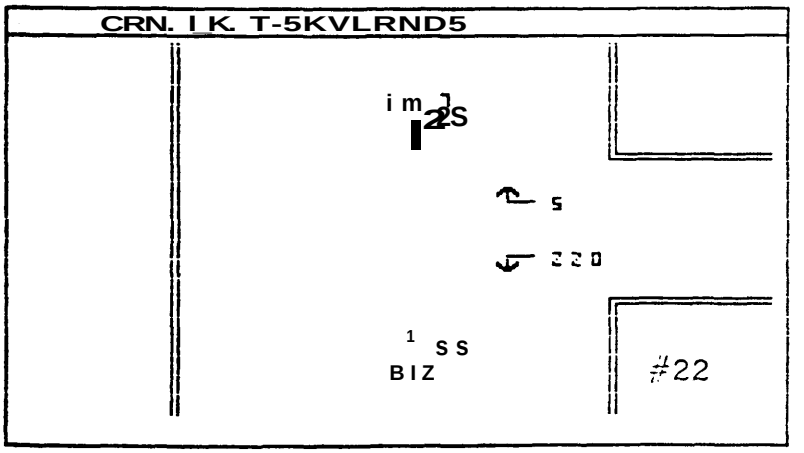


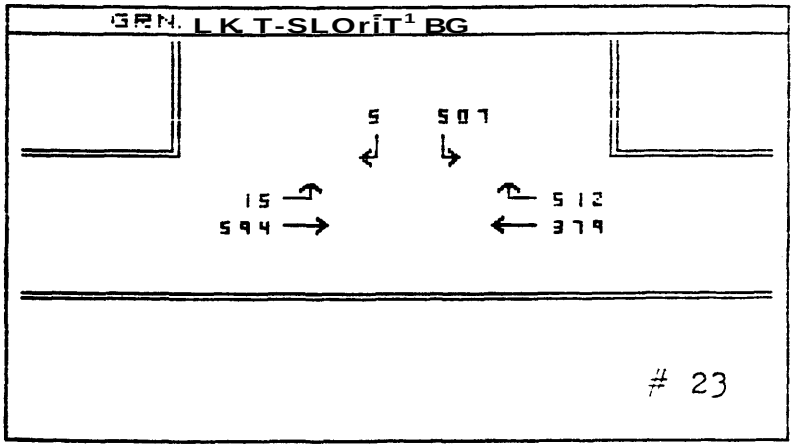
EXISTING INTERSECTION TRAFFIC

PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

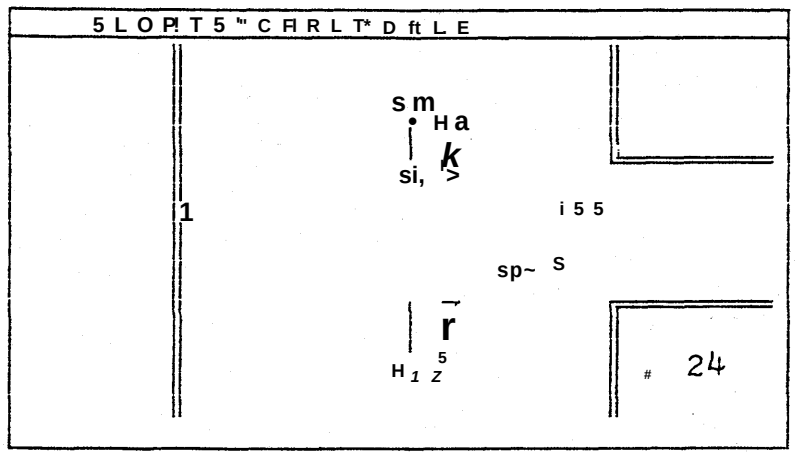
A.M. PEAK HOUR

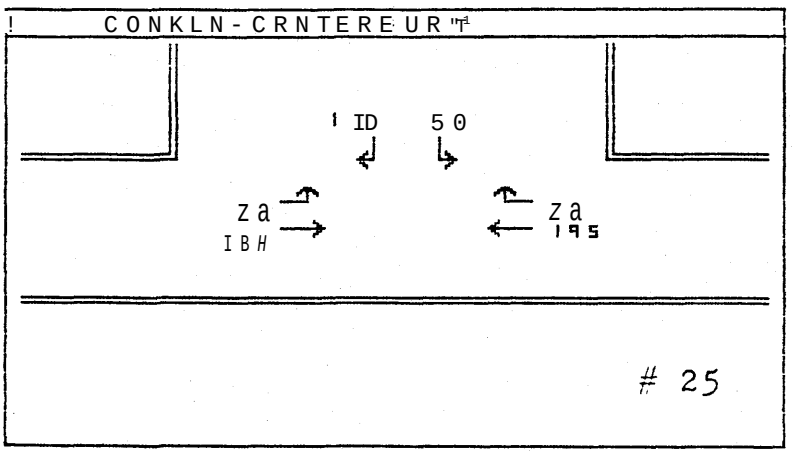






EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR





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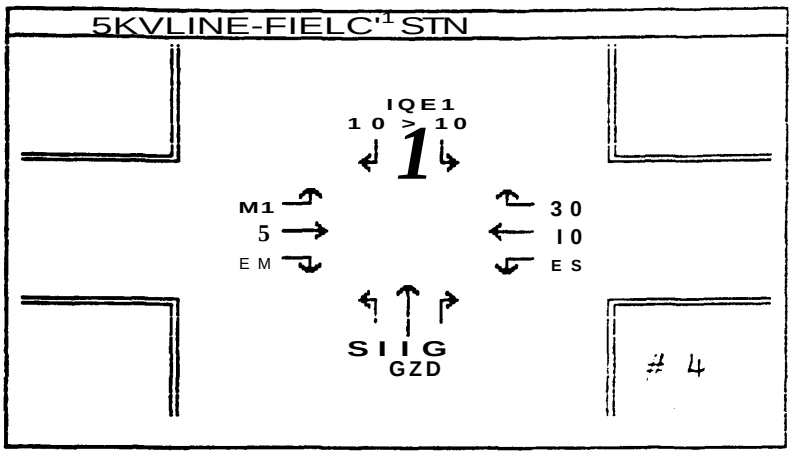
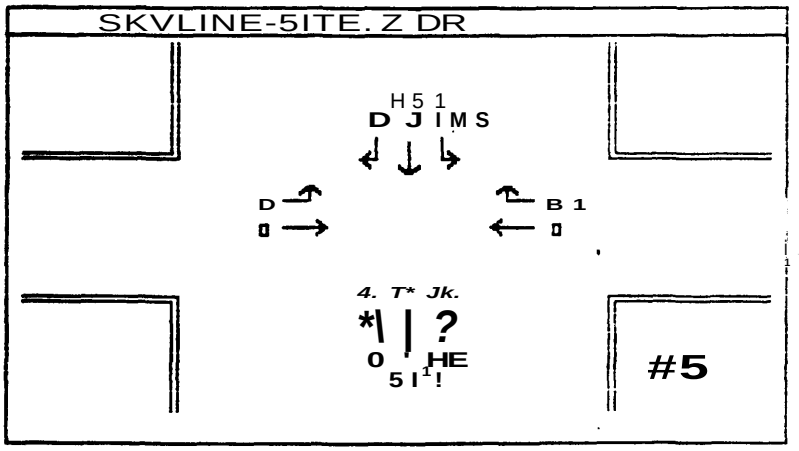
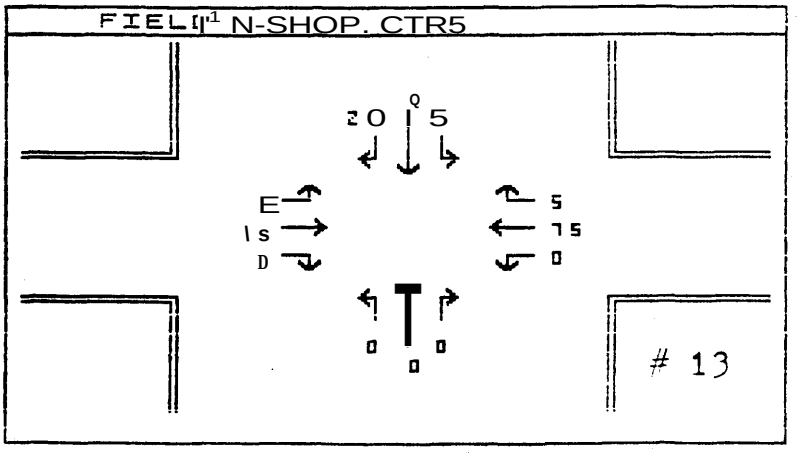
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
A.M. PEAK HOUR







1983 BACKGROUND TRAFFIC AND SITS TRAFFIC

P.M. EXISTING TRAFFIC VOLUMES

WITH

STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

Access to Site 2 via Intersection 13
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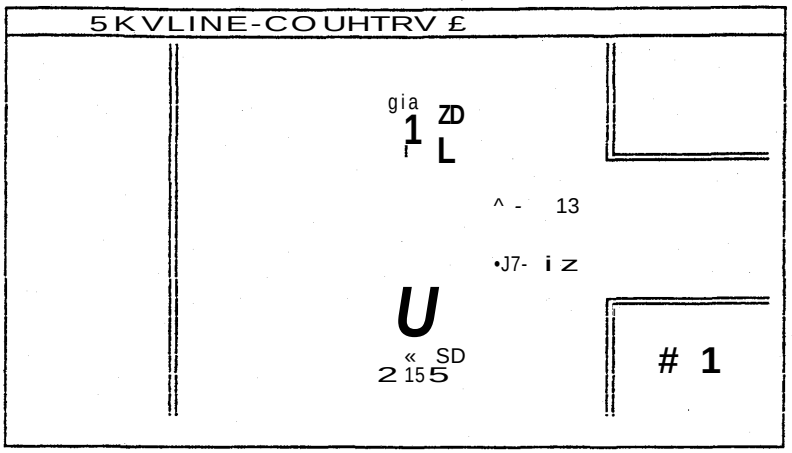
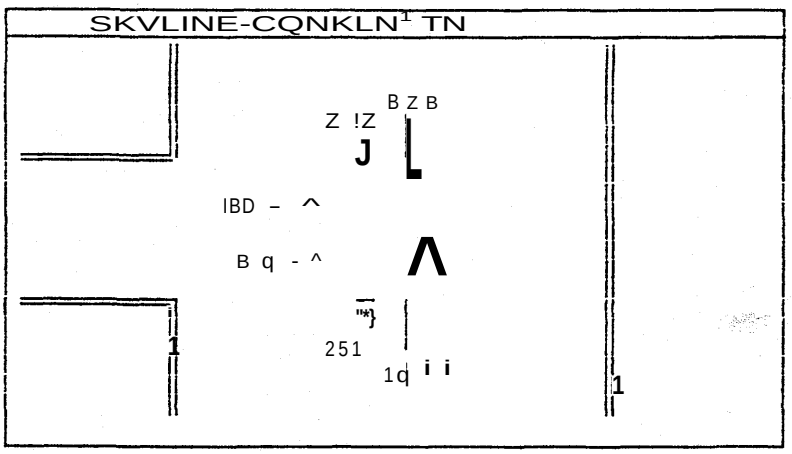
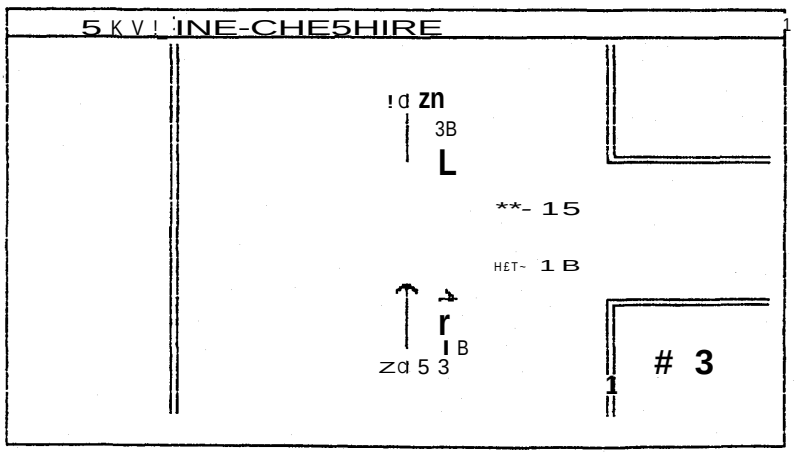
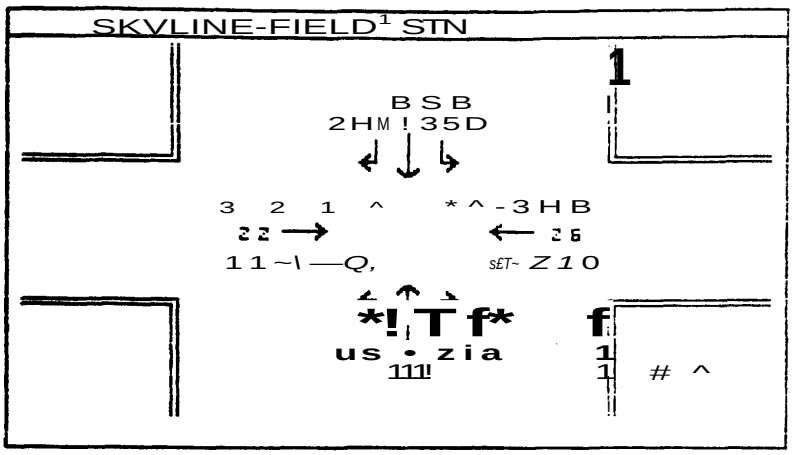
EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

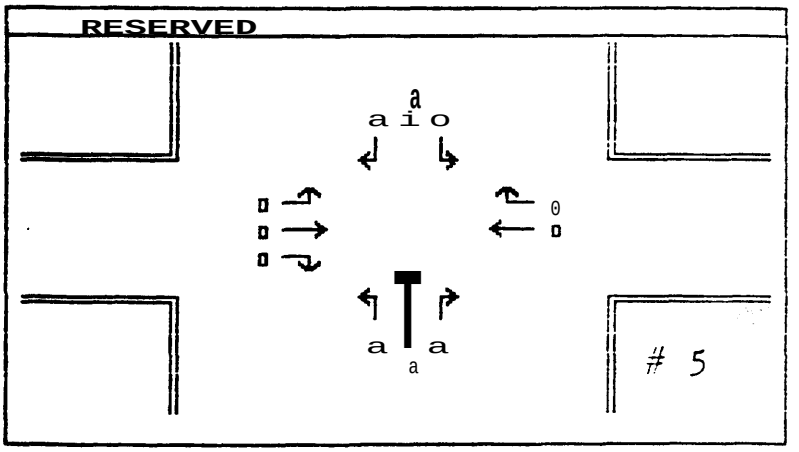


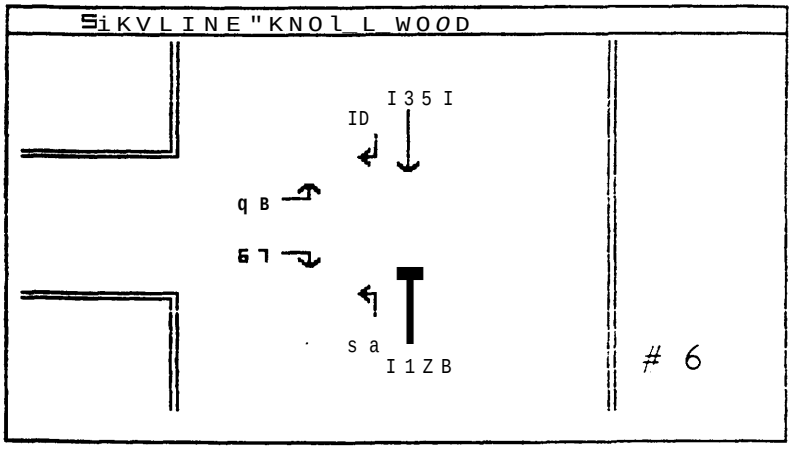




EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

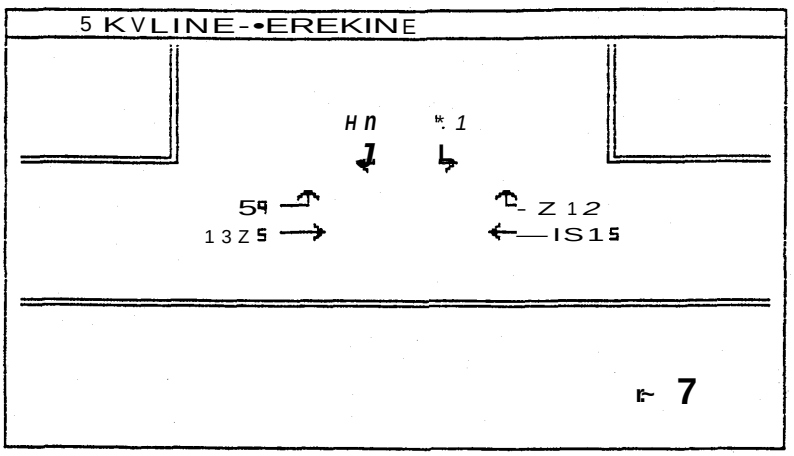


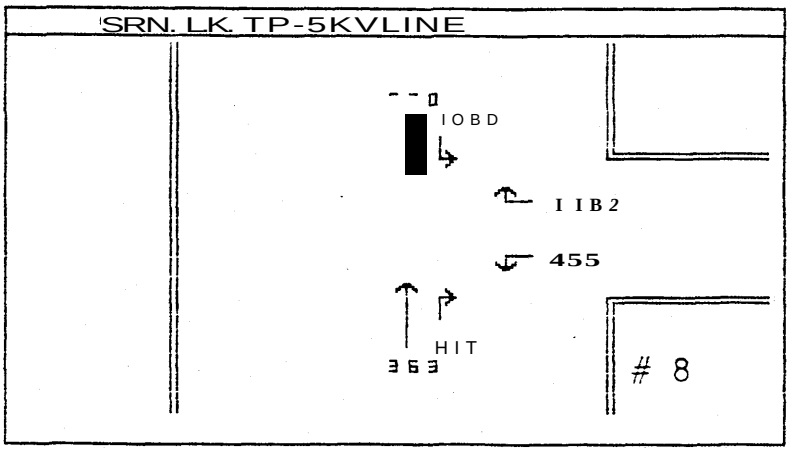


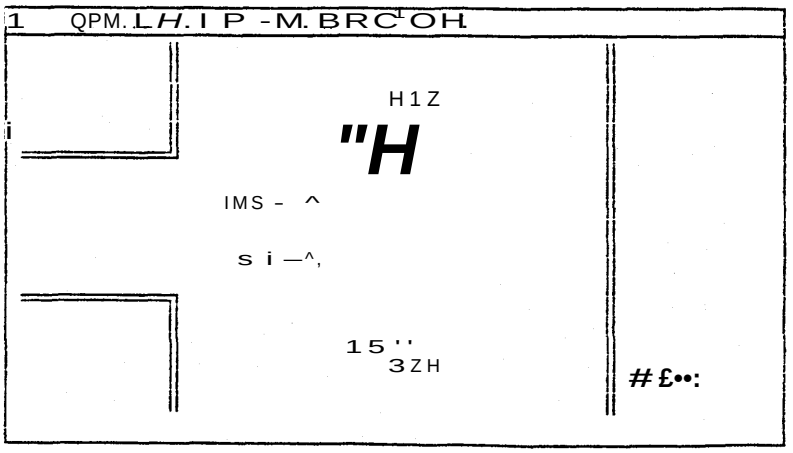


EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

P.M. PEAK HOUR

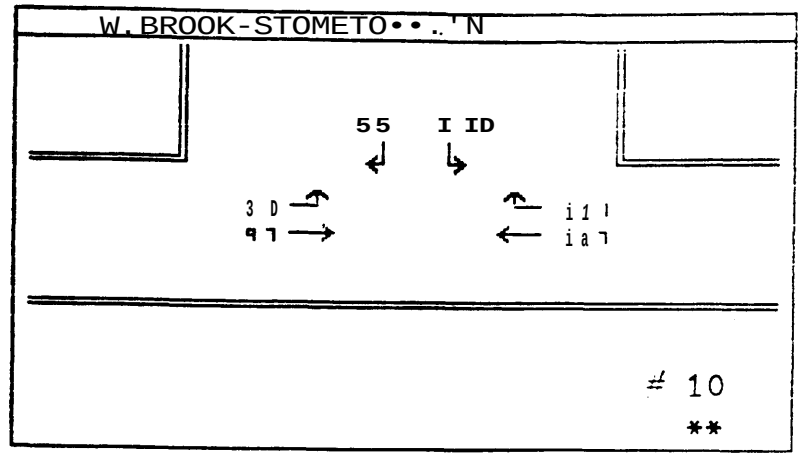


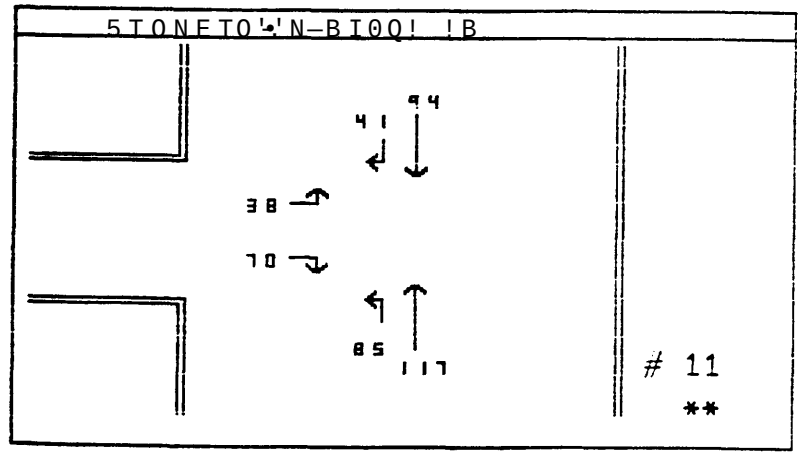


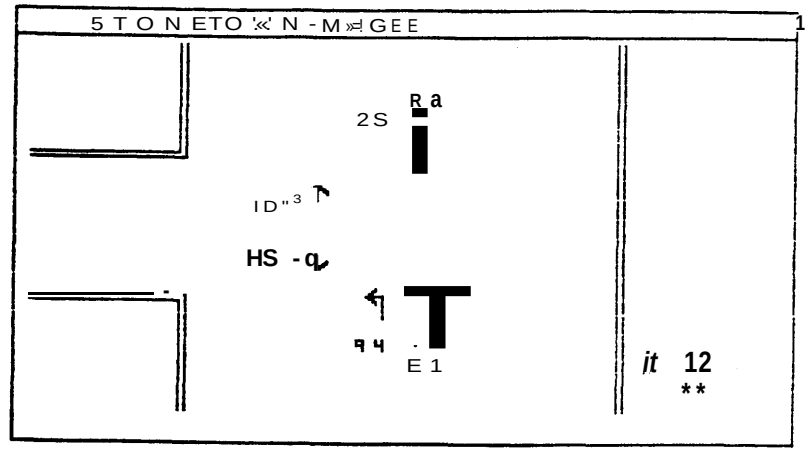


** NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC
PLUS **TRAFFIC FROM** STUDY SITES DEVELOPED AS PROPOSED EY OTHERS
P.M. PEAK HOUR

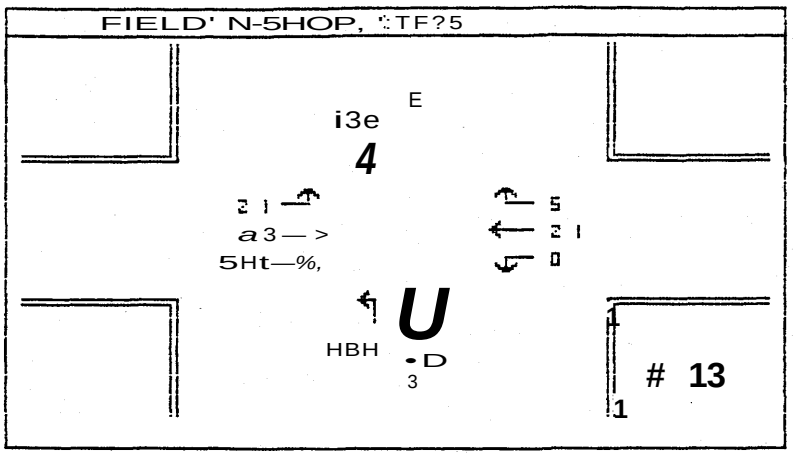


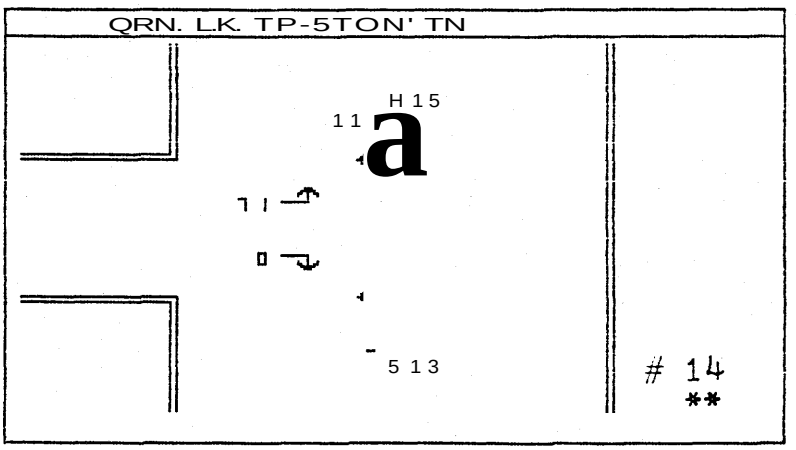


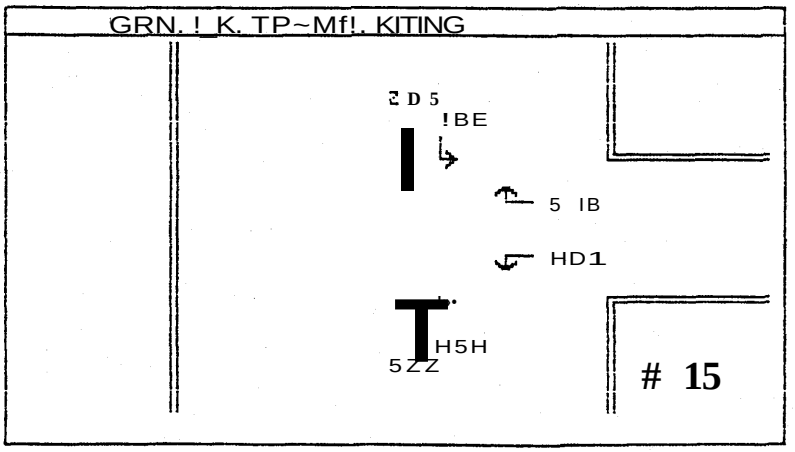


NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

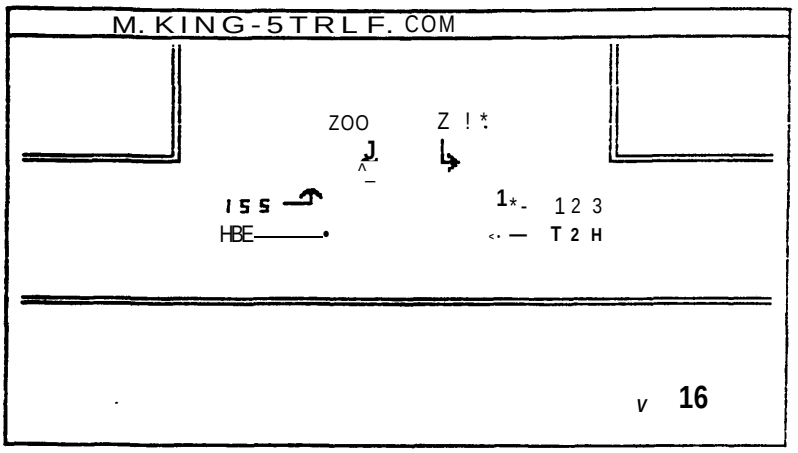


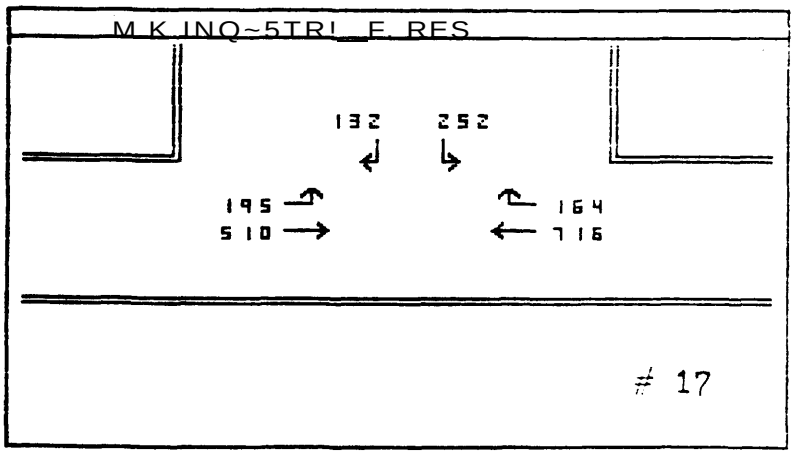


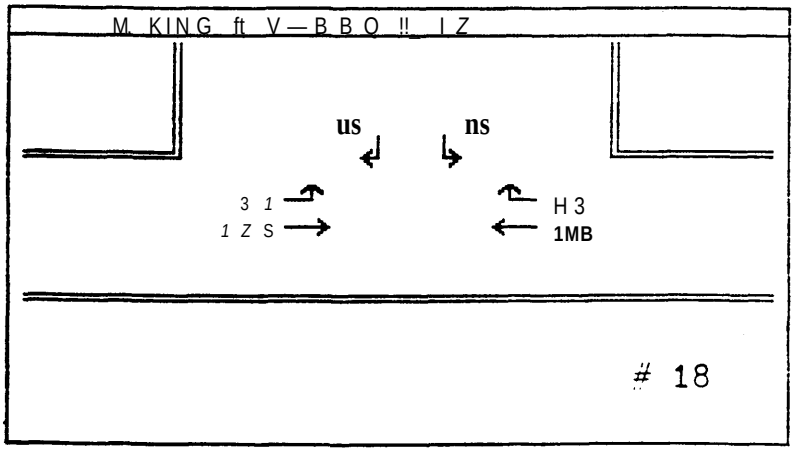


*• NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC
PLUS **TRAFFIC FROM** STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR



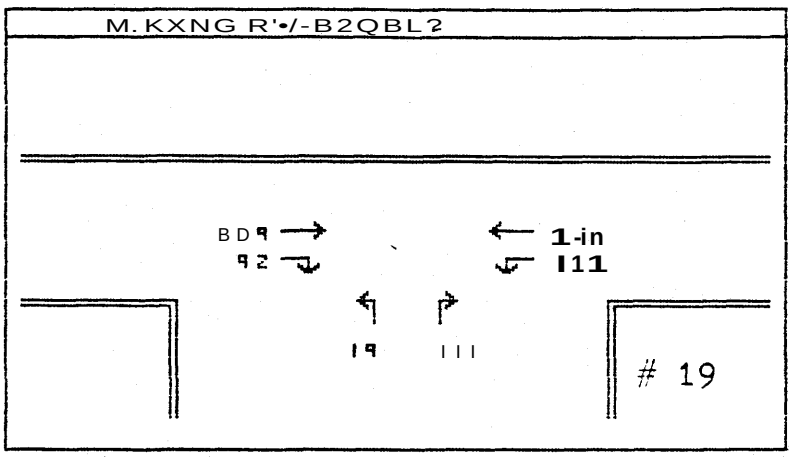


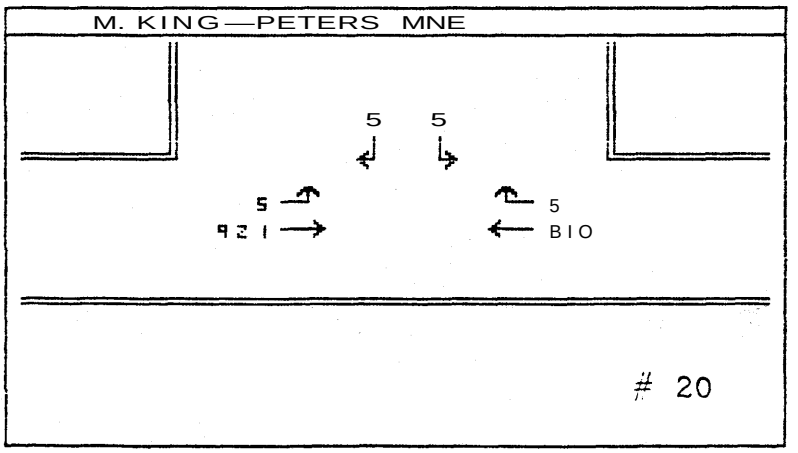


EXISTING INTERSECTION TRAFFIC

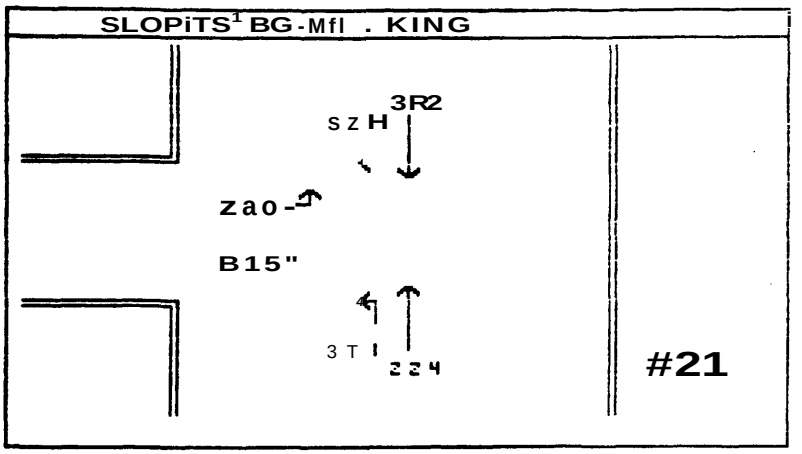
PLUS TRAFFIC'FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

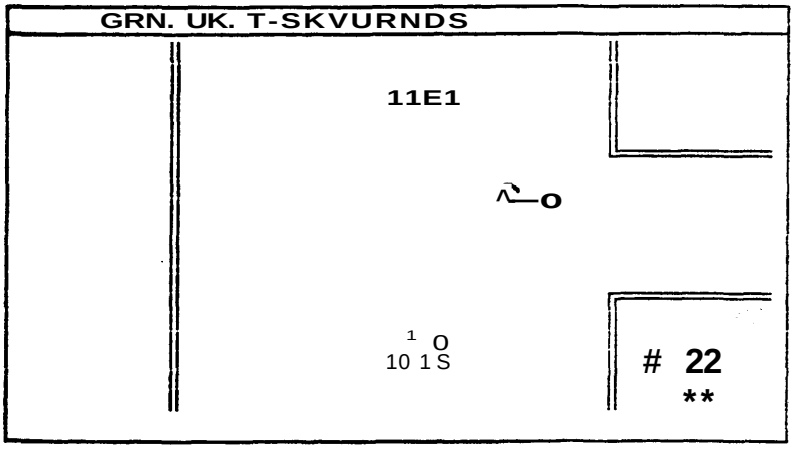
P.M. PEAK HOUR

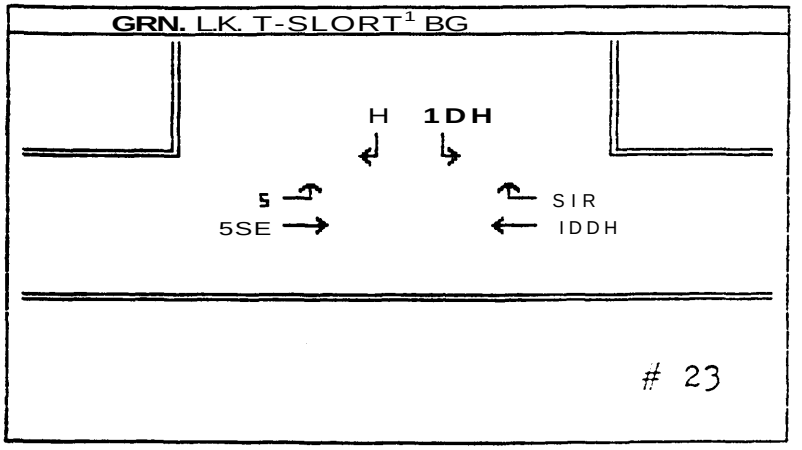




EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR

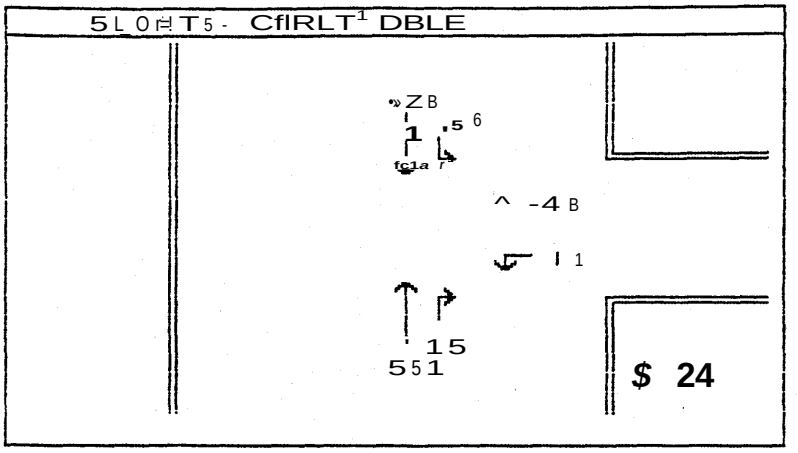


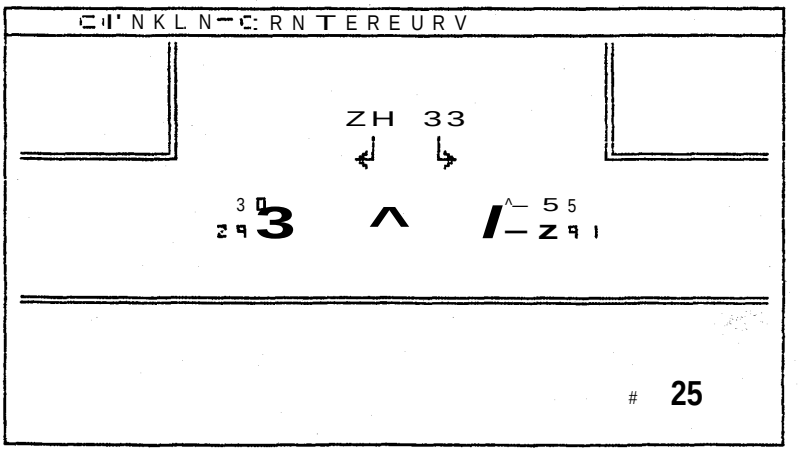




•• NEW TRAFFIC ONLY

EXISTING INTERSECTION TRAFFIC
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS
P.M. PEAK HOUR



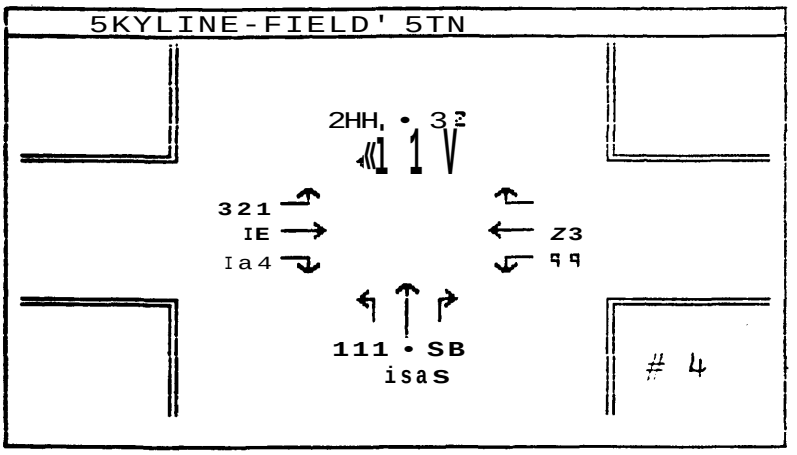


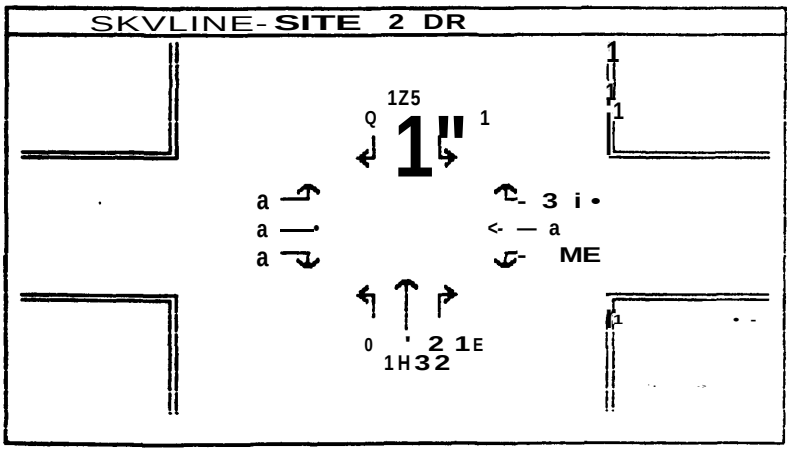
EXISTING INTERSECTION TRAFFIC

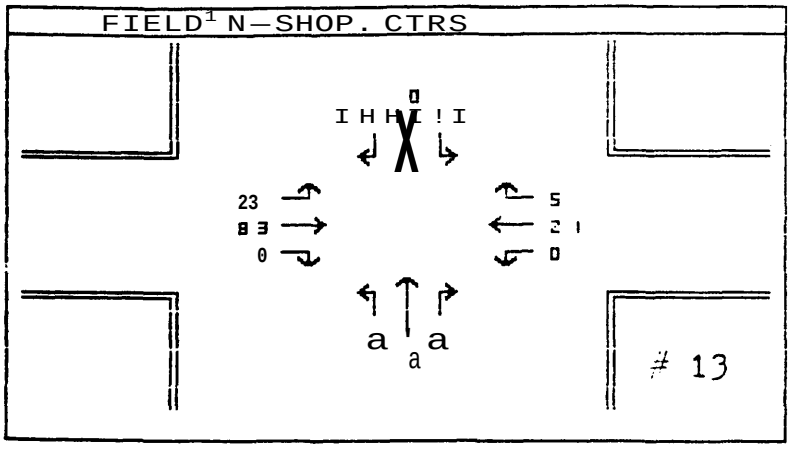
PLUS TRAFFIC FROM STUDY SITES DEVELOPED AS PROPOSED BY OTHERS

WITH ACCESS TO SITE 2 FROM SKYLINE DRIVE

P.M. PEAK HOUR







1933 EXISTING BACKGROUND TRAFFIC EXPANDED AT 3X PER YEAR TO 1993 BACKGROUND TRAFFIC
BACKGROUND TRAFFIC PLUS TRAFFIC GENERATED BY SITE DEVELOPMENT PROPOSED BY OTHERS INCLUDES INT « 5

P.M. *PtM* HOUP
PY JOHN E. CHRIST, P.E.
NETWORK ASSIGNMENT

SITE TRAFFIC THROUGH INTERSECTIONS

MOVEMENT	EXISTING GRMD CNT Fti DATA	BLOCK 75 SITE 1	BLOCK 87 SITE 2	BLOCK 80 SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITE 5	BLOCK 60 SITE 6	BLOCK 50 SITE 7	BLOCK 30 SITE 9	STERLING SITE 9	FUTURE TOTVOL
1-.SKYL1NE-COUMTRY'E											
1.02 NB-THRU	1450		151	74	53	55	25	104	26	218	2655
1.03 NB-ftGHT		51									51
1.04 SB-LEFT		21									21
1.05 SB-THRU	253	12	113	79	45	27	80	65	34	190	985
1.10 HB-LEFT		12									12
1.12 WB-RGHT		14									14
2.SKYLINE-C0NKLN-TN											
2.01 NB-LEFT	200	3			23	31					327
2.02 NB-THRU	1250	11•	151	74	30	23	25	104	26	218	2342
2.05 SE-THRU	200	28	113	79	27	11	80	65	34	190	996
2.04 EB-RGHT	70	1	59	56					26		137
2.07 EE-LEFT	40	4	64	52					21		194
2.09 EB-REHT	50	6			19	15					107
3.SKYLINE-CHESHIRE											
3.02 NB-THRU	1255	11	214	126	30	23	25	104	47	218	2485
3.03 HB-RGHT	15	4									24
3.04 SB-LEFT	10	28									42
3.05 SB-THRU	265	15	173	135	27	11	80	65	60	190	1112
3.10 WB-LEFT	5	14									20
3.12 WB-RGHT	.. . _5.	11									17
•4.SK'YLINE-FIELD'STN											
4.01 NB-LEFT	48	2	3	126						't	196
4.02 NB-THRU	736	16	261		"32	2B	26	113	" 47	243	1759
4.03 NB-RGHT	56	1	1							•'*	77
4.04 SB-LEFT	32										43
4.05 SB-THRU	195"	31	"269			14	BI	70	60	"231	1044
4.06 SB-RGHT	20			222		1		2	0		251
4.07 EB-LEFT	31			251	1	5	1	S	0	30	339
4.08 EB-THRU	16		" 0	0							22
4.09 EB-RGHT	39	4	7	135							198
4.10 WB-LEFT	89	4	7								130
4.11 HB-THRU	23			0 "							31
4.12 WB-RGHT	44										59
5. SKYLINE-SITE 2 DR											
5.01 HB-LEFT											
5.02 NB-THRU	840	19		126	30	23	25	104	47	218	1721
5.03 NB-RGHT		2	214								216
5.04 SB-LEFT			"2B5 "	"0 "	1	2	0	b	"" 0	4i	332 "
5.05 SB-THRU	323	35		135	27	11	80	65	60	190	1037
5.06 SB-RGHT											
5.07 EB-LEFT											
5.OS EB-THRU											
5.09 EB-RGHT											
5.10 WB-LEFT		4	1/J								177
5.11 WB-THRU											
5.12 HB-RGHT			265	0	1	5	1	8	0	30	311
6.SKYLIME-KN"0LLWQ0D											
6.01 HB-LEFT		2	2	0					47		51
6.02 NB-THRU	670	14	256	251	34	37	28	129		309	1959
6.05 SB-THRU	J04	-28-	264 "	235—	29	18	81	- 80		J12	1456
6.06 SB-RGHT					1	2	0	4	57	7	70
6.07 EB-LEFT					1	3	1.	6	74	i:	99
6.09 EB-RGHT		3	t)	0					• 6		
7.SKYLINE-ERSUNE											
7.04 SB-LEFT	97										130
7.06 SB-RGHT	40										54
7.07 EB-LEFT	59										79
7.08 EB-THRU	207	28	264	235	29	20	82	84	57	319	1396
7.11 WB-THRU	458	14	256	251	35	41	29	136	74	321	1773
7.12 WB-RGHT	212										2B5
B.SRN.LK.TP-SKYLINE											
8.02 NB-THRU	180						27	34		122	426
8.03 NB-RGHT	190	B	103	96	29	20			32		543
B.04 SB-LEFT	250	20	162	139			82	84	25	319	1167
B.05 SB-THRU	200						122	22		187	600
8.10 WB-LEFT	140	4	102	102	35	41			41		513
8.12 WB-RGHT	350	10	154	149			29	136	34	321	1303
9.GRN.LK.TP-W.BR00K											
9.01 NB-LEFT					44	52					96 »
9.02 NB-THRU		7	60	52			27	34	21	122	324 *
9.05 SB-THRU		4	5B	56			122	21	26	187	473 *
9.06 SB-RGHT		1	44	47	35	41		1	15		183 •
9.07 EB-LEFT		1	42	44	29	20			11		147 *
9.09 EB-RGHT		>			36	25					61 *
10.W.BROOK-STONETOWN											
10.04 SB-LEFT					65	45					110 *
10.06 SB-RGHT					6	1	15			34	55 *
10.07 EB-LEFT					6	1	3	2		18	30 *
10.0a EB-THRU		1	42	44					11		98 *
10.11 WB-THRU		1	44	47				1	"IS		107 •
10.12 HB-RGHT					79	93					172 •
11.STONET0WN-B100L16											
11.01 HB-LEFT					~85						85 *
11.02 NB-THRU						94	3	2		ta	117 «
11.05 SB-THRU						46	15			34	95 t
11.06 SB-RGHT					41						41 *
11.07 EB-LEFT					38						38 *
11.09 EB-RGHT					71						71 #
12.ET0JIET0WH-MAGEE											
12.0! NB-LEFT						94					94 *
12.02 NB-THRU					38		3	2		IS	61 *
12.05 SB-THRU					41		15			74	90 *
12.06 SB-RGHT						22					22 *
12.07 EB-LEFT						11					11 •
12.09 EB-RGHT						46					4.. •
13.FIELD'H-SH0P.CTRS											
13.01 NB-LEFT											
13.02 NB-THRU											
13.03 HB-RGHT											
13.04 SB-LEFT	11										15
13.05 SB-THRU											
13.06 SB-RGHT	134	4	7	0							191
13.07 EB-LEFT	21	1	1	0							30
13.08 EB-THRU	83										112
13.09 E6-RGHT											
13.10 WB-LEFT											
13.11 WB-THRU	21										28
13.12 HB-RGHT	5										7
14.GRN.LK.TP-ST0NTN											
11.01 'S-L^FT											
14.0i NB-THRU		2	65	66			27	80	IB	257	514 *
14.05 SB-THRU		3	52	65			89	13	14	179	416 *
14.06 SB *GHI					4i	22	15			34	112 *
14.07 EB-LEFT					38	11	3	2		18	72 *
14.09 EB-RGHT											0
15.GRN.Lif.TP-NA.KIMG											
15.02 HB-THRU	378	1	54	56	18	1			15		652
15.03 N6-RGHT	13	1	11	10	20	10	31	82	3	275	459
IZ."J", SB-LEFT	127						6	4		49	230
15.05 SB-THRU	68	2	52	52	18	2			11		229
15.10 WB-LEFT	17	1		13	23	20	104	13	3	212	413
15. 12 WB-PEHT	387						30	3		99	652
16.M.K1HG-STPL.F.C0M											
16.04 SB-LEFT							1	6		213	220
16.06 SB-RGHT		1				3				196	201
16.07 EB-LEFT		1	11	10	1	2			3	128	155
16.08 EB-THRU	140				20	8	37	86		195	534
16. 11 WB-THRU	404			13	23	16	134	16	3	115	864
16.12 NB-RGHT		0	5	4			0	4	1	109	124
17.M.KING-STRL.F.RES											
17.04 SB-LEFT		2	17							213	253
17.06 SB-RGHT				13	1				3	115	132
17.07 EB-LEFT										195	195
17.08 EB-THRU	140				20	"8"	38	92		213	559
17.11 WB-THRU	404	0	5	4	22	16	135	20	1	109	655
17.12 HB-RGHT										165	165
13. M.KING AV-B601L12M3											
18.04 SB-LEFT							176				176
18.06 SB-RGHT							135				135
18.07 EB-LEFT							38				38
18.08 EB-THRU	140	2	17		20	S		92		446	774
18.11 WB-THRU	404	0	5	4	22	16		20	1	274	886
18.12 WB-RGHT							43				43
19". H.KING AV-E508L2											
19.01 NB-LEFT								20			20
19.03 NB-RGHT								112			112
19.08 EB-THRU	140	2	17		20	8	176			446	857
19.09 EB-RGHT								92			92
19.10 WB-LEFT								120			120
19.tI WB-THRU	404	0	5	4	22	16	43		1	274	909
20.M.KING-PETERS MNE											
20.04 SB-LEFT	5										7
20.06 SB-RGHT	5										7
20.07 EB-LEFT	5										7
20.03 EB-THRU	140	2	17		20	B	176	ii2		446	969
20.11 WB-THPU	404	0	5	4	22	16	43	120	1	274	1029
20.12 HB-RGHT	5										7
21.SLOATS'BG-MA.K1NG											
21.01 NB-LEFT	55	0	5	4			29	90	1	187	390
21.02 NB-THRU	39	7	85	79					15		238
21.05 SB-THF.U	201	15	92	74					11		462
21.06 SB-RGHT	354				22	16	15	30		87	64S
21.07 EB-LEFT	54				20	B	61	18		119	300
21.09 EB-RGHT	41	Z	"IT"				114	74		32T	535
22.BRN.U.T-SKYLANDS											
22.02 HB-THRU		10	154	149			56	i70	34	444	1014 *
22.03 NB-RGHT											0
22.04 SB-LEFT											0
22.05 SB-THRU		20	162	139			203	107	25	505	1162 *
22.10 WB-LEFT											0
22.12 HB-RGHT											0
23.GRN.LK.T-SL0AT'EG											
23.04 SB-LEFT	159	17	n o•"	74			114	94	11	327	960
23.06 SB-RGHT	4										5
23.07 EB-LEFT	5										7
23.08 EB-THRU	131	"3 "	- 52"	tb			'B9	•-"T3	It	179	592
23.11 WB-THRU	491	2	65	66			27	80	18	257	1174
23.12 HB-RGHT	78	8	90	83			29	90	16	187	607
24.SL0ATS-CARLT'DALE											
24.02 NB-THPU	56	8	90	83			29	90	16	187	577
24.03 NB-RGHT	15										20
24.04 SB-LEFT	156										210
24.05 SB-THRU	183	17	110	74			114	94	11	327	992
24.10 WB-LEFT	11										15
24.12 WF-RGHT"	43""										
25.C0NKLN-CANTERBURY											
25.04 SB-LEFT	33										44
25.06 SB-RGHT	24										32
25.07 EE-LEFT	30										40
25.03 EB-THRU	144	9	64	52	19	15			21		277
25.11 WB-THRU	91	5	59	56	23	31			26		23
25. 12 WB-RGHT	55										74
26.STRL.C0M-STRL.RES											
26.01 EASTBND										26	26
26.02 HESTBND										38	38

* NEW TRAFFIC ONLY

RIUWoo, tl. 3. - TRfLFFIC STUDY BY JOHN E. CHRIST, P.E. SITE DEVELOPMENT AS ZONED
ft. M. PEAK HOUR DEVELOPMENT UNITS, TRIP RATES, *I* TRIH DIRECTIONAL DISTRIBUTION

SUE pr»n nPMCMT TRflFFir ccttMaTinw sPREan RHFFT

BAC» GROUND GROWTH! 37. PER YR
YEARS = IP GRTH FCTR .1,343916.

TRIP GENERATION

INDEP VAR	UNITS	TRIP RATE AM-IN FACTOR	TRIP RATE AM-OUT FACTOR	VEH. TRIPS AM-IN VOLUMX	VEH. TRIPS AM-OUT VOLUME
BLOCK 752 LOT 1: SITE 1					
SINGLE FAM RES	**20**	**.21**	**.55**	**4**	**11**
TOWNHOUSE	**0**	**.07**	**.37**	**0**	**0**
RESERVED	**0**	**0**	**0**	**0**	**0**
TOTAL				**4**	**11**
BLOCK 877 LOT 16: SITE 2					
SINGLE FAM RES	**34**	**.21**	**.55**	**7**	**19**
TOWNHOUSE	**0.**	**.07**	**.37**	**0**	**0**
COMMERCIAL	**HO**	**.6**	**.3**	**84**	**42**
RESERVED	**0**	**0**	**0**	**0**	**0**
TOTAL				**9.1**	**61**
BLOCK 800A LOT 3: SITE 3					
SINGLE FAM RES	Q...;	.0	0	0	0
TOWNHOUSE	0	.07	.37	0	0
APARTMENTS	0	.1	.4	0	0
COMMERCIAL	150.	..6	.3	90	45
RESERVED	0	0	0	0	0
TOTAL				90	45
BLOCK 100 LOT 16: SITE 4					
SINGLE FAM RES	83	.21	.55	17	46
TOWNHOUSE	0	.07	.37	0	0
COMMERCIAL"	0	.91	.8	0	0
RESERVED	0	0	0	0	0
TOTAL				17	46
BLOCK 201 LOT *SI:* **SITE 5**					
SINGLE FAM RFR	0	.21	.55	0	0
TOWNHOUSE	217	.07	.37	15	80
COMMERCIAL	**0**	**0**	**0**	**0**	**0**
INDUSTRIAL	**0**	**0**	**0**	**0**	**0**
RESERVED	**0**	**0**	**0**	**0**	**0**
TOTAL				**15**	**80**
BLOCK 601 L12M3 SITE 6					
SINGLE FAM RES	**0**	**.21**	**.55**	**0**	**0**
TWO FAMILY RES	**53**	**.1**	**.4**	**3**	**21**
TOWNHOUSE	**0**	**.^**	**.3/**	**0**	**0**
INDUSTRIAL	**6**	**8**	**1.3**	**48**	**8**
RESERVED	**0**	**0**	**0**	**0**	**0**
TOTAL				**53**	**29**
BLOCK 50B LOT 2: SITE 7					
SINGLE FAM RES	**0**	**0**	**0**	**0**	**0**
nairir MGRC PRK					
INDUSIRIAL	**48**	**8**	**1.3**	**384**	**62**
FESERVED	**0**	**0**	**0**	**0**	**0**
TOTAL				**384**	**62**
BLOCK BOO LOT *2:* SITE 8					
AFARTMENT-1 FAM	**0**	**0**	**0**	**0**	**0**
t DHHlfitUJ	0	0	0	0	0
MUN.OFFICE-LIBR	**30**	**.5**	**.05**	**15**	**2**
MUN. D.P.W.	**11**	**1**	**.5**	**11**	**6**
PARK/RIDE LOT	**60**	**1**	**.5**	**60**	**30**
TOTAL				**86**	**37**
STERLING FOREST TR. SITE 9					
SINGLE FAM RES	**483**	**.21**	**.55**	**101**	**266**
TOWNHOUSE	**0**	**.07**	**.37**	**0**	**0**
APARTMENT	**0**	**.1**	**.4**	**0**	**0**
COMMERCIAL	**0**	**.4**	**.2**	**0**	**0**
OFFICE-LAB	**250**	**1.79**	**.22**	**448**	**55**
TOTAL				**549**	**321**

TRIP DISTRIBUTION PERCENT OF SITE TRAFFIC TO/FROM CORDON POINTS BY USE

COMPONENT	SKYLINE SOUTH-E	CONKL'TN SOUTH	BRN.LK.T SOUTH	W.BROOK WEST	GRH.LK.T N-WEST	SLDAT'BG NORTH	FLD.SHOP EXIS N-E	NEW SHOP S-E S 2	MUN.SITE WEST	RING SHP WEST	STRL FOR NORTH CM	TOTAL
BLOCK 752 LOT 1: SITE 1												
PERCENT:												
SINGLE FAM RES	52	11	8	1	3	16	1	1	3	1	3	100
TOWNHOUSE	52	11	8	1	3	16	1	1	3	1	3	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
AM-IM	2	0	0	0	0	1	0	0	0	0	0	4
fiM-OUT	6	1	1	0	0	2	0	0	0	0	0	11
BLOCK 877 LOT 16: SITE 2												
PERCENT:												
SINGLE FAM RES	52	11	8	1	3	16	1	1	3	1	3	100
TOWNHOUSE	52	11	8	1	3	16	1	1	3	1	3	100
COMMERCIAL	20	10	15	10	15	15	0	0	0	0	5	90
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
AM-IN	21	9	13	8	13	14	0	0	0	0	4	83
AM-OUT	18	6	8	4	7	9	0	0	1	0	3	57
BLOCK 800A LOT 3i												
si r?: :												
PERCENT;												
SINGLE FAM RES	52	11	8	1	3	16	1	1	3	1	3	100
TOWNHOUSE	52	11	8	1	3	16	1	1	3	1	3	100
APARTMENTS	52	11	8	1	3	16	1	1	3	1	3	100
COMMERCIAL	20	10	15	10	15	15	0	0	0	0	5	70
PEFERVED	0	0	0	0	0	0	0	0	0	0	0	0
TPfiFFIC \HL';												
:•"PI	19	9	14	9	14	14	0	0	0	0	5	81
	9	5	7	5	7	7	0	0	0	0	2	11
BLOCK 100 LOT 16:												
SITE 4												
PERCENT}												
SINGLE FAM RES	22	30	19	1	3	16	1	1	3	1	3	100
TOWNHOUSE	22	30	19	1	3	16	1	1	3	1	3	100
CDMHERCIA1	20	12	12	5	15	15	0	0	0	0	0	79
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
AM-IN	4	5	3	0	1	3	0	0	1	0	1	17
flM-OUT	10	14	9	0	1	7	0	0	1	0	1	46
BLOCK 201 LOT 31:												
SITE 5												
PERCENT:												
SINGLE FAM RES	22	30	19	1	3	16	1	1	3	1	3	100
TOWNHOUSE	22	30	19	1	3	16	1	1	3	1	3	100
COMMERCIAL	0	0	0	0	0	0	0	0	0	0	0	.0
INDUSTRIAL	0	0	0	0	0	0	0	0	0	0	0	0
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
AH-1N	3	5	3	0	0	2	0	0	0	0	0	15
AM-OUT	18	24	15	1	2	13	1	1	2	1	2	80
BLOCK 601 L.12S.13												
SITE 6												
PERCENT:												
SINGLE FAM RES	52	12	7	1	3	16	1	1	3	1	3	100
TWO FAMILY RES	52	12	7	1	3	16	1	1	3	I	3	100
TOWNHOUSE	52	12	7	1	3	16	1	1	3	1	3	100
INDUSTRIAL	25	20	20	5	10	20	0	0	0	0	0	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
AM-IN	15	10	10	2	5	10	0	0	0	0	0	53
AM-OUT	13	4	3	1	1	5	0	0	1	0	1	29
BLOCK 508 LOT 2:												
SITE 7												
PERCENT:												
SIH3LE FAM RES	52	12	7	1	3	16	1	1	3	1	3	JOO
MOBILE HOME FRK	52	12	7	1	3	16	^	1	3	1	3	100
INDUSTRIAL	25	20	20	5	10	20	0	0	0	0	0	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
Att-IN	96	77	77	19	38	77	0	0	0	0	0	384
Aff-OUT	16	12	12	3	6	12	0	0	0	0	0	62
BLOCK 800 LOT 2:												
SITE 8												
PERCENT:												
ftPARTMENT-1 FAM	52	11	8	1	3	16	1	1	3	1	3	100
COMMERCIAL	25	20	20	10	10	10	0	0	0	0	5	100
HUN.OFFICE-LIBR	25	20	20	10	10	10	0	0	0	0	5	100^
MUN. D.P.W.	25	20	20	10	10	10	0	0	0	0	5	100
PARK/RIDE LOT	20	15	15	10	10	10	0	0	0	0	5	'85
TRAFFIC VOLS:												
AM-IN	19	14	14	9	9	9	0	0	0	0	4	77
fitt-OUT	8	6	6	4	4	4	0	0	0	0	2	33
STERLING FOREST TR"												
SITE ?												
££ECENli												
S1NSLE FAM RES	52	12	7	1	3	16	1	1	3	1	3	100
TOWNHOUSE	52	12	7	1	3	16	1	1	3	1	3	100
APARTMENT	52-	12	7	1	3	16	1	1	3	1	3	100
COMMERCIAL	15	10	10	10	10	15	0	0	0	0	5	75
OFFICE-LAB	15	10	10	10	10	15	0	0	0	0	5	75
TRAFFIC VOLS:												
AM-IN	120	57	52	46	48	83	1	1	3	1	25	437
AM-OUT	144	37	24	8	13	51	3	3	8	3	11	307

•A.M. PEAK H1UR - 1983 EXISTING BACKGROUND TRAFFIC EXPfiNDED flT 3X PER YEAR TO 1993 BACKGROUND TRAFFIC PfiCKGPOIJMD TPflFFIC PLUS TRAFFIC GENERATED AS ZONED

NETWORK ASSIGNMENT — SITE TRAFFIC THROUGH INTERSECTIONS

MOVEMENT	EXISTING GRND CNT AM DATA	CLOCK 75 SITE 1	BLOCK B7 SITE 2	BLOCK 80 SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITE 5	BLOCK 60 SITE 6	BLOCK SO SITE 7	BLOCK 60 SITE 8	STERLING SITE 9	FUTURE TOT VOL
l.SKYLINE-OUNTRY-f:											
1.02 ND THRU	125		21	18	9	8	15	96	19	120	473
1'. 03 NP-RGHI		2									2
1.04 SB LEFT		1									1
1.05 SB THRU	1200	3	18	9	24	42	13	16	8	146	1891
i. io us u r r		3									3
1 . 12 WfWRHT		3									3
:.S(VI I NE- CnMKLN• TtJ											
2.01 NB-LEFT	25				5	5					44"
2.02 NB THFU	100	2	21	18	4	3	15	96	19	120	431
:.'i5 SR-THRU	700	3	18	9	10	18	13	16	8	146	1450
:.')i SB r-GHT	25	0	6	5					6		51
?. '7 F.6 LCri	35	0	9	9					14		80
2.09 Ffi-PGHT	300	0			M	24					441
".SkylINE-CHESHIRE											
3.0? NB-THRU	130	2	30	27	4	3	15	96	33	120	504
3.05 NB-RGHT	5	0									7
3.04 SB-LEFT	5										9
3.05 SB-THRU	915	1	24	14	10	IB	13	16	14	146	1484
3.10 WB-LEFT	10	3									17
3.12 HB-RGHT.	10	7									5
4.£('YLINF.-FIELD'STN											
4.01 NB-LEFT	JO	0	0	27							48
1.02 NB-THRU	210						15	94	33	i2i	590
4.03 NB-F.GHT	5	0	0								7
4.04 SB-LEFT	10										13
4.05 SB-THRU	S4G	1	53	W		18	13	16	It	II?	WH
4.06 SB-RGHT	20			50		0		0	0		77
4.07 EB-LEFT	20			27	0	0	0	0	0	1	55
4.08 EB-THRU	5										7
4.09 EB-RGHT	50	0	0	14							81
4.10 WB-LEFT	65	0	0								87
4. ii WB-THRU	10			0							T 3
4.12 WB-RGHT	30										40
5. SKYLTNE-SITE 2 DR											
5.01 NB-LEFT											
5.02 NB-THRU	245	4		27	4	3	15	96	33	120	631
5.03 NB-RGHT		0	30								30
5.04 SB-LEFT	675		5	XS	0	1	6	5	0	3	964
5.05 SB-THRU		1		M	10	18	13	16	14	146	231
5.06 SB-RGHT											
5.07 EB-LEFT.											
5.08 EB-THRU											
5.09 EB-RGHT											
j. 10 WB-LfcFT		0	4								24
5.11 WB-THRU											
5.1! WB-F.GHT			32	0	0	0	0	0	0	1	33
i'S m i N E R NOLLWOOD											
6.01 HB-UEFT		0	1	0					33		34
6.02 NB-THRU	280	3	31	27	4	4	15	96		123	680
6.05 SB-THRU	6B0	1	53"	54"	II	20		16		154	T237"
6.06 SB-RGHT					1	2	1	0	44	8	57
6 EFT					1	0	0	0	19	3	23
6. 7 FB- RHT		0	0	0					14		14
7.SKYLINE-ESSEX LINE											
7.04 SB-lEFT	200										24r
7.05 SB-RGHT	80										108
7.0? EB-LEFT	35										47
7. OB EB-THRU	410	1	53	54	13	22	14	16	44	162	931
7.11 WB-THRU	210	3	31	27	5	4	15	96	19	126	609
7.12 WB-RGHT	65										87
S-6RN.LK.TP-SKYLINE											
8.'02 NB-THRU"	150						20	154		109	484
8.03 NB-RGHT	150	0	22	23	13	22			23		304
8.04 SB-LEFT	450	1	31	32			14	16	22	162	882
8.05 SB-THRU	160						7	28		61	312
fl.10WB-LEFT	125	1	12	11	5	4			10		211
8.12 WB-RGHT	180	2	19	16			15	96	9	126	525
9.6RN.LK.TP-W.BR00K											
9.01 NE-LEFT	20				9	7					43
9.02 NB-THRU	160	0	13	14			20	154	14	109	539
9.05 SB-THRU	260	1	8	7			7	25	6	61	464
9.04 SB-RGHT	10	0	4	5	5	4		3	4		38
9.07 EB-LEFT	90	0	8	9	13	22			9		182
9.09 EB-RGHT	120				22	39					223
lO.W.BRODK-STOHETONN											
10.04 SB-LEFT	40				35	62					151
10.Oi SB-RGHT	5				0	1	1			8	17
10.07 EB-LEFT	5				0	0	2	19		46	74
10.08 EB-THRU	120	0	8	9					9		187
10.11 WB-THRU	35	0	4	5				3	4		63
10.12 WB-RGHT	10				13	12					39
11.STGNET0WN-B10OL16											
11.01 NB-LEFT					14						14
11.02 NB-THRU	20					12	2	19		46	106
11.05 SB-THRU	50					63	1			8	139
11.06 SB-RGHT					4						4
11.07 EB-LEFT					10						10
11.09 EB-RGHT					36						36
12.ST0NETDWN-MAGEE											
12.01 NB-LEFT						12					12
12.02 HB-THRU	20				10		2	19		46	104
12.05 SB-THRU	50				4		1			8	80
12.06 SB-ftGHT						3					3
12.07 EB-LEFT						18					18
12.09 EB-RGHT						63					63
13.FIELD-N-SHQP.CTRS											
13.01 NB-LEFT											
13.02 NB-THRU											
13.03 NB-RGHT											
13.04 SB-LEFT	5										7
13.05 SB-THRU											
13.04 SB-RGHT	20	0	0	0							27
13.07 EB-LEFT	5	0	0	0							7
13.08 EB-THRU	15										20
13.09 EB-RGHT											
13.10 WB-LEFT											
13.11 HB-THRU	75										101
13.12 WB-RGHT	5										7
M.GRN.LK.TP-STOtrTH											
i-i.OlM6-LEFT	5										7
14.02 NB-THRU	70	1	9	8			18	125	5	140	399
14.05 SB-THRU	270	0	13	18			8	12	13	84	511
14.06 SB-RGHT	10				4	3	1			8	29
14.07 EB-LEFT	40				10	18	2	19		46	149
14.09 EB-RGHT	40										54
15.6ftN.LK.TP-Mft.KING											
15.02 NB-THRU	85	0	7	7	1	2			4		136
15.03 NB-RGHT	50	0	2	2	9	13	20	144	1	186	446
"13.04 SB-LEFT	420						5	38		48	656
15.05 SB-THRU	325	0	13	14	1	0			9		473
i:^JiLJI* i-tfJ	15	0		5	3	3	8	12	4	92	148
15.12 WP-R6HT	45						1	6		13	82
16.M.KIN6-STRL.F.C0N											
H.04 SB-LEFT							0	0		60	60
14.06 SB-RGHT		0				0				60	61
16.07 EB-LEFT		0	2	2	1	2			1	145	154
16.08 EB-THRU	500				7	13	25	182		88	987
16.11 NB-THRU	75			5	3	2	10	19	4	46	189
16.12 HB-RGHT		0	1	1			1	0	1	78	80
I7.H.KIN6-STRL.F.RES											
17.04 SB-LEFT		0	4							131	135
17.06 SB-RGHT				5	1				4	46	55
17.07 EB-LEFT										88	88
17.08 EB-THRU	500				7	13	25	182		60	960
17.11 HB-THRU	75	0	1	1	3	2	10	19	1	78	215
17.12 HB-RSHT							1	0	1	101	101
18.M.KING AV-B601LI2S13											
18.04 SB-LEFT							19				19
18.06 SB-RGHT							10				10
18.07 EB-LEFT							25				25
18.08 EB-THRU	500	0	4		7	13		182		191	1070
18.11 HB-THRU	75	0	1	1	3	2		19	1	178	305
18.12 HB-RGHT							28				28
19.M,KINB AV-B508L2											
19.01 NB-LEFT								19			19
19.03 NB-RGHT								44			44
19.08 EB-THRU	500	0	4		7	13	19			191	906
19.09 EB-RGHT								182			182
19.10 WB-LEFT								202			202
19.11 NE-THR'J	75	0	1	1	3	2	28		1	178	315
20.H.KIN6-PETERS MNE											
20.04 SB-LEFT	5										7
20.06 SB-RGHT	5										7
20.07 EB-LEFT	5										7
20.08 EB-THRU	500	0	4		7	13	19	44		191	949
20.11 WB-THRU	75	0	1	1	3	2	28	202	1	178	516
20.12 HB-RGHT	5										7
21-SLOATS'BG-MA.KING											
21.01 NB-LEFT	35	0	1	1			18	125	1	95	287
21.02 NB-THRU	350	2	9	7					4		492
21.05 EB-THRU	20	1	14	14					9		63
21.06 SB-RGHT	40				3	2	10	77		83	230
21.07 EB-LEFT	460				7	13	5	12		51	707
21.09 EB-RGHT	45	0	4				14	31		140	250
22.6RN.LK.T-SKLI.RNDS											
22.02 NB-THRU	300	2	19	16			35	250	9	235	969
22.03 NB-RSHT	65										87
22.04 SB-LEFT	25										34
22.05 SB-THRU	400	1	31	32			21	44	22	224	911
22.10 KB-LEFT	220										296
22.12 HB-R6HT	5										7
2J.6RN.LK.T-SL0AT-8G											
23.04 SB-LEFT	45	1	18	14			14	31	9	140	286
23.06 SB-RGHT	5										7
23.07 EB-LEFT	15										20
23.08 EB-THRU	380	0	13	18			8	12	13	84	659
23.11 HB-THRU	75	1	9	8			18	125	5	140	406
23.12 HB-RGHT	225	2	10	7			18	125	4	95	563
24.SL0ATS-CftRLT'DALE											
24.02 NB-THRU	185	2	10	7			18	125	4	95	510
24.03 NB-RGHT	5										7
24.04 SB-LEFT	40										54
24.05 SB-THRU	45	1	18	14			14	31	9	140	286
24.10 WB-LEFT	5										7
24.12 WB-RGHT	155										208
2E.C0N1LN-CAHTERBURY											
25.04 SB-LEFT	50										67
25.06'sg-RGHf	110										148
25.07 EB-LEFT	20										27
25.08 EB-THRU	100	0	9	9	14	24			14		205
25.11 HB-THRU	140	1	6	5	5	5			6		216
25.12 WB-RGHT	20										27
26.S2RL.C0l1-STRL.RES											
24.Of EASfBNO										25	25
26.02 HESTBND										11	11

RIHGMQOD, ». J. TRAFFIC STUDY BY JOHM E. CHRIST, P.E. SITE DEVELOPMENT flS ZONED
r.M.reft!-: HOUP DEVELOPMENT UNITS, TRIP RATES, I TRIP DIRECTIOMAL DISTRIBUTION

SUE BEJ.'.EL-0rHE«T-T4"<ftT.f4C-ES-mtftmW SPREftS SHEET

BACKGROUNiC GROWTH: 37. PER YR
YEAH: - 10 GRTK FCTR 1.343916

TRIP GENERATION

INDEP VAR	UNITS	TRIP RATE PM-IN	TRIP RATE PM-OUT	VEH. TRIPS PM-IN	VEH. TRIPS PM-OUT
		FACTOR	FACTOR	VOLUME	VOLUME
BLOCK 752 LOT 1: SITE 1					
SINGLE FAM RES	20	.63	.37	13	7
TOWMHOUSE	0	0	0	0	0
RESERVED	0	0	0	0	0
TOTAL				13	7
BLOCK 877 LOT 16: SITE 2					
SINGLE FAM RES	34	.63	.37	21	13
TOWNHOUSE	0	0	0	0	0
COMMERCIAL	140	2.9	3.1	406	434
RESERVED	0	0	0	0	0
TOTAL					JL4Z
BLOCK 800ft LOT 3: SITE 3					
SINGLE FAM RES	0	0	0	0	0
TOWMHOUSE	0	0	0	0	0
APARTMENTS	0	0	0	0	0
COMMERCIAL	15.0	2.9	3.1	435	465
RESERVED	0	0	0	0	0
TOTAL				435	465
BLOCK 100 LOT 16: SITE 4					
SINGLE FAM RES	83	.63	.37	52	31
TOWNHOUSE	0	0	0	0	0
COMMERCIAL	<?	0	0	0	0
RESERVED	0	0	0	0	0
TOTAL				52	31
BLOCK 201 LOT 31: SITE 5					
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	217	.37	.18	80	39
COMMERCIAL	0.	0	0	0	0
INDUSTRIAL	-0		0	0	0
RESERVED	0	0	6	0	0
TOTAL:				80	39
BLOCK 601 L12&13 SITE h					
SINGLE FAM RES	0	0	0	0	0
TWO FAttlLY RES	53	.4	.2	21	11
TOWNHOUSE	0	0	0	0	0
INDUSTRIAL	6	2	10	12	60
RESERVED	0	0	0	0	0
TOTAL				33	71
BLOCK 508 LOT 2: SITE 7					
SINGLE FfiM RES	0	0	0	0	0
MOBILE. HOME FfiK.	0	0	0	0	0
IMBUSIfilfit	48	2	10	96	480
RESERVED	0	0	0	0	0
TOTAL				96	480
8LPO' SOO LOT 2: SITE S					
fif f.BTWENT-1 fifif	0	0	0	0	0
£CS«S«CUl	0	0	0	0	0
r'JN.OFFICE-LIBR	30	2.5	2.5	75	75
"UN. D.P.W.	11	.5	1	6	11
fnRlVRIDC LOT	60	.5	1	30	60
TOTAL				111	146
STEHLIMG.FOREST TR. SITE 9					
SINGLE FfiM RES	483	.63	.37	304	179
TOWNHOUSE	0	0	0	0	0
APARTMENT	0	0	0	0	0
COMMERCIAL	0	0	0	0	0
CFFICE-LAB	250	.24	1.63	60	408
TOTAL				J3&4	586

TRIP DISTRIBUTION PERCEMT OF SITE TRAFFIC TO/FROM CORDON POINTS BY USE

COMPONENT	SKYLINE SOUTH-E	CDNKL'TN SOUTH	GRN.LK.T SOUTH'	W.BROOK WEST	GRN.LK.T N-WEST	SLQAT'BG NORTH	FLD.SHOP EXIS N-E	NEW SHOP S-E S 2	MUN.SITE WEST	RING WEST	SHP STRL FOR NORTH CH	TOTAL
BLOCK 752 LOT 1: SITE 1												
PERCENT:												
SINGLE FAM RES	49	9	7	1	2	14	4	4	3	4	3	100
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	0
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM IN	6	1	1	0	0	2	1	1	0	1	0	13
FMPUT	4	1	1	0	0	1	0	0	0	0	0	7
BLOCK 877 LOT 16: SITE 2												
PERCENT:												
SINGLE FAM RES	49	9	7	1	2	14	4	4	3	4	3	100
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL	17	12	12	10	12	17	0	0	0	0	5	85
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	Bfl. 51		50	4L	49		1	1	1	1	21	367
PM OUT	80	53	53	41	53	75	1	1	0	1	22	431
BLOCK. BOOfl.LOT 3: SITE 3												
PERCENT:												
SINGLE FftW RES	0	Q	0	0	0	0	C	0	Q	0	0	0
TOWMHOUSE	0	Q	0	0	0	0	0	0	0	0	0	0
APARTMENTS	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL	17	12	12	10	12	JL7	jO	0	Q	0	5.	85
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRfiFFIC VOLS:												
PM-IN	74	52	52	44	52	74	0	0	0	0	22	370
PM-OUT	79	56	56	47	5i	79	0	0	0	0	23	395
BLOC!' 100 LOT 16: SITE 4												
PERCENT:												
SINGLE FAM RES	20	27	18	1	2	14	4	4	3	4	3	100
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIftl	0	0	0	0	0	0	0	0	0	0	0	0
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	10	14	9	1	1	7	2	2	2	2	2	52
PM-OUT	6	8	6	0	1	4	1	1	1	1	1	31
BLOCK 201 LOT 31: SITE 5												
PERCENT:												
SINGLE FAH RES	0	0	0	0	0	0	0	0	0	0	0	0
TOWNHOUSE	20	27	18	1	2	14	4	4	3	4	3	100
COMMERCIAL	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL.	0	0	0	0	0	0	0	0	0	0	0	0
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	16	22	14	1	2	11	3	3	2	3	2	80
PM-QUT	a	11	7	0	1	5	2	2	1	2	1	39
BLOCK 601 L.12M3 SITE 6												
PERCENT:												
SINGLE FAM RES	0	0	0	0	0	0	0	0	0	0	0	0
TWO FAMILY RES	49	10	6	1	2	14	4	4	3	4	3	100
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL	25	20	20	5	10	20	0	0	0	0	0	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	13	5	4	1	2	5	1	1	1	1	1	33
PM-OUT	20	13	13	3	6	13	0	0	0	0	0	71
BLOCK SOB LOT 2; SITE 7												
PERCENT:												
SINGLE FAM RES	0	0	0	0	0	0	0	0	0	0	0	0
MOBILE HOME PRK	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL	25	20	20	5	10	20	0	0	0	0	0	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	24	19	19	5	10	19	0	0	0	0	0	96
PM-OUT	120	96	96	24	48	96	0	0	0	0	0	480*
STERLIN6 FOREST TR SITE 9												
PERCEMT:												
SINGLE FfiM RES	42	8	5	1	2	11	4	4	3	4	3	87
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	0
APARTMENT	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL	0	0	0	0	0	0	0	0	0	0	0	0
OFFICE-LAP	14	10	14	10	14	14	5	5	0	5	5	96
TRAFFIC VOLS:												
PM-IN	136	30	24	9	14	42	15	15	9	15	12	322
Ptf-CUT	132	55	66	43	61	77	28	28	5	28	26	547

1983 EXISTING BACKGROUND TRAFFIC EXPANDED AT 3X PER YEAR TO 1993 BACKGROUND TRAFFIC
P.M. PEAK HOUR BACKGROUND TRAFFIC PLUS TRAFFIC GENERATED AS ZONED INCLUDES INTERSECTION t S

NETWORK ASSIGNMENT, SITE TRAFFIC THROUGH INTERSECTIONS

MOVEMENT	EXISTING GRND CNT FM DATA	BLOCK 75 SITE 1	BLOCK 87 SITE. 2	BLOCK 80 SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITES	BLOCK 40 SITE 4	BLOCK 50 SITE?	BLOCK 80 SITE 8.	STERLING SITE 9	FUTURE TOT VOL	
I.SKYLINE-COUNTRY'E												
.1.02 NB-THRU	1450		80	74	Z5	38	13.	24	26	J3 6	2364.	
1.03 NB-RGHT		6									4	
1.04 SB-LEFT		3									3	
1.05 SB-THRU	253	2	80	79	14	18	20	120	34	132	839	
1. 10 WE LEFT		2									2	
1.12 WB-RGHT		2									2	
2.SKYLINE-C0NKLN'TN												
2.01 NB-LEFT	200	0			14	22					305	
2.02 NB-THRU	1250	2	80	74	10	16	13	24	26	134	2041	
2.05 SB-THRU	200	4	80	79	6	8	20	120.	34	.132	751	
2.04 SB-RGHT	70	0	53	56					26		229	
2.07 EE-LEFT	40	0	51	52					21		178	
2.09 EB-RGHT	.50.	1			8	11					87.	
3.SKYLINE-CHESHIRE												
3.02 NB-THRU	1255	2	130	126	10	16	13	24	47	136	2191	
3.03 NB-RGHT	15	0									21	
3.01 SB-LEFT	10	3									17	
3.05 SB-THRU	245	2	133	135	6	8	20	120	60	132	972	
3.10 HB-LEFT	5.	2									9	
3.12 WB-RGHT	5	2									8	
4.SKYL5NE-FIELIVSTN												
4.01 NB-LEFT	48	0	1	126							191	
4.02 NB-THRU	734	2	247		13	19	14	24	47	151	1507	
4.03 NB-RGHT	54	0	0								74	
4.04 SB-LEFT	32										43	
4.05 SB-THRU	195	4	234		7	9	21	120	60		87T~	
4.0b SB-RGHT	20			222		0		0	0		249	
4.07 EB-LEFT	31			240	2	3	1	0	0	15	323	
4.08 EB-THRU	14		0	0							22	
•4.09 EB-RGHT	39	1	1	135							189	
4.10 WB-LEFT	89	1	1								121	
4.11 WB-THRU	23			0							zV	
4.12 HB-R6HT	44										59	
5. SKYLINE-SITE 2 DR												
5.01 NB-LEFT												
5.02 NB-THRU	840	3		126	10	16	13	24	47	136	1505	
5.03 NB-RGHT		0	130								130	
5.04 SB-LEFT			235	0	1	2	0	0	0	28	"244	
5.05 SB-THRU	323	4		135	6	8	20	120	60	132	919	
5.04 SB-RGHT												
5.07 EB-LEFT												
5.08 EB-THRU												
5.09 EB-RGHT												
5.10 WB-LEFT		1	133								134	
5.11 HB-THRU												
5.12 NB-RGHT			248	0	2	3	1	0	0	15	24"?	
6.SKYLINE-KN0LLW0QD												
4.01 NB-LEFT		0	0	0					47		47	
4.02 NB-THRU	470	2	244	240	17	24	14	24		182	1473	
4.05 SB-THRU ~'	304	3	233	244	10	"12 " ~	21"~	"120		215"	'1247	
4.04 SB-RGHT					1	1	0	0	59	5	47	
4.07 EB-LEFT					2	2	I	0	77	?	91	
4.09 EB-RGHT		0	1	0					40		41	
7.SKYLINE-EIGHTH												
7.04 S8-LEFT..	97										130	
7.04 SB-PGHT	40										54	
7.07 EB-UFT	59										79	
7.08 EB-THRU	207	3	233	244	11	14	22	120	59	220	1204	
7.11 WB-THRU	45B	2	244	240	18	28	17	24	77	191	1479	
7. 12 WB-RGHT	212										285	
JB.GP.N..LK..IE:-SHYLJN.EF												
5.02 NB-THRU	180						8	38		54	342	
8.03 NB-RGHT	190	1	91	96	11	14			32		499	
0.04 SB-LEFT	250	2	142	148			22	120	28	220	10J8	
8.05 SB-THRU	200						24	216		121	432	
3.10 WB-LEFT	140	1	96	102	18	28			41		475	
5.12 WB-RGHT	350,	1	150	158			17	24	37	191	1048	
9.GRN.LK.TP-W.BR00K												
9.01 NB-LEFT					24	34					40	*
?.02 NB THRU		1...	50	52			B	38	21	54	224	*
".05 St-THRU		I	53	54			24	192	26	121	474	*
9.06 SB-PGHT		0	44	47	18	28		24	15		175	*
'.0? EB-LEFT		0	41	44	11	14			11		120	*
9.09 EB-PGHT					14	18					31	*
lO.W.BPOOK-STONETOHN												
10.04 SP-LEFT					25	31					56	*
lv.Oi SB-F.GHT					0	0	3			43	46	*
P.'.D? EB-LEFT					1	1	1	5		9	16	*
to.08 EB-THRU		0	41	44					11		95	*
10.11 WB-THRU		0	44	47				24	15		129	*
10.12 WB-RGHT					42	64					104	*
11.STONETOWN-B100L16												
11."1 KB-LEFT					42						42	*
11.02 NB-THRU						65	1	5		9	BO	*
11.05 SB-THRU						32	3			43	77	*
11.04 SB-RGHT					10						10	*
I1.07 EB-LEFT					6						6	*
11.09 EB-RGHT					25						25	*
IT. •;-OMtTOWN·HAGEE												
:r.oi HB-LEFT						65					65	*
IT.02 KB-THRU					6		1	5		9	20	*
11.05 SB-THRU					10		3			43	56	*
i:.06 SB-RGHT						15					15	*
i:.07 EB-LEFT						7					7	*
i:.09 E8-PGHT						32					32	*
1'.F!FIL0 N-SHOP.CTRS												
13.01 NB-LEFT												
1J.02 MS-THRU												
13.03 NB-RGHT												
r.04 SB-LEFT	11										15	
1'.05 SB-THRU												
I'.04 SB-RGHT												
15.07 EB-LEFT	134	1	1	0							181	
13.08 EB-THRU	21	0	0	0							29	
15.09 EB-R6HT	""83"										112	
n.10 WB-LEFT												
I MI H8-TRKU												
13.12 WB-RGHT	21 5										2B 7	
H.GRN.LK. TP-STON'TN												
'.'.'! Hi'-LEFT												
'.1.02 HP-THRU											0	
1*.O" SB-THRU		0	68	72			12	31	20	143	346	*
14.'.6 Jt'-RPHT		0	49	74			20	96	17	122	373	*
14.07 SB-LEFT					10	15	3			43	71	*
14.09 EB-RGHT					6	7	1	5		9	28	*
15.GRN.LK.TP-MA.KING											0	
15.02 NB-THPU	378	0	52	56	1	1			15		632	
15.03 N8-PGHT	13	0	15	16	5	7	13	36	5	152	267	
11.44 St-iin	12;						2	10		14	194	
W.*J1 n? TMPIJ	43	0	•»?	52	1	2			11		207	
13.10 WB-LEFI	-17	0		27	9	14	23	96	6	165	357	
15.12 HB-RGHT	3fl7						6	48		61	635	
14.M.KIN6-STRL.F.C0N												
14.04 SB-LEFT							1	0		137	138	
16.04 SB-RGHT		0				2				128	130	
14.07 EB-LEFT		0	15	16	1	1			5	47	84	
14.08-ES-I>iRU UQ-					4	5	14	46		120	377	
14.11 WB-THRU	404			22	9	11	29	144	6	98	861	
14.12 WB-RGHT		0	7	7			0	0	2	62	78	
17.H.KING-STRL.F.RES												
17.04 SB-LEFT		0	21							158	180	
17.06 SB-RGHT				22	2				6	98	126	
17.07 EB-LEFT										120	120	
17.08 EB-THRU	140				4	5	15	46		137	396	
17.11 WB-THRU	404	0	7	7	7	11	30	144	2	62	813	
17.12 WB-RGHT										82	82	
18.M.KING AV-B401LI2&13												
18.04 SB-LEFT							41				41	
18.04 SB-RGHT							30				30	
18.07 EB-LEFT							15				15	
18.08 EB-THRU	140	0	21		4	5		46		294	560	
18.11 WB-THRU	40.4	0	7	7	7	11		144	2	143	865	
18.12 WB-RGHT							18				IS	
19.M.KING AV-B508L2												
19.01 NB-LEFT								144				
19.03 NB-RGHT								336			334	
19.08 EB-THRU	140	0	21		4	5	41			296	556	
19.09 EB-PGHT								46			44	
19.10 HB-LEFT								50			50	
19.11 WB-THRU	404	0	7	7	7	11	18		2	143	739	
20.M.KING-PETERS MNE												
20.04 SB-LEFT	5										7	
20.06 SB-RGHT	5										7	
20.07 EB-LEFT	5										7	
20.08 EB-THRU	140	0	21		4	5	41	336		296	892	
20.11 WB-THRU	404	0	7	7	7	11	18	50	2	143	789	
20.12 WB-RGHT	5										7	
21.SLOATS'BG-MA.KING												
21.01 NB-LEFT	55	0	7	7			13	31	2	102	235	
21.02 NB-THRU	39	1	76	79					15		223	
21.05 SB-THRU	201	2	72	74					11		429	
21.06 SB-RGHT	354				7	11	5	19		42	561	
21.07 EB-LEFT	54				4	5	13	96		77	269	
21.09 EB-RGHT	61	0	21				27	240		219	5S9	
22.6RN.LK.T-SKYLANDS												
22.02 NB-THRU		1	150	158			25	62	37	245	678	*
22.03 NB-RGHT											0	
22.04 SB-LEFT											0	
22.05 SB-THRU		2	142	148			47	336	28	341	1045	*
22.10 WB-LEFT											0	
22.12 WB-RGHT											0	
23.SRN.LKiT-SLOAT-BG												
23.04 SB-LEFT	159	2	93	74			27	240	11	219	880	
23.06 SB-RGHT	4										5	
23.07 EB-LEFT	5										7	
23.08 EB-THRU " ' "	131	0	49	74			20	96	17	~122	"554	
23.11 WB-THRU	491	0	68	72			12	31	20	143	1006	
23.12 WB-RSHT	78	1	82	86			13	31	17	102	437	
24.SLOATS-CARLT'DflLE												
24.02 NB-THRU	56	1	82	86			13	31	17	102	407	
24.03 NB-RGHT	15										20	
24.04 SB-LEFT	156										210	
24.05 SB-THRU	183	2	93	74			27	240	11	219	•512	
24.10 WB-LEFT	11										15	
24. 12 WB-RGHT	48										45	
25.CONKLN-CANIEftBURV												
25.CL4.-S.B-LEFI	33										44	
25.06 SB-RGHT	24										32	
25.07 EB-LEFT	30										40	
25.08 EB-THRU	114	1	51	52	8	11			21		297	
25.11 WB-THRU	91	1	53	56	14	22			26		294	
25.12 WB-RGHT	55										74	
26.STRL.COM-STRL.RES												
26.01 EASTBND										12	12	
26.02 WESTBND										26	26	

* NEW TRAFFIC ONLY

RINGNOOO. M. J. - TRAFFIC STUDY BY JOHN E. CHRIST, P.E. SHE DEVELOPMENT FROPDSED BY OTHERS
ft. *n.* F.EAC HOUR DEVELOPMENT UNITS, TP.IF RATES, & TRIP DIRECTIONAL DISTRIBUTION

SHE DEVELOPMENT TRftFFIC EST1MATION SPREAD SHEET

BACKGROUND GROWTH: 3% PER YR
YEfURS = 10 3RTH FCTR 1.343914

TRIP GENERATION

INDEP Vftfi	UNITS	TRIP RATE AM-IN FACTOR	TRIP RATE AI1-OUT FACTOR	VEH. TRIPS AM-IN VOLUME	VEH. TRIPS AM-OUT VOLUME
BLOCK 752 LOT 1: SITE i					
SINGLE FAM RES	0	.21	.55	0	0
TOWNHOUSE	230	.07	.37	20	104
RESERVED	0	'0	0	6	0
TOTAL				20	104
BLOCK 877 LOT 16: SITE 2					
SINGLE FAM RES	0	.21	.55	0	0
TOWNHOUSE	450	.07	.37	32	167
COHMEF.CIftL	140	.6	.3	84	42
RESERVED	0	0	0	0	0
TOTAL				116	209
BLOCK 800A LOT 3: SITE 3					
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	0	0	0	0	0
APARTMENTS	0	0	0	0	0
COMMERCIAL	150	.6	.3	90	45
RESERVED	0"	0	0	0	0
TOTAL				90	45
BLOCK'100 LOT 16: SITE 4					
SINGLE FAM RES	0	.21	.55	0	0
TOWNHOUSE	95	.07	.37	7	35
COMMERCIAL"""	20	.91	"T8"	"TB	16
RESERVED	0	0	0	0	0
TOTAL				25	51
BLOCK 201 LOT 31: SITE 5					
SINGLE FAM RES	0	.21	.55	0	0
TOWNHOUSE	314	.07	".37"	22"	116
COMMERCIAL	0	0	0	0	0
INDUSTRIAL	0	0	0	0	0
RESERVED	"0	0	0	"0	"0
TOTAL				22	116
BLOCK 601 L12U3: SITE "6					
SINSLE FAM RES	0	.21	.55	0	0
TKO FAMILY RES	53	.1	.4	5	21
TOWNHOUSE	0	.07		0	" 0
INDUSTRIAL	30	B	.37"	240	39
RESERVED	0	0	1.3	0	0
TOTAL			0	"245"	'60—
[illegible] C V-3 LCT ;. SITE 7					
zvr:t [illegible]	0	0	0	0	0
MOBILE HOME PRK	722	.13	.38	95	278
INDUSTRIAL	0	8	1.3	0	0
RESERVED	0	0	0	o	0
TOTAL				95	278
BLOCK 800 LOT 2: SITE B					
fiPARTMENT-1 FAM	0	0	0	0	0
COMMERCIAL	0	0	0	0	0
MUN.CFFICE-LIBR	30	.5	.05	15	2
MUN. D.P.W.	11	1	.5	11	6
PARK/RIDE LOT	60	1	.5	60	30
TOTAL				86	37
STERLING FOREST TR. SITE 9					
SINGLE FAM RES	350	.21	.55'	7V	193
TOWNHOUSE	220	.07	.37	15	81
APARTMENT	300	.1	.4	30	120
COMMERCIAL	100	.4	.2	40	20
OFFICE-LfiB	250	1.79	.22	448	55
TOTAL				606	469

TRIP DISTRIBUTION PERCENT OF SITE TRAFFIC TO/FROM CORDON POINTS BY USE

COMPONENT	SKYLINE SOUTH-E	CONKL'TN SOUTH	GRN. LK. T~ SOUTH	W.BROOK WEST	GRB";LKTT N-WEST	SLOAT'BG NORTH	tin. EXIS	SHOP N-E	NEW SHOP S-E	SHOP S 2	MUN.SITE WEST	RING KEST	SHP STRL NORTH	TOR CM	TOTAL
BLOCK 752 LOT 1: SITE 1															
PERCENT:															
SINGLE FA« RES	52	11	8	1	3	16	1	1	3		1	3			100
TOWNHOUSE	52	11	8	1	3	16	1	1	3		1	3			100
RESERVED	0	0	0	0	0	0	0	0	0		0	0			0
TRAFFIC VQLS:															
AM-III	10	2	2	0	1	3	0	0	1		0	1			20
AM-OUT	54	11	8	1	3	17	1	1	3		1	3			104
BLOCK B77 LOT 16: SITE 2															
PERCENT:															
SINGLE FAM RES	52	11	S	1	3	16	1	1	3		1	3			100
T0WHH3'J=E	52	11	. 8 "	1	3	16	1	1	3		1	3			100
COMMERCIAL	20	10	15	10	15	15	0	0	0		0	5			90
RESERVED	0	0	0	0	0	0	0	0	0		0	0			0
TRAFFIC VOLS:															
AM-IN	33	12	15	9	14	18	0	0	1		0	5			107
flK-O'.'T	95	- 23	"7i)~ •-	j	11	33	2	2	5		2	7			"04
BLOCK SOOA LCT 3: SITE 3															
PERCENT:															
SINGLE FAM RES	52	U	8	1	3	16	1	1	3		1	3			100
TOWNHOUSE	52	n —	.....8"--	1	3	16	1	1	3		1	Z			100
APARTMENTS	52	a	8	1	3	16	1	1	3		1	3			100
COMMERCIAL	20	10	15	10	15	15	0	0	0		0	0			85
RESERVED	- o—	r ...	0	0	o—	0	0	0	0		0	0			0
TRAFFIC VQLS;															
an-is -.....	-Tff	7	— — , t —	?	rr—	14	-tr—	o	0		0	?			77
ftM-C'JT	9	5	7	5	7	7	o	o	0		0	0			33
BLOCK 100 LOT 16: SITE 4															
PERCENT:															
SINGLE FAM RES	22	30	19	1	3	16	1	1	3		1	3			100
TOWNHOUSE	22	30	19	1	3	16	1	1	3		1	3			100
^COMMERCIAL	20	12	12	5	15	15	0	0	0		0	0			79
RESERVED	0	0	0	0	0	0	0	0	0		0	0			0
TRAFFIC VOLSs															
ftM-IN	5	4	3	1	3	4	0	0	0		0	0			21
AM-OUT	11	12	9	1	3	8	0	0	1		0	1			48
BLOCK 201 LOT 31: SITE 5															
PERCENT:															
SINGLE FAM RES	22	30	19	1	3	16	1	1	3		1	3			100
TOWNHOUSE	22	30	19	1	3	16	1	1	3		1	3			100
COMMERCIAL	0	0	0	0	0	0	0^	<>	0		0	0			0
INDUSTRIAL""	0	0	0	0	0	6	o	o	" o		o	b			""o~
RESERVED	0	0	0	0	0	0	0	0	0		0	0			
TRAFFIC VOLS:															
AM-IN	5	7	4	0	1	4	0	0	1		0	1			22
AM-OUT	26	35	22	1	3	19	1	1	3		1	3			116
BLOCK 601 L.12M3 SITE 6															
FERCEHT:															
SINGLE FAM RES	52	12	7	1	3	16	1	1	3		1	3			100
TWO FAMILY RES	52	12	7	1	3	16	1	1	3		1	3			100
TOWNHOUSE	52	12	7	1	"3"	16	1	1	3		1	3			100
INDUSTRIAL	25	20	20	0	10	20	0	0	0		0	0			95
RESERVED	0	0	0	0	0	0	0	0	0		0	0			0
TRAFFIC VOLS:															
AM-IN	63	49	48	0	24	49	0	0	0		0	0			233
AH-OUT	21	10	9	"0	5	11	0	0	1		0	1			59
BLOCK 508 LOT 2: SITE 7															
PERCENT:															
SINGLE FAM RES	52	12	7	1	3	16	1	1	3		1	3			100
MOBILE HOME PRK	52	12	7	1	3	16	1	1	3		1	3			100
INDUSTRIAL	25	20	20	5	10	20	0	0	0		0	0			100
PESERVED	0	0	0	0	0	0	0	0	0		0	0			0
TRAFFIC VOLS:															
AM-IN	49	11	7	1	3	15	1	1	3		1	3			95
AM-OUT	145	33	19	3	8	45	3	3	8		3	8			278
BLOCK BOO LOT 2: SITE 8															
PERCENT:															
APARTMENT-1 FAM	52	11	8	1	3	16	1	1	3		1	3			100
COMMERCIAL "	25	20	20	10	10	10	0	0	0		0	5			166
MUN.OFFICE-LIBR	25	20	20	10	10	10	0	0	0		0	5			100
MUN. D.P.W.	25	20	20	10	10	10	0	0	0		0	5			100
FftRK/RIDE LOT	20	15	15	10	10	10	0	0	0		0	8			35
TRAFFIC VOLS:															
AH-IN	19	14	14	9	9	9	0	0	0		U	4			
AM-OUT	8	6	6	4	4	4	0	0	0		0	2			33
SITE 1															
FERCENT:															
SINGLE""FAM RES	52	12	7	1	3	16	1	1	3		1	3			100
TOWNHOUSE	52	12	7	1	3	16	1	1	3		1	3			100
APARTMENT	52	12	7	1	3	16	1	1	3		1	3			100
COMMERCIAL	15	10	10	10	10	15	0	0	0		0	5			75
OFFICE-LfiB	15	10	10	10	10	15	0	0	0		0	5			75
TRAFFIC VQLS:															
AM-IN	135	63	57	50	52	92	1	1	4		1	28			485
AM-OUT	216	55	35	11	19	74	4	4	12		4	16			450

1983 EXISTING BACKGROUND TRAFFIC EXPANDED AT ZX PER YEAR TO 1993 BACKGROUND TRAFFIC
ft. M. F'FAK HOUR — BACKGROUND TRAFFIC PLUS TRAFFIC GENERATED BY SITE DEVELOPMENT AS PROPOSED BY OTHERS

NLTWrti' ASSIGNMENT — SITE TRAFFIC THROUGH INTERSECTIONS

MOVEMENT	EXISTING GRND CNT	BLOCK 75 SITE 1	BLOCK 87 SITE 2	BLOCK 80 SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITE 5	BLOCK 60 SITE b	BLOCK 50 SITE 7	BLOCK 80 SITE 8	STERLING SITE 9	FUTURE TOT VOL
I .I'lCLINE-COUNTRY'E											
1.02 NB-THRU	125		33	18	9	11	63	49	19	135	506
1.03 NB-RGHT		10									10
1.04 SB-LEFT		4									4
1.05 SB-THRU	1200	27	95	9	23	60	21	145	8	216	2217
1.10 WB-LEFT		27									27
1.12 WB-RGHT		27									27
r.SKVLlNE-CONKLN'TN											
2.01 NB-LEFT	25	8			4	7					" 52
2.02 NB-THRU	100	19	33	18	5	5	63	49	19	135	480
2.05 SB-THRU	900	30	95	9	11	26	21	145	8	216	1769
2.06 EB-RGHT	25	3	23	5					6		70
2.07 EB-LEFT	35	1	12	9					14		83
:.O9 EB-RGHT	300	1			12	35					452
3.SKYLINE-CHESHIRE											
3.02 NB-THRU	130	19	45	27	5	5	63	49	33	135	556
Z.OZ NB-RGHT	5	1									8
3.04 SB-LEFT	5	5									11
3.05 SB-THRU	915	3	117	14	11	26	21	145	14	216	1795
"' 3. 10 WB-LEFT	10	30									44
3.12 WBRGHT	10	19									33
4.SmiNE-FIELD'STN											
4.01 NB-LEFT	30	1		27							68
4.02 NB-THRU	210	36			5	5	63	49	33	135	608
4.03 NB-RGHT	5	1	45								53
4.04 SB-LEFT	10		61		0	1	0	3	0	4	83
4.05 EB-THRU	560	7			11	"26	21	145	14	216	1191
4.06 SB-RGHT	20			50		0		1	0		78
4.07 EB-LEFT	20			25	0	0	0	1	0	1	54
4.08 EB-THRU	5		0	0							7
4.09 EB-RGHT	.50	0		14							81
4.10 WB-LEFT	65	0	117								205
4.11 WB-THRU	10		"2"	0							15
4.12 WB-RGHT	30		82		0	0	0	1	0	1	125
5. RESERVED											
5.01 NB-LEFT											
5.02 NB-THRU											
5.03 NB-RGHT											
5.04 SB-LEFT											
5.05 SB-THRU											
5.06 SB-RGHT,											
5.07 EB-LEFT											
5.08 EB-THRU											
5.09 EB-RGHT											
5.10 WB-LEFT											
5.11 WB-THRU											
5.12 WB-RGHT											
i.SVYLtNE-KliOLLWODD											
6.01 MB-LEFT		3	5	0					33		41
6.02 NB-THRU	280	32	77	25	5	5	63	52		139	775
6.05 SB-THP.U	6B0	6	60	50	V2 ~	29	21	153		228	1473
6.06 SB-RGHT					1	3	1	8	44	12	70
6.07 EE LEFT					0	1	0	3	19	4	26
6.09 EB-RGHT		1	1	0							15
7.S' Vi. INE-ER5* HIE									rt		
7.04 SB-LEFT	200										269
7. TjSnSB-RBHT	do										108
7.07 EB-LEFT	35										47
7.08 EB-THRU	410	b	60	50	13	33	22	161	44	240	1180
7.11 WB-THRU	210	32	77	25	6	6	63	55	19	142	707
7.12 WB-RGHT	65										87
8.GRN.LK.TP-SKYLINE											
676 OF - THRU	150						97	18		120	437
8.03 NB-RGHT	150	2	24	23	13	33			23		318
8.04 SB-LEFT	450	4	36	27			22	161	22	240	1117
B.05 SB-THRU	160						20	56		90	380
8.10 WB-LEFT	125	9	25	11	6	6			10		235
8.12 WB-RGHT	180	23	51	14			63	55	9	142	599
9.GRN.LK.TF-W.BR00K											
9.01 NB-LEFT	20				B	11					45
9.02 NB-THRU	160	2	15	14			97	18	14	120	495
9.05 SB-THRU	260	B	20	7			20	53	6	90	552
9.06 SB-RGHT	10	1	6	5	6	6		3	4		43
9.07 EB-LEFT	90	0	9	9	13	33			9		193
9.09 EB-RGHT	120				21	57					"239
10.W.BR00K-STONETOHN											
10.04 SB-LEFT	40				34	89					177
10.06 EB-RGHT	5				1	1	0			11	21
10.07 EB-LEFT	5				1	0	0	1		50	59
10.08 EB-THRU	120	0	9	9					9		188
10.11 WB-THRU	35	1	6	5				3	4		"65"
10.12 WB-RGHT	10				13	17					43
U.ST0NET0WN-B10OL16											
11.01 HB-LEFT					14						14
11.02 NB-THRU	20					17	0	1		50	95
11.05 SB-THRU	50					91	0			11	H9
11.06 SB-RGHT					7						7
11.07 EB-LEFT					13						13
11.09 EB-RGHT					35						35
i:.STC!IETOWH-MAGEE											
12.01 NB-LEFT						17					17
12.02 NB-THRU	20				13		0	1		50	90
t:.O5 SB-THRU	30				7		0			11	86
12.06 SB-RGHT						5					5
12.07 EB-LEFT						26					26
!2.09 EP-PGHT						91					91
13.FIELD'N-SHOP.CTRS											
IZ.Ol HB-LEFT		0	201	0	0	0	0	1	0	1	204
13.02 NB-THRU			-2-								2
13.03 NB-RSHT											0
13.04 SB-LEFT	5										7
13.03 SB-THRU			0								0
13.06 SP-PSHT	20	0		0							27
13.07 EB-LEFT	5	0		0							7
13.08 EB-THRU	15										20
13.09 EB-RGHT		1	106	0	0	1	0	3	0	4	116
13.10 WB-LEFT											0
13.11WB-THRU	75										101
13.12 HB-RGHT	5										7
14.GRM.LK.TP-STON'TN											
11.fn NB-LEFT	5										7
14.02 NB-THRU	70	5	16	7			80	35	5	156	399
14.05 SB-THRU	270	1	14	14			17	33	13	124	577
14.06 SB-RGHT	10				7	5	--0-			11	37
14.07 EB-LEFT	40				13	26	0	1		50	143
14.09 EB-RGHT	40										54
15.GRN.LK.TP-MA.KING											
t3.«I Ni-THPU	B5	3	11	7	3	3			4		146
13.03 NS-06HT	30	2	5	0	9	22	80	36	1	206	429
15.04 SB-LEFT	«2»							3		52"	444-
15.05 SB-THRU	325	1	14	14	3	1			9		477
15.10 HB-LEFT	15	0		0	4	4	17	33	4	135	218
""IS.II MS-PG'HF	" 45						5	8		19	93
lA.fi.KINS-STPL.F.COrt											
16.04 SP-LEFT							0	3		88	91
16.06 SP-PGHT		0				1				88	89
16.07 EB-LEFT		2	5	0	1	3			1	159	172
[6.J>8 EB-THRU	500				8	19	104	39		99	941
"ft. lT WB THRU	-7T			0	4	4	22	42	4	66	T42"
16.12 WB-RGHT		1	2	0			1	8	1	87	99
I7.M.KING-STRL.F.RES											
17.04 SB-LEFT		0	5							192	19S
17.06 SB-RGHT				0	0				4	66	71
17.07 EB-LEFT										99	99
17.08 EB-THRU	500				8		104	42		88	-933"
17.11 HB-THRU	75	1	2	0	4	4	22	50	1	87	271
17.12 HB-RGHT										111	111
18.H.KING AV-B601L12M3											
18.04 SB-LEFT							36				36
18.06 SB-RGHT							22				22
18.07 EB-LEFT							104				'104
18.08 EB-THRU	500	0	5		8	19		42		280	1026
18.11 WB-THRU	75	1	2	0	4	4		50	1	198	360
18.12 HB-RGHT							129"				129
19.M.KING AV-B508L2											
19.01 NB-LEFT								50			50
19.03 NB-RGHT								228'			228
19.08 EB-THRU	500	0	5		8	19	36			280	1021
19.09 EB-RGHT								42			42
19.10 WB-LEFT								53			53
19.11 WB-THRU	75	1	2	0	4	4	129		1	198	439
20.M.KING-PETERS MNE											
20.04 SB-LEFT	- 5										7
20.06 SB-RGHT	5										7
20.07 EB-LEFT	5										7
20.08 EB-THRU	500	0	5		8	19	36	228		280	1249
20.11 WB-THRU	75	1	2	0	4	4	129	53	1	198	492
20.12 WB-RGHT	5										7
21.SL0ATS'BG-MA.KING											
21.01 NB-LEFT	35	1	2	0			80	38	1	106	275
21.02 NB-THRU	350	17	33	7					4		530
21.05 SB-THRU	20	3	18	14					9		70
21.0i SB-R6HT	40				4	4	49	15		92	217
21.07 EB-LEFT	460				8	19	11	45		74	775
21.0' EB-RSHT	- « -	0	5				"23	184		"70S-	481
22.GRN.LK.T-SKYLANDS											
22.07 NB-THRU	300	23	51	14			160	73	9	262	996
22.03 HB-RBMT	63										87
22.04 SB-LEFT	25										34
22.05 SB-THRU	400	4	36	27			42	217	22	330	1215
22.10 WB-LEFT	220										296
22.12 WB-RGHT	5										7
23.GRH.LK.T-SL0AT-BS											
23.04 SB-LEFT	45	4	23	14			25	184	9	206	523
23.06 SB-RGHT	5										7
23.07 EB-LEFT	15										20
23.08 EB-THRU	"380	1	14	14			17	33	13	124	"725
23.11 WB-THRU	75	5	16	7			80	35	5	156	406
23.12 WB-RGHT	225	18	35	7			80	38	4	106	590
24.SL0ATS-CARLT-DALE											
24.02 NB-THRU	1S5	18	35	7			80	38	4	106	536
24.03 NB-RGHT	5										7
24.04 SB-LEFT	40										54
24.05 SB-THRU	45	4	23	14			25	184	9	206	523
24.10 WB-LEFT	5										7
24.12 WB-RGHT	155										208
25.CQNKLN-CANTERBURY											
25.04 SB-LEFT	50										67
"™ 25.56 "SB-RGHT	—no—										"ITS'
25.07 EB-LEFT	20										27
25.08 EB-THRU	100	2	12	9	12	35			14		219
25.11 WB-THRU	140	11	23	5	4	7			6		243
25.12 WB-RGHT	20										27
26.STRL.C0M-STRL.RES											
26.0! EfiSTBND"										28	28
26.02 WESTBND										16	16

1983 EXISTING BACKGROUND TRAFFIC EXPANDED AT 3X PER YEAR TO 1993 BACKGROUND TRAFFIC
BACKGROUND TRAFFIC PLUS TRAFFIC GENERATED BY SITE DEVELOPMENT AS PROPOSED BY OTHERS

A.fi. PEfiC HOUR

NETWORK ASSIBNMENT

SITE TBCFFlf. THROUGH INTERSECTIONS

MOVEMENT	EXI! ING GRNlTcNT AM DATA	BLOCK 75 SITE 1	BLOCK 87 SITE 2	BLOCK BO SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITE 5	BLOCK 60 SITE 6	BLOCK 50 SITE 7	BLOCK 80 SITE 8	STERLING SITE 9	FUTURE TOT VOL
1.SKYLINE-COUNTRY E											
1.02 HB-THRU	125		33	18	9	11	63	49	19	135	506
1.03 NE-RGHT"		10									10-
1.04 SB-LEFT		4									4
1.05 SB-THRU	1200	27	95	9	23	60	21	145	9	216	2217
1. 10 WB-LEFT		27									27
1.12 WB-RGHT		27									27
2.SKYLINE-C0NKLN'TN											
2.01 NB-LEFT	25	8			4	7					52
2.02 MB-THRU	100	19	33	18	5	5	63	49	19	135	480
2.05 SB-THRU	900	30	95	9	11	26	21	145	8	216	1769
2.06 SB-RGHT "	25	3	23	5					6		70
2.07 EB-LEFT	35	1	12	9					14		S3
2.09 EB-RGHT	300	1			12	35					452
3.SKYLINE-CHESHIRE"											
3.02 NB-THRU	130	19	45	27	5	5	63	49	33	135	556
3.03 NB-RGHT	5	·1									8
3.04 SB-LEFT	5	5									11
3.05 SE-TKRU	915	3	117	14	11	26	21	145	14	216	1795
3.10 WB-LEFT	10	30									44
3.12 WB-RGHT	"TO"	19									•—33-
4.SKYL1NE-FIELD'STN											
4.01 NB-LEFT	30	1	2	27							70
4.02 NB-THRU	210"	36	83		5	5	63	50	33	136	693
4.03 NB-RGHT	5	0	1								8
4.04 SB-LEFT	10										13
4.05 SB-THRU	"560	7	61		11	27	21	"147	14	220	1260
4.06 SB-RGHT	20			50		0		t	0		78
4.07 EB-LEFT	20			25	0	0	0	1	0	1	54
4.08 EB-THRU	5		0	0							7
4.09 EB-RGHT	50	0	0	14							81
4.10 WB-LEFT-^	65	0	0								88
4.11 WB-THRU	10"			• 0							13
4.12 WB-RGHT	30										40
5. SKYLINE-SITE 2 DR											
5.01 NB-LEFT											
5.02 NB-THRU	245	37		27	5	5	63	49	33	135	683
5.03 NB-RGHT		1	45								46
5.04 SB-LEFT	675		"62"	0	0	1	0	—r	0	4	977
5.05 SB-THRU		7		14	11	26	21	145	14	216	452
5.06 SB-PGHT											
5.07 EB-LEFT											
5.09 EB-THRU											
5.09 EB-RGHT											
5.10 WB-LEFT		0	117								118
5.11 WB-THRU											
5. 12 WB-PGi\T			85	0	0	0	0	1	0	1	B8
•..• YLINE-I'.NOLLHOCD											
t.OI NB- LEFT		3	5	0					33		41
i.OI NB-THPU	280	32	' 77	25	5	5	63	52		139	775
6.ii5 3P-THFU	680"	6	"SO"	50	12	"29"	21	T53"		~228	-1473
i.'" SE-'i»iT					1	3	1	8	44	12	70
I.'" Rs.'EFT					0	1	0	3	19	4	26
•. **r: "-IT		1	1	0					IJ —	-	is
7.04 SB LEFT	200										269
7.0a SB-RGHT	80										108
*.•>? II irrr	33										47
7.08 EB-THRU	410	6	60	50	13	33	22	161	44	240	1180
7.11 WB-THRU	210	32	77	25	6	6	63	55	19	142	707
7.IT WB-RGHT	65										87
B.GSN.U.TP-SmiNE											
8I62 NB-THRU	150						97	18		120	437
8.03 NB-RGHT	150	2	24	23	13	33			23		318
8.14 SB-LEFT	450	4	36	27			22	161	22	240	1117
8.03 SF-THPU	160						20	56		90	380
B.10 WB-LEFT	125	9	25	11	6	6			10		235
8.12 NB-RGHT	180	23	51	14			63	55	9	142	599
".GRN.LK.TP-W.BROOK											
9.01 NB-LEFT	20				8	11					45
9.02 NP-THRU	160	2	15	14			97	18	14	120	495
9.05 SB-THRU	260	8	20	7			20	53	6	90	552
9.06 SB-RGHT	10	1	6	5	6	6		3	4		43
9.07 EB-LEFT	90	0	9	9	13	33			9		193
9.09 EB-RGHT	120				21	57"					"239"
10.W.BR0OK-ST0NETOWN											
10.04 SB-LEFT	40				34	89					177
10.06 SB-RGHT	5""				1	[	0			11	21
10.07 EB-LEFT	5				1	0	0	1		50	59
10.08 EB-THRU	120	0	9	9					9		188
10.11 WB-THRU	35	1	6	5				3	4		65
10.12 WB-RGHT	10				13	17					43
11.ST0NET0WN-B1O0L16											
11.01 NB-LEFT					14						14
11.02 HB-THRU	20					17	0	1		50	95
11.05 SB-THRU	50					91	0			11	16 9
11.06 SB-RGHT					7						7
11.07 EB-LEFT					13						13
11.09 EE-RGHT					35						35
12.ST0NETCWN-MAGEE											
12.01 NB-LEFT						17					17
12.02 NB-THRU	20				13		0	1		50	90
12.05 SB-THRU ""	50				7		0			11	"36
12.06 SB-RGHT						5					5
12.07 ES-LEFT						26					26
12.0? EB-RGHT						91					9!
n.FIELD'fl-SHDP.CTRS											
13.01 NB-LEFT											
13.02 NB-THRU											
13.03 NB-RGHT											
13.04 SB-LEFT	5										7
13.05 EB-THRU											
13.06 SB-RGHT	20	0	0	0							27
13.07 EB-LEFT	5	0	1	0							8
13.08 EB-THRU	15										20
13.09 EB-RGHT											
13.10 WB-LEFT											
t3.fi WB-THRU	75										101
13.12 HB-RGHT	5										7
14.6RN.LK.TP-ST0ITTN											
14.01 NB-LEFT	5										7
14.02 NB-THRU	70	5	16	7			80	35	5	t56	399
14.03 SB-THRU	270	1	14	14			17	33	13	124	577
14.06 SB-RGHT	10				7	5	0			11	37
14.07 EB-LEFT	40				13	26	0	1		50	143
14.09 EB-RGHT	40										54
I5.GRN.LK.TP-MA.KINB											
15.02 NB-THRU	85	3	11	7	3	3			4		146
15.03 NB-RGHT	50	2	5	0	9	22	80	36	1	206	429
• —I5.0-4- SB-LEFT	420						24	3	•""52		"E44
15.05 SB-THRU	325	1	14	14	3	1			9		477
15.10 WB-LEET	15	0		0	4	4	17	33	4	135	218
15.12 WB-RGHT	45						5	8		19	93
li.M.KlNG-STRL.F.COM											
16.04 SB-LEFT							0	3		88	91
16.06 SB-RGHT		0				1				88	89
16.07 EB-LEFT		2	5	0	1	3			1	159	172
16.08 EB-THRU	500				8	19	104	39		99	941
16.11 WB-THRU	75			0	4	4	22	42	4	66	242
16.12 WB-RGHT		1	2	0			1	8	1	87	99
17.M.KIN6-STRL.F.RES '											
17.04 SB-LEFT		0	5							192	198
17.06 SB-RGHT				0	0				4	66	71
17.07 EB-LEFT										99	99
17.08 EB-THRU	500				8	19	104	42		88	933
17.11 WB-THRU	75	1	2	0	4	4	22	50	1	87	271
17.12 WB-RGHT										111	111
18.M.KINS AV-B601L128.13											
18.04 SB-LEFT							36				36
18.06 SB-RGHT							22				22
18.07 EB LEFT							104				"i"04
18.08 EB-THRU	500	0	5		8	19		42		280	1026
18.11 WB-THRU	75	1	2	0	4	4		50	1	198	360
13.12 HB-RGHT							129				129
19.M.KING AV-B508L2											
19.01 NB-LEFT								50			50
19.03 NB-RGHT								228			228
19.08 EB-THRU	500	0	5		8	19	36			280	1021
19.09 EB-RGHT								42			42
19.10 WB-LEFT								53			53
19.11 WB-THRU	75	1	2	0	4	4	129		1	198	439
20.M.KING-PETERS MNE											
20.04 SB-LEFT	5										7
20.06 SB-RGHT	5										7
20.07 EB-LEFT	5										7
20.08 EB-THRU	500	0	5		8	19	36	228		280	1249
20.11 WB-THRU	75	1	2	0	4	4	129	53	1	198	492
20.12 WB-RGHT	5										7
21.SL0ATS'BG-MA.KING											
21.01 NB-LEFT	35	1	2	0			80	38	1	lilt	275
21.02 NB-THRU	350	17	33	7					4		5?0
21.05 SB-THRU	20	3	18	14					9		-D
21.04 SB-RGHT	40				4	4	49	15		82	217
21.07 EB-LEFT	460				8	19	11	45		14	775
21.09 EB-RGHT	45	0	5				25	184		206	481
22.GRN.LE.T-SKYLANDS											
22.02 NB-THRU	300	23	51	14			160	73	9	262	994
22.03 HB-RGHT	65										87
22.04 SB-LEFT	25										34
22.05 SB-THRU	400	4	36	27			42	217	22	330	1215
"22.10 "WB-LEFT	220										296
22.12 HB-RGHT	5										7
23.6RN.LK.T-SL0AT'BG											
23.04 SB-LEFT	45	4	23	14			25	184	""?	206	523
23.06 SB-RGHT	5										7
23.07 EB-LEFT	15										20
"23.08 EB-THRU	380	1	14	14			17	33	13"	124	725
23.11 WB-THRU	75	5	16	7			80	35	5	156	406
23.12 WB-RGHT	225	18	35	7			80	38	4	106	590
24.SL0ATS-CARLT'DALE											
24.02 NB-THRU	185	18	35	7			80	38	4	106	536
24.03 NB-RGHT	5										7
• 24.04 SB-LEFT	40										54
24.05 SB-THRU	45	4	23	14			25	184	9	206	523
24.10 WB-LEFT	5										7
24.12""HB-RGHT	155										208
25.C0NKLN-CANTERBURY											
25.04 SB-LEFT	50										67
25.06 SB-RGHT	110										148
25.07 EB-LEFT	20										27
25.03 EB-THRU	100	2	12	9	12	35			14		219
25.11 WB-THRU	140	11	23	5	4	7			6		243
25.12 WB-RGHT	20										27
26.STRL.CDM-STRL.RES											
26.0fEASTBND										28	28
26.02 WESTBND										16	16

R1NGK00D, N. J. - TRAFFIC STUDY BY JOHN E. CHRIST, P.E. SITE DEVELOPMENT PROPOSED BY OTHERS
P.M. TEAK HOUR DEVELOFMEMT UMTS, TRIP RATES, & DIRECTIONAL DISTRIBUTION

SITE DEVELOPMENT TRAFFIC ESTIMATION SPREAD SHEET

BACKGROUND GROWTH: 3% PER YR
YEARS = 10 GRTH FCTR 1.343916

TF.IF GENERATION

INDEF Vflfr	UNITS	TRIP RATE PH-IN FACTOR	TRIP RATE PM-OUT FACIOJ?	VEH. TRIPS PM-IN VOLUME.	VEH. TRIPS PM-OUT VQ.LU)1E.
BLOC! 752 LOT 1:	SITE 1				
SINGLE FfiN RES	0	0	0	0	0
TOWNHOUSE	280	.17	.18.	104	50
RESERVED	0	0	0	0	0
TOTAL				104	50
BLOCK B77 LOT 16:	SITE 2				
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	150	.37	.18.	..147	.81.
COMMERCIAL	140	2.9	3.1	406	434
RESERVED	0	0	0	0	0
TOTAL				573	515
BLOCK BOOA LOT 3:	SITE 3				
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	0	0	0	0	0
AFARTMENTS	0	0	0	0	0
COMMERCIAL	150	2.?..	JLJL	435	465
RESERVED	0	0	0	0	0
TOTAL				435	445
BLOCK 100 LOT U:	SITE 4				
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	95	.37	.18	35	17
COMMERCIAL	20	5.77	5.81	115	116
RESERVED	0	0	0	0	0
TOTAL				151	133
BLOC': 201 LOT 31:	SITE 5				
SINGLE FAM RES	0	0	0	0	0
TOWNHOUSE	314	.37	.18	116	57
COMMERCIAL	0	0	0	0	0
INDUSTRIAL	0	0	0	0	0
RESERVED	0	0	0	0	0
TOTAL				116	57
BLOCK 601 L.12&13:	SITE 6				
SINGLE FAM RES	0	0	0	0	0
TWO FAMILY RES	53	.4	.2	21	11
TOWNHOUSE	0	0	0	0	" 0
INDUSTRIAL	30	2	10	' 60	300
RESERVED	0	0	0	0	0
TOTAL				81	311
BLOCK 508 LOT 2:	SITE 7				
SINGLE FAM RES "	0"	"" 0	0	0	0
MOBILE HQfE PRK	732	.29	.18	212	132
,^_.,-iKDyS.IEJ.fiL-.-.,_	0	0	. 0	0	0
RESERVED	0	0	0	0	0
TOTAL				212	132
BLOCK 800 LOT 2:	SITE 8				
AFARTMENT-1 FAM	0	0	0	0	0
COMMERCIAL	0	0	0	0	0
MUN.OFFICE-LIBR	30	2.5	2.5	75	75
HUN. D.P.W.	11	.5	1	6	11
PARK/RIDE LOT	60	.5	1	30	60
TOTAL				111	146
STERLING FOREST TR	SITE 9				
SINBLE FAM RES	350	.63	.37	221	130
TOWNHOUSE	220	.37	.18	81	40
APARTMENT	300	.4	.2	120	60
CDtiMERCIAL	100	2.1	2.2	210	220
DFFICE-LA8	250	.24	1.63	60	408
TOTAL				692	857

TRIP DISTRIBUTION — PERCENT OF SITE TRAFFIC TO/FROM CORDON POINTS BY USE

COMPONENT	SKYLINE SOUTH-E	CONKL'TN SOUTH	GRN.LK.T SOUTH	H.BROOK WEST	GRN.LK.T N-WEST	SLOAT'BG NORTH	FLD.SHOP EXIS N-E	NEW SHOP S-E S 2	MUN.SITF WEST	RING SHP WEST	STRL FOR NORTH CM	TOTAL
BLOC! 752 LOT 1: SITE 1												
PERCENT:												
SINGLE Ffi« RES	0	0	0	0	0	0	0	0	0	0	0	0
TGUNHO'JSE	49	9	7	1	2	14	4	4	3	4	3	100
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
FH- IN	51	9	7	1	2	15	4	4	3	4	3	104
PM-OUT	25	5	4	1	1	7	2	2	2	2	2	50
BLOCK 877 LOT 16: SITE 2												
PERCENT:												
SINGLE FAM RES	0	0	0	0	0	0	0	0	0	0	0	0
TOWNHOUSE	49	9	7 «	1	2	14	4	4	3	4	3	100
CD»MERCIAL	17	12	12	10	12	17	0	0	0	0	3	S3
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
PM-IN	151	64	60	42	52	92	7	7	5	7	17	503
PM-OUT	113	59	58	44	54	"83	3	3	2	3	15	441
BLOCK 800A LOT 3: SITE Z												
F'ERCENT:												
SINGLE FAM RES	0	0	0	0	0	0	0	0	0	0	0	0
TOWNHOUSE	0 "	 6	0	0	0	0	0	0	0	0	0	0
APrtRTHEMTS	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL	17	12	12	10	12	17	0	0	0	0	3	83
PESEfVED	0	0	0	0	0	—O	0	0	0	0	6	. .... ^
TPAfplC VOLS:												
PM-IN	74	52	52	44	52	74	0	0	0	0	13	361
PM-OUT	79	56	56	47	56	79	0	0	0	0	14	396
BLOCK JOO LOT 16: SITE 4												
PERCENT:												
SINGLE FAM RES	0	0	0	0	0	0	0	0	0	0	0	0
TOMMHOUSE	20	27	18	I	2	14	4	4	3	4	3	100
mMMERrrpi.	2ft	f!	!2	4	15	is	ft	n	n	n	r	79
RESERVED	0	0	0	0	0	0	0	0	0	0	0	0
TRAFFIC VOLS:												
FM-IN	30	23	20	6	18	22	1	1	1	1	1	126
PM-OUT	27	19	17	6	18	20	1	1	1	I	!	109
BLOCK 201 LOT Sis SITE 5												
PERCENT:												
SINBLE FA1 RES	0	0	0	0	0	0	0	0	0	0	0	0
TOWNHOUSE	20	27	18	1	2	14	4	4	3	4	3	100
COMMERCIAL	0	0	0	0	0	0	0	0	0	0	n	0
INDUSTRIAL	0	0	0	0	0	0	0	0	0	0	0	0
RESERVED	0	0	0	0	0	0	0	n	0	0	0	0
TRAFFIC VOLS:												
PM-IN	23	31	21	1	2	16	5	5	3	5	3	116
PM-OUT	11	15	10	1	1	a	2	2	2	2	?	57
BLOCK 601 L. 128,13: SITE 6												
PERCENT:												
SINGLE FAFI RES	0	0	0	0	0	0	0	0	0	0	0	0
TWO FAMILY RES	49	10	6	1	2	14	4	4	3	4	3	100
TOWNHOUSE	0	0	0	0	0	0	0	0	0	0	0	O
INDUSTRIAL	25	20	20	5	10	20	0	0	0	0	0	ioo
RESERVED	0	0	0	0	0	0	0	0	0	0.	0	0
TRAFFIC VOLS:												
PM-IN	25	14	13	3	6	15	I	1	1	I	1	81
PM-OUT	80	61	61	15	30	61	0	0	0	0	0	311
BLOCI' 508 LOT 2: SITE 7												
PEfcCEMT:												
SIHCLE FfiM RES	0	0	0	0	0	0	0	0	0	0	0	0
- MOBILE HOME PRK	49	10	6	1	2	14	4	4	3	4	3	100
INDUSTRIAL	0	0	0	0	0	" 0	0	0	0	0	0	0
RESERVED	0	1)	0	0	0	0	0	0	0	0	0	O
TRAFFIC VOLS:												
PM-IN	104	71	13	2	4	30	8	8	6	8	6	21.2
PM-OUT	63	13	8	1	3	18	3	5	4	5	4	132
BLOCI' 800 LOT 2: SITE 9												
PERCENT:												
APARTMENT-1 FAM	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL	0	0	0	0	0	0	0	0	0	0	0	0
MUN.OFFICE-LIBR	25	20	20	10	10	10	0	0	0	0	3	98
MUN. D.P.W.	25	70	20	10	10	10	0	0	0	0	3	98
PARK/RIDE LOT	20	15	15	10	10	10	0	0	0	0	3	83
TRAFFIC VOLS:												
PM-IN	26	21	21	11	11	11	0	0	0	0	3	104
PM-QUT	34	2b	26	15	15	15	0	0	0	0	4	134
STERLING FOREST TR												
PERCENI:												
SINGLE FAM RES	42	8	5	1	2	It	4	4	3	4	3	87
TOWNHOUSE	42	8	5	1	2	11	4	4	3	4	3	87
APARTMENT	42	8	5	1	2	11	4	4	3	4	3	B7
COMMERCIAL	15	10	15	5	15	15	5	5	0	5	5	95
OFFICE-LAB	15	10	15	5	15	15	5	5	0	5	5	95
TRAFFIC VOLSs												
PM-IN	218	61	62	18	49	87	30	30	13	30	26	624
PM-QUT	190	fll	106	34	99	119	41	41	7	41	39	72f

199? EXISTING BACKGROUND TRAFFIC EXPANDED AT 37. PER YEAR TO 1993 BACKGROUND TRAFFIC
Si.rA.GROUND TRAFFIC PLUS TRAFFIC GENERATED BY SITE DEVELOPMENT PROFOSED BY OTHERS

P.M. ftfll' HOUR
PY JOMN F. CHRIST, P.E.
NETWORK ASSIGNMENT
SXTiJLR&EF_l£_j:HRQUGH_UlI£fiS££liQlJ5

HCVEflrtlT	EXISTING GRND CNT PM DATA	BLOCK 75 SITE 1	BLOCK 87 SITE 2	BLOCK 80 SITE 3	BLOCK 10 SITE 4	BLOCK 20 SITE 5	BLOCK 60 SITE 6	BLOCK 50 SITE 7	BLOCK 80 SITE 8	STERLING SITE 9	FUTURE TOT VOL	
!.[?:LINE-COUNTRY F.												
1.02 NB-THPri	1450		15J	74	53	55	25	104	26	218	2655	
1.03 NP-FGHT		51									51	
1.C4 SB-LEFT		21									21	
1.05 SB-THRU	253	12	113	79	45	27	80	65	74	190	995	
!.10 WB-LEri		12									12	
!. 12 «F-RGI'T		14									14	
2.SI YLINE-CONI'LN'TN												
2.01 NB-LEFT	200	3			23	31					327	
2.02 NB-THRU	1250	11	151	74	30	23	25	104	26	218	2342	
2.05 SB-THRU	200	28	113	79	27	11	80	65	34	190	896	
2.04 SB-RGHT	70	1	5?	56					26		237	
2.07 EP-LEFT	40	4	64	52					21		194	
2. 09 EB-RGHT	50	6			19	15					107	
3.SIVLINE-CHESHIRE												
3.02 NB-THRU	1255	11	214	126	30	23	25	104	47	218	24B5	
:.03 H8-RGHT	.15	.4									24	
:.[>4 SB-LEFT	10	28									42	
:.05 SE-THRU	265	15	173	135	27	11	80	65	60	190	1112	
3.10 WB-LEFT	5	14									20	
3.12 WB-RGHT	5	H									17	
4.srvllNE-FIELD'STN												
1.01 HB-LEFT	48	2		126							193	
4.02 NB-THRU	736	16			30	23	25	104	47	218	1453	
1.03 NB-RGHT	56	3	214								292	
4.04 SB-LEFT	32		269		1	2	0	5	0	41	361	
4.05 EB-THRU	195	31			27	11	80	65	60	190	726	
4.06 SB-RGHT	20			222		1		2	0		251	
4.07 EP-LEFT	31			251	1	5	!	8	<L	30	339	
-1.08 E8-THRU.	16		7	0							28	
1.09 EB-RGHT	39	4		135							191	
•1.10 WS-LEFT	89	8	173								301	
4.11 WB-THRU	23			0							34	
4 . 1 2 WB-RGHT		4 4		259		1 5		1 8	0	30	364	
5. RESERVED												
5.0! NB-LEFT												
5.02 NB-THRU												
5.03 NB-RGHT												
5.04 SB-LEFT												
5.05 SB-THRU												
5.06 SB-RGHT												
5.07 EB-LEFT												
5.08 EB-THRU												
5.09 EB-RGHT												
5.10 WB-LEFT												
5. 11 WB-THRU												
5.12 WE-REHT												
I>.?'YLIME-KNOLLHQOO												
6.01 NB-LEFT		2	2	0					47		51	
4.02 NB-THRU	670	14	256	251	34	37	28	129		309	1959	
6.05 EB-THRU	304	28	264	235	29	18"	81	80		312	1456	
6.06 SB-RGHT					I	2	0	4	57	7	70	
6.07 EP-LEFT					1	3	1	6	74	13	99	
6.09 EP-FGHT		2	5	2					60		68	
7.SiYLIME-ERSKINE												
7.01 Sfi-LTFT	<n										130	
7.04 SS-PGHf	40										54	
7.07 ES-IEFT	59										79	
7.08 EB-THRU	207	28	264	235	29	20	82	84	57	319	1396	
7.11 WB-THRU	458	14	256	251	35	41	29	136	74	321	1773	
7.12 WB-RGHT	212										285	
B.GRNJ.K.TP-SK.Y.LIVE												
8.02 NB-THRU	180						27	34		122	426	
8.03 NB-RGHT	190	8	103	96	29	20			32		543	
8.04 SB-LEFT	250	20	162	139			82	84	25	319	1167	
B.05 SB-THRU	200						122	22		187	600	
8.10 WB-LEFT	140	4	102	102	35	41			41		513	
8.12 WB-RGHT	350	10	154	149			29	136	34	321	1303	
9.GRN.LK.TP-N.BR0DK												
9.01 NB-LEFT					44	52					96	*
9.02 NB-THRU		7	60	52			27	34	21	122	324	*
9.05 SB-THRU		4	58	56			122	21	26	187	473	*
9.06 SB-RGHT		1	44	47	35	41		1	15		183	*
9.07 EB-LEFT		1	42	44	29	20			11		147	*
9.09 EB-RGHT					36	25					61	*
10.K.BR00K-STONETOWN												
10.04 SB-LEFT					65	45					110	*
10.06 SB-RGHT					6	1	15			34	55	*
10.07 EB-LEFT					6	1	3	2		18	30	*
10.08 EB-THRU		1	42	44					11		98	*
10.11 HE-THRU		1	44	47				1	15		107	*
10.12 WB-RGHT					79	93					172	*
11.ST0NETOWN-B100L16												
11.01 NB-LEFT					85						85	*
11.02 NB-THRU						94	3	2		18	117	*
11.05 SB-THRU						46	15			34	95	*
11.06 SB-RGHT					41						41	*
11.07 EB-LEFT					38						38	*
11.09 EB-RGHT					71						71	*
12.ET0NET0WN-HAGEE												
12.01 NB-LEFT						94					94	*
12.02 NB-THRU					38		3	2		18	61	*
12.05 EB-THRU					41		15			34	90	*
12.06 SB-RGHT						22					22	*
12.07 EB-LEFT						11					11	*
12.09 EB-RGHT						46					46	*
15.FIELD-N-SHOP.CTRS												
13.01 NB-LEFT		4	435	0	1	5	1	8	0	30	485	
13.02 NB-THRU			3								3	
13.03 NB-RGHT											0	
13.04 EB-LEFT	11										15	
13.05 SB-THRU			7								7	
13.04 SB-RGHT	134	4		0							184	
13.07 EB-LEFT	21	1		0							29	
13.09 EB-THRU	83										U:	
13.0? EB-RGHT		2	490	0	1	2	0	5	0	41	541	
13.10 HB-LEFT											0	
13.11 M8-THRU	21										2S	
13.12 WB-RGHT	5										7	
M. GRN.LK. TP-STON-TN												
14.01 NB-LEFT											-- u-	
14.02 NB-THRU		2	65	66			27	80	18	257	514	*
14.05 SB-THRU		3	52	65			89	13	14	179	414	*
14.06 SB-RGHT					41	22	15			34	112	*
14.07 EB-LEFT					38	11	3	2		13	72	*
14.09 EB-RGHT											0	
15.GP.N.LK.TP-HA.KIHS												
15.02 NB-THRU	378	1	54	56	18	I			15		652	
15.03 NB-RSHT	13	1	11	10	:O	10	31	82	3	775	459	
15.04 SB-LEFT	127						6	4		49	2V)	
15.05 qR-TUPII		2	52	52	1?	2			11		229	
is.ia na-i.EEi.	17	1		13	23.	20	104	13	3	212	413	
15.12 NB-RGHT	387						30	3		99	652	
16.M.KINS-STRL.F.C0M												
16.04 SB-LEFT							1	6		213	220	
16.06 SB-RGHT		1				3				196	201	
16.07 EB-LEFT		1	11	10	1	2			3	128	155	
-l6*.0B. £B.rTHP.U.	140				20	8	37	86		JL25	534	
16.11 HB-THPU	404			13	23	16	134	16	3	115	864	
16.12 WB-RGHT		0	5	4			0	4	1	109	124	
17.M.KfNG-STRL.F.P.ES												
17.04 SB-LEFT		2	17							233	253	
17.06 SB-RGHT				13	1				3	115	132	
17.07 EB-LEFT										195	195	
17.08 EB-THRU	140				20	8	38	92		213	559	
17.11 WB-THRU	404	0	5	4	22	16	135	20	1	109	855	
17.12 WB-RGHT										165	165	
18.M.KING AV-B601L12M3												
18.04 SB-LEFT							176				176	
18.06 SB-RGHT							135				135	
18.07 EB-LEFT							38				38	
18.08 EB-THRU	140	2	17		20	8		92		446	774	
18.11 WB-THRU	404	0	5	4	22	U		20	1	274	886	
18.12 WB-RGHT							43				43	
• 19.M.KING AV-B508L2												
19.01 NB-LEFT								20			20	
19.03 NB-RGHT								112			112	
19.08 EB-THRU	140	2	17		20	8	176			446	857	
.19.09 EB-RGHT								92			92	
19.10 HB-LEFT								120			120	
19.11 WB-THRU	404	0	5	4	22	16	43		1	274	909	
20.M.KING-PETERS tiNE												
20.04 SB-LEFT	5										7	
20.06 SB-RGHT	5										7	
20.07 EB-LEFT	5										7	
20.08 EB-THRU	140	2	"17		20	8	176	112		446	,969	
20.It WB-THRU	404	0	5	4	22	16	43	120	1	274	1029	
20.12 WB-RGHT	5										7	
21.SL0ATS'B6-MA.KING												
21.01 HB-LEFT	55	0	5	4			29	90	1	187	390	
21.02 NB-THRU	39	7	85	79					15		238	
21.05 SB-THRU	201	15	92	74					11		462	
21.06 SB-RGHT	354				22	16	15	30		87	646	
21.07 EB-LEFT	54				20	8	61	18		119	5.00	
21.09 EB-RGHT	61	-1.	T7				114	94		327	636	
22.GRN.LK.T-SKYLANDS												
22.02 HB-THRU		10	154	149			56	170	34	444	1016	*
22.03 NB-RGHT											0	
22.04 SB-LEFT											0	
22.05 SB-THRU		20	162	139			203	107	25	505	1162	*
22.10 HB-LEFT											0	
22.12 WB-RGHT											0	
23.GRN.LK.T-SL0AT'BS												
23.04 SB-tEFT	159	17	110	74			114	94	11	327	960	
23.06 SB-RGHT	4										5	
23.07 EB-LEFT	5										7	
23.08 EB-THRU	131	3	52	65			89	13	14	179	592	
23.11 WB-THRU	491	2	65	66			27	80	18	257	1174	
23.12 WB-PGHT	78	8	90	83			29	90	16	187	607	
24.SL0fiT3-CAFLT'DflLE												
24.02 T1B-THF.U	56	8	90	83			29	90	16	187	577	
14.03 MB-RGHT	15										20	
21.04 5B-LEFT	156										210	
24.03 SB-THPU	183	17	110	74			114	94	11	327	992	
24.10 WE-LEFT	11										15	
24.tT HP F(HT	48										65	
25.COHILN-CANTERBURY												
25.04 SB-LEEI	33										44	
25.06 SB-RGHT	24										32	
-25.07 EB-LEFT	30										40	
25.0B EB-THRU	114	9	64	52	19	15			21		333	
25.11 WB-THRU	91	5	59	56	23	31			26		323	
25.12 WB-RGHT	55										74	
-26,.SIRL.COM-STRL.RES												
26.01 EASTBND										26	26	
26.02 WESTBND										38	38	

* NEW TRAFFIC ONLY