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MSC Land Use

Waverly Park Neighborhood Traffic Circulation Study

Conducted by the Duluth-Superior Metropolitan Interstate Committee
June 1995 to November 1995

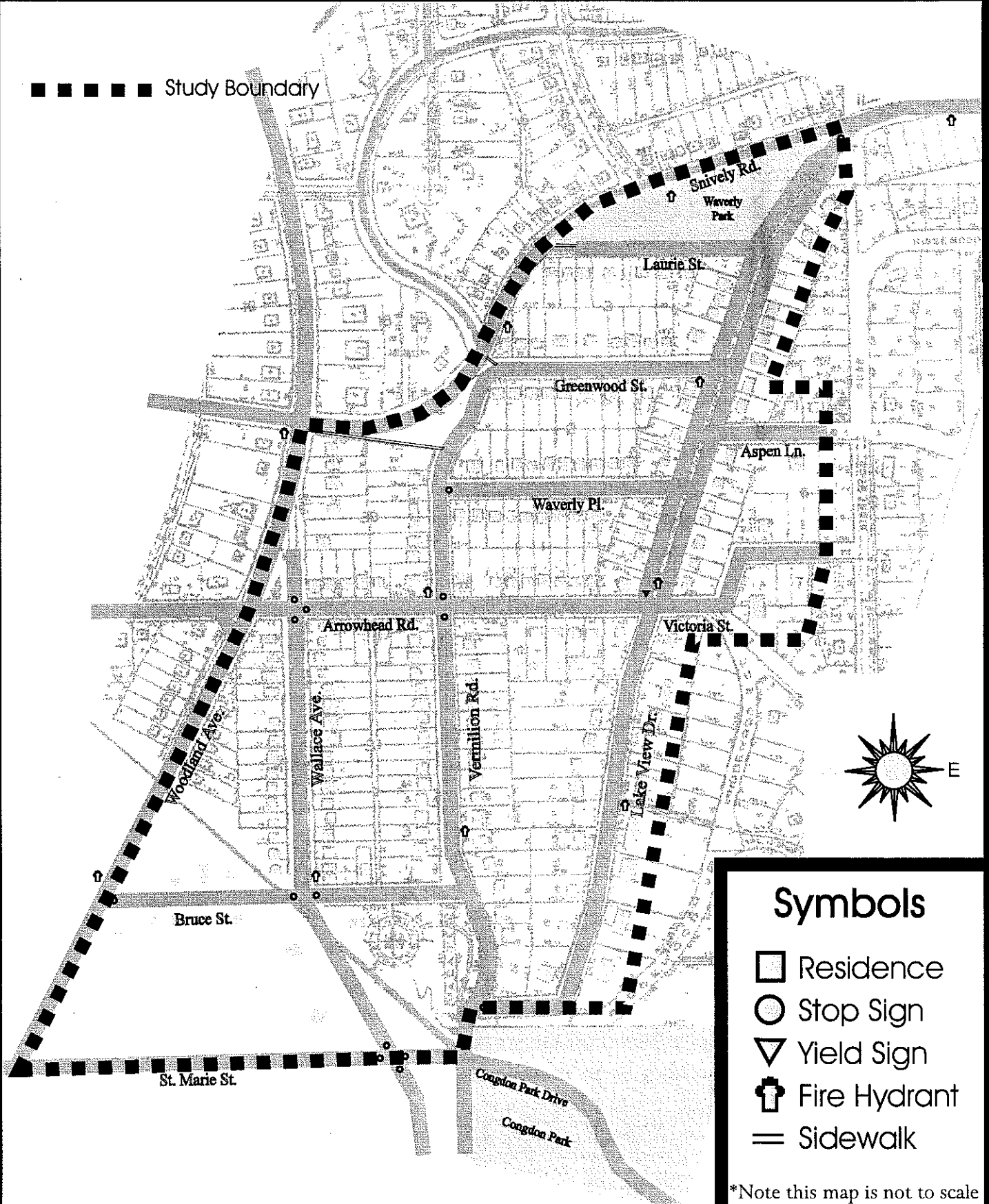
Final Report - December 1995

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Waverly Park Study Area

■ ■ ■ ■ ■ Study Boundary



Symbols

-  Residence
-  Stop Sign
-  Yield Sign
-  Fire Hydrant
-  Sidewalk

*Note this map is not to scale

MIC Neighborhood Traffic Circulation Study Process

- 1. Study Notice Distributed (June 1995)**

A notice and questionnaire were delivered to approximately 200 residential units in the neighborhood. The notice explained the purpose of the study and what will occur after recommendations have been developed. A list of contacts was also included for residents to call with questions and concerns.
- 2. Neighborhood Questionnaire (June 1995)**

Questionnaires were distributed with the notices. Residents were asked to respond to questions and return the questionnaire in the postage-paid envelope provided. The questionnaire asked for street conditions that are important or are a concern, identified traffic problems in the neighborhood, what streets have the most through traffic, and neighborhood ideas in preventing through traffic.
- 3. MIC Initial Neighborhood Meeting (July 1995)**

The initial neighborhood meeting introduced the study to neighborhood residents, explained the purpose of the study and obtained neighborhood input on issues related to transportation in the neighborhood. Other agenda items included street assessments, agency roles, purpose of study, study objectives, initial goal, end goal, general principles, range of options, study boundary, data collection, survey results, and identification of important transportation issues.
- 4. Meeting Follow-up (August-September 1995)**

Meeting results were reviewed. An additional through movement survey was conducted in September to coincide with school traffic. Possible alternatives to traffic flow were developed based on study findings and resident input.
- 5. MIC Mid-study Neighborhood Meeting (October 1995)**

The mid-study neighborhood meeting presented results of the traffic movement surveys. Residents were also provided an opportunity to discuss possible alternatives in a group setting and attempt to form a consensus. Alternatives were based on the survey results and neighborhood participation. Other items included review of the study's purpose, roadway

functions, traffic movement surveys, and alternatives to traffic flow.

6. Meeting Follow-up (October 1995)

Meeting results were reviewed. Recommendation scenarios based on meeting results, group comments and survey results were developed for review.

7. MIC Final Neighborhood Meeting (November 1995)

The final neighborhood meeting provided neighborhood residents an opportunity to comment on recommendation scenarios. Residents also had an opportunity to review neighborhood analysis of potential alternatives, review recommendation scenarios, and provide comments in development of final recommendations.

8. Final Recommendations (November 1995)

Final recommendations in controlling traffic flow are based on questionnaire results, through traffic movement analysis, and neighborhood resident participation. The final recommendations were developed by neighborhood consensus at the final meeting. The final recommendations represent a compromise that all found acceptable.

Waverly Park Neighborhood Traffic Circulation Study Recommendations

The following alternatives to controlling traffic flow are based on questionnaire results, through traffic movement analysis, and neighborhood resident participation. The following alternatives were found acceptable.

Recommendations

1. Synchronize traffic signals on Woodland Avenue at St. Marie Street, Arrowhead Road, and Snively Road to provide smoother traffic flow.
2. Provide dual left turn lanes on Snively Road at the Woodland Avenue intersection and possible widening of Snively Road at the intersection to accommodate the dual left turns.
3. Provide a designated right turn lane on northbound Woodland Avenue at the Snively Road intersection. Options in doing this include installing a median to provide a free right turn or designating the right lane through signage.
4. Install a median on Snively Road restricting left turns from Snively Road to Lake View Drive. An option includes providing a left turn cut through the median to allow traffic exiting Lake View Drive to turn left onto Snively Road. Another option includes developing the median to allow only right turns from Lake View Drive to Snively Road.
5. Install a median on St. Marie Street prohibiting entrance to Vermilion Road but allowing right turn exits from Vermilion Road.
6. Develop traffic circles within the neighborhood at the intersections of Arrowhead Road/Vermilion Road and Arrowhead Road/Lake View Drive. Consider a traffic circle at the intersection of Arrowhead Road/Wallace Avenue. Investigate other sites for possible traffic circles within the neighborhood. This includes Lake View Drive and Laurie Street.

These recommendations should be implemented with the reconstruction of neighborhood streets to ensure that local roadways are not burdened with additional through traffic movements.

MIC Initial Neighborhood Meeting

July 12, 1995

NOTICE

Neighborhood Traffic Circulation Study of Waverly Park to Occur This Summer

What is the Neighborhood Traffic Circulation Study?

The Duluth-Superior Metropolitan Interstate Committee, in cooperation with the City of Duluth Engineering Department, is conducting a Traffic Circulation Study of the Waverly Park neighborhood from June 1995 to September 1995. The study involves analyzing traffic patterns, reviewing transportation deficiencies, developing recommendations and alternatives, and meeting with the neighborhood. Results of the study will be used to identify alternatives, develop recommendations, and prioritize street improvements.

What will occur after recommendations have been developed?

Recommendations will be based on traffic movement analysis, survey results and your participation. The City of Duluth will be responsible for carrying out recommendations of this study.

How can I provide information?

Please fill out the enclosed questionnaire and mail it in the enclosed envelope by Friday, July 7, 1995. Your concerns and ideas concerning traffic in the Waverly Park neighborhood are important.

In addition, you can provide additional information and learn more about the study at a meeting scheduled Wednesday, July 12, 7:00 p.m. to 9:30 p.m., Glen Avon Presbyterian Church, 2105 Woodland Avenue. Results of the survey will also be shared.

Whom do I contact if I have any questions?

If you have any questions concerning the study please contact Scott Peters, Associate Planner, Arrowhead Regional Development Commission (ARDC), 330 Canal Park Drive, Duluth, MN 55802. Phone 722-5545. ARDC provides staff to the Metropolitan Interstate Committee and is responsible for conducting this study.

If you have any questions concerning neighborhood meetings please contact Ben Boo, 728-2977, Kris Larsen, 724-8423, or Mary Riley, 724-4925.

**Neighborhood Traffic Circulation Study
Waverly Park Meeting**

**Wednesday, July 12, 1995 at 7:00
Glen Avon Presbyterian Church, 2105 Woodland Avenue**

Participants:	Waverly Park neighborhood residents, ARDC Staff and City of Duluth Staff.
Purpose of the Meeting:	To introduce the study to neighborhood residents, explain the purpose of the study and obtain neighborhood input on issues related to transportation in the neighborhood.
Desired Outcome:	To inform neighborhood residents about the study and purpose. To receive input concerning transportation in the neighborhood. To clarify or address any neighborhood concerns.
Ground rules:	Appropriate time will be given to speak on issues. Please hold any comments until that time.

AGENDA

- | | |
|---|------------------|
| 1. Street Assessments and this Study | 7:00-7:10 |
| 2. Roles | 7:10-7:30 |
| 3. Purpose of Study, Study Objectives and Initial Goal | 7:30-7:40 |
| 4. End Goal, General Principles, and Range of Options | 7:40-7:50 |
| 5. Study Boundary and Data Collection | 7:50-8:00 |
| 6. Survey results/ID important issues (transportation related) | 8:00-8:45 |
| 7. Next step | 8:45-9:00 |

GENERAL PRINCIPLES

Basic Principles

The following basic principles will be recognized and used in considering any alternatives and potential recommendations.

1. Safety - for both vehicular and pedestrian traffic.
2. Efficiency of service - for all users.
3. Livability and amenities - especially as affected by traffic elements in the roadway circulation system.
4. Economy - of land use, construction and maintenance as affected by or related to the roadway circulation system.

Specific Principles

The following specific principles will be recognized and used in considering any alternatives and potential recommendations.

1. Adequate vehicular, bicycle and pedestrian access should be provided to all parcels.
2. Local street systems should be designed to minimize through traffic movements.
3. Street patterns should minimize excessive vehicular travel.
4. Street patterns should not detract from the efficiency of bordering streets.
5. Street patterns should not have to rely on extensive traffic regulations in order to function efficiently and safely.
6. Traffic generators within residential areas should be considered. For example, schools, churches, etc...
7. Planning and construction of residential streets should clearly indicate their function.
8. Local street systems should be designed for a relatively low volume of traffic.
9. Local street systems should be designed to discourage excessive speeds.
10. Pedestrian-vehicular conflict points should be minimized.
11. An adequate, but minimum amount of space should be devoted to street uses.
12. Appropriate provisions for transit, service, and emergency vehicles should be established.

RANGE OF OPTIONS

Leave - Leave the streets the same as they are today.

Reduce - Reduce access points. For example, develop cul-de-sacs on access points into the neighborhood.

Maximize - Maximize the obstacles for through traffic. For example, use traffic calming techniques such as diverters, chokers, and traffic circles.

Outside Neighborhood - Improve traffic flow on streets bordering the neighborhood by developing dual turn lanes, turn signals, and improving signal timing.

Expand - Expand access points. For example, provide access with Aspen and Victoria with the neighborhood to the east.

Purpose of this Study

The purpose of this study is to study traffic circulation patterns of specific neighborhood transportation systems, identify any transportation system deficiencies and develop recommendations that would improve traffic flow. The City of Duluth's Residential Street Improvement Program is also a component of the study. This neighborhood was chosen because the City has identified needed improvements to the roadways in the neighborhood.

Study Objectives

There are major objectives of this study in response to concerns expressed in returned surveys. These objectives are intended to further outline the purpose of the study.

1. An objective of this study is not to "move" traffic from Lake View Drive to Wallace Avenue, Vermilion Road or any other road. This study is not being conducted with any preconceived notions of what will be recommended, if any.
2. The objective of this study is not to create a private access neighborhood. An emphasis on access to the neighborhood is important. Limited access can have major drawbacks.
3. Potential recommendations of this study will not exclude any citizen from using any street. The public will have access to all public roads.



Initial Goal

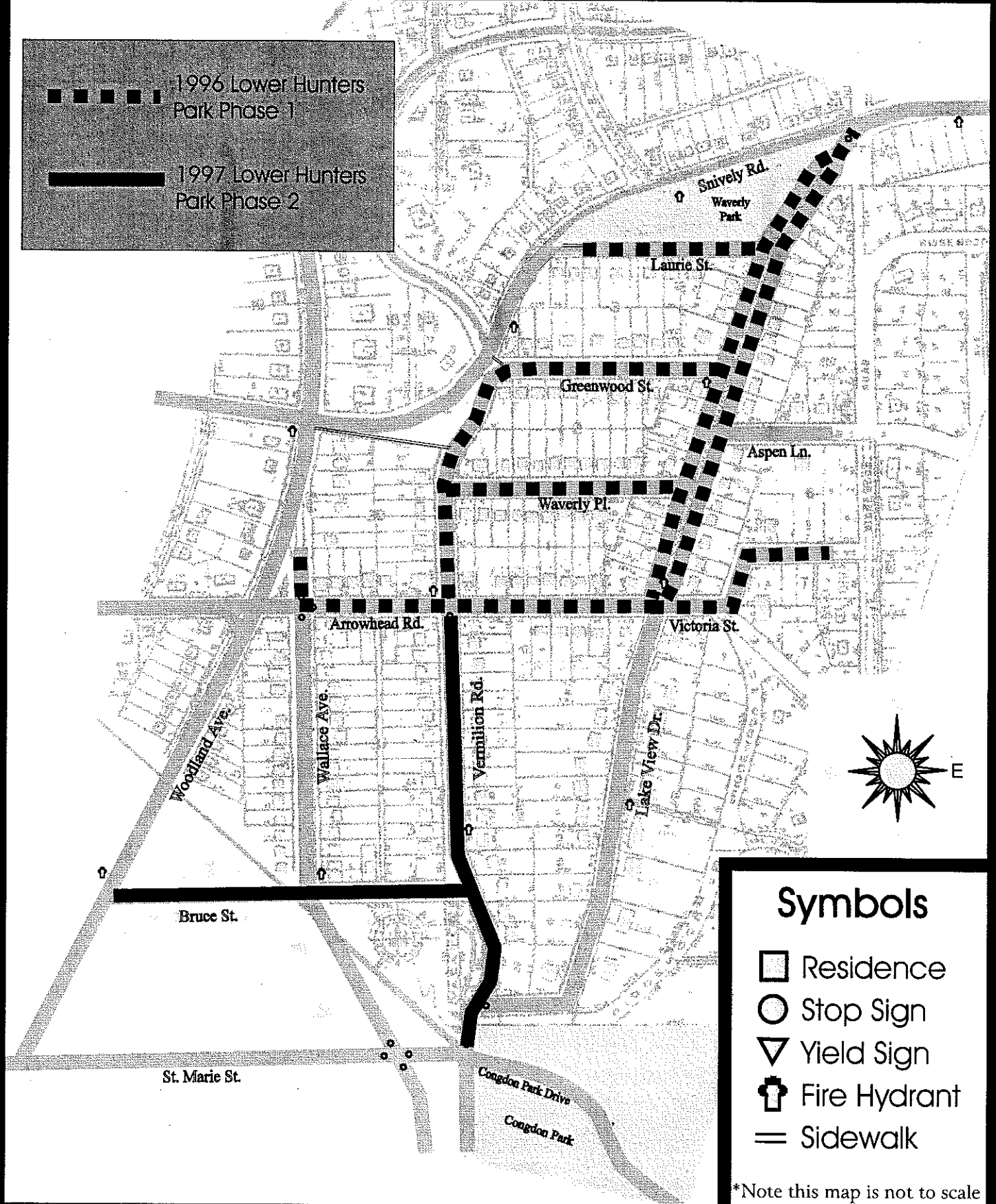
The initial goal of this study is to investigate alternatives encouraging traffic that does not have its origin or its destination in the neighborhood, to use roadways that provide a function that emphasizes mobility. Examples include Snively Rd., Woodland Ave., and St. Marie St. These roadways are wider, have higher speed limits, and are designed to carry higher volumes of traffic than local roadways.

End Goal






The end goal to identify and investigate the effects of potential recommendations and to recommend for implementation the most cost effective, aesthetically pleasing recommendations that do not physically divide the neighborhood, that do not significantly alter residents travel patterns, and that encourages through traffic to use appropriate roadways.

Waverly Park Roadway Improvements

 1996 Lower Hunters Park Phase 1
 1997 Lower Hunters Park Phase 2



Symbols

-  Residence
-  Stop Sign
-  Yield Sign
-  Fire Hydrant
-  Sidewalk

*Note this map is not to scale



Duluth-Superior **Metropolitan Interstate Committee**

Arrowhead Center • 330 Canal Park Drive • Duluth, Minnesota 55802 • 218/722-5545

August 2, 1995

Mark Wick
Duluth Police Dept. Traffic Bureau
403 City Hall
Duluth, MN 55802

Dear Mark:

The Arrowhead Regional Development Commission's (ARDC) Metropolitan Interstate Committee (MIC) is conducting a Neighborhood Traffic Circulation Study of the Waverly Park neighborhood in east Duluth. The purpose of the study is to identify traffic circulation patterns within the neighborhood, identify any deficiencies and develop recommendations that would improve traffic flow:

ARDC staff will be conducting through movement surveys, signal timing surveys, and traffic counts on neighborhood streets during the month of August. ARDC staff and interns will be on neighborhood streets with tape recorders, cameras, stop watches, and/or hand held traffic counting devices. This may appear suspicious to residents that do not know about the study.

Please advise the appropriate Police Department personnel of this study and survey work that ARDC will be conducting in the Waverly Park neighborhood.

Thank you for your help. If you have any questions feel free to call me.

Sincerely,

Scott Peters
ARDC Associate Planner

**Waverly Park Neighborhood Traffic Circulation Study
Neighborhood Questionnaire**

Please answer the following questions and mail in the attached envelope.

1. Place a check next to street condition(s) that are important to you or you are concerned with in your neighborhood. Additional space has been provided for any comments you may have.

- | | | |
|---|--|--|
| <input type="checkbox"/> street widths | <input type="checkbox"/> street conditions | <input type="checkbox"/> curbs & gutters |
| <input type="checkbox"/> storm sewers | <input type="checkbox"/> on-street parking | <input type="checkbox"/> off-street parking |
| <input type="checkbox"/> neighborhood access | <input type="checkbox"/> sidewalk conditions | <input type="checkbox"/> walking in the neighborhood |
| <input type="checkbox"/> access to bus routes | <input type="checkbox"/> sight distances | <input type="checkbox"/> bicycling in the neighborhood |
| <input type="checkbox"/> trees | <input type="checkbox"/> boulevards | <input type="checkbox"/> other: _____ |

Comments:

2. Please check the following that you feel are traffic problems in the neighborhood or contribute to traffic problems in the neighborhood. Please describe any locations.

- congested intersections _____
- timing of traffic signals _____
- turn lanes at traffic signals _____
- lack of traffic signals _____
- stop signs _____
- accidents _____
- traffic using the neighborhood as a short-cut _____
- other _____

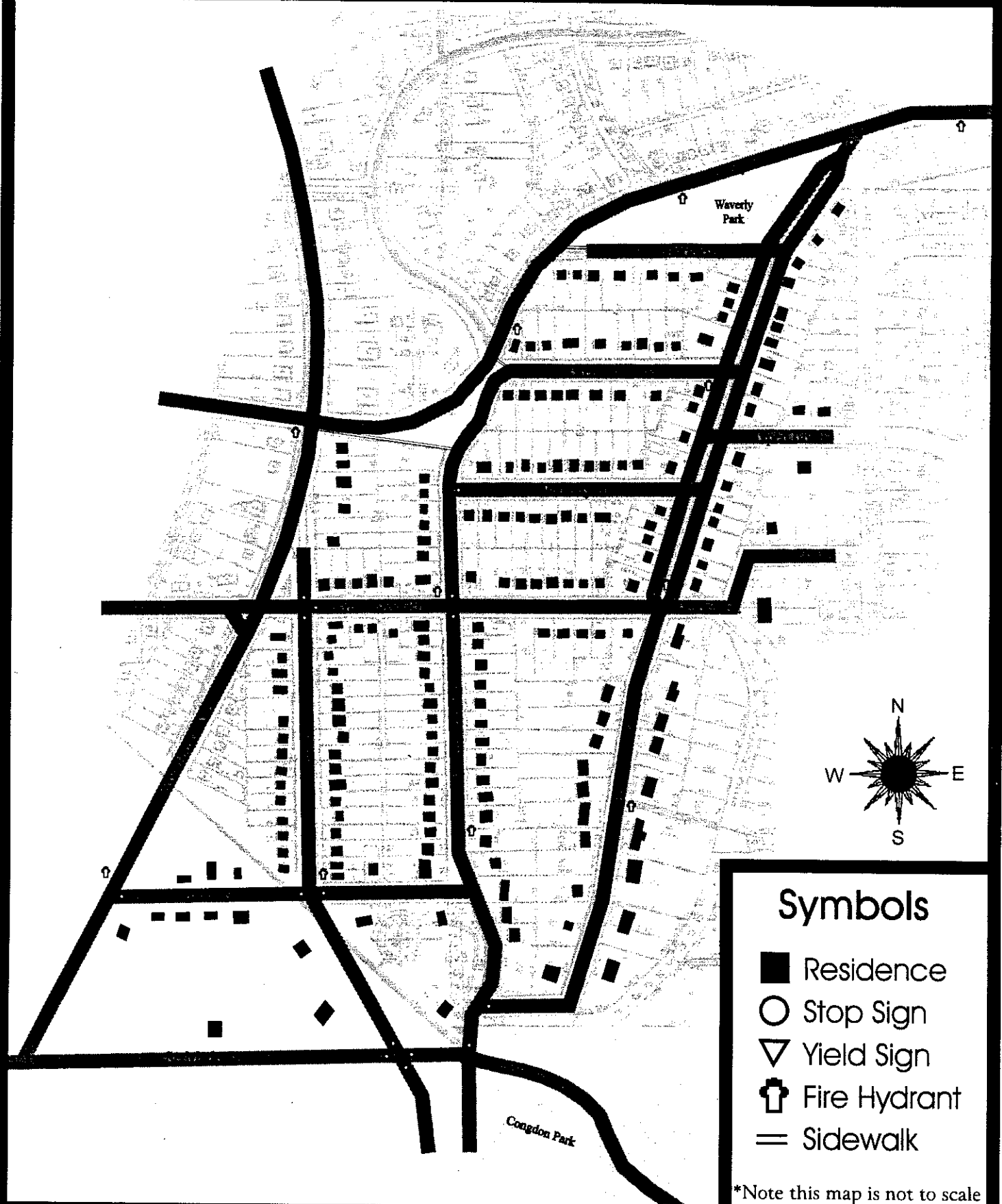
3. What time of day is traffic cutting through the neighborhood the most apparent (please provide the hour of day, example 3 a.m.)?

4. On what street(s) do you see the most through traffic in your neighborhood?

5. What possible solutions can be made to prevent through traffic from using neighborhood streets?

Please use the map on the back to show any problems with street conditions or traffic problems.

Waverly Park



Symbols

- Residence
- Stop Sign
- ▽ Yield Sign
- † Fire Hydrant
- == Sidewalk

*Note this map is not to scale

#1 Please place a check next to conditions that are important to you or you are concerned with in your neighborhood.

Totals	#1
47	Street conditions
37	Walking in the neighborhood
36	Trees
24	Sidewalk conditions
23	Bicycling in the neighborhood
22	Curb & gutters
21	Neighborhood access
15	Storm sewers
15	Boulevards
13	Street widths
13	On-street parking
12	Sight distances
5	Access to bus routes
4	Off-street parking
1	Speeds (people driving too fast)
1	Snow removal problems
1	Traffic noise
1	Thru streets vs n'hood streets

#2 Please check the following that you feel are traffic problems in the neighborhood or contribute to traffic problems in the neighborhood.

Totals	#2
43	Traffic using n'hood for short-cut
20	other
11	Congested intersections
9	Stop signs
6	Accidents
6	Turn lanes at traffic signals
5	Timing of traffic signals
2	Lack of traffic signals

#3 What time of day is traffic cutting through the neighborhood most apparent.

Totals	#3
	before 7:00
25	7:00
35	7:30
39	8:00
23	8:30
11	9:00
1	1:00
1	1:30
2	2:00
4	2:30
19	3:00
19	3:30
27	4:00
25	4:30
28	5:00
23	5:30
17	6:00
9	beyond 6:00 PM

Question #1 comments

Question #1: Other/Comments
We don't have much on street parking and would like to see that continue or eliminate all together.
My main concern is the terrible condition of our streets.
The safety of children is the prime importance.
We want our streets to support the neighborhood.
Streets should specifically allow safe walking by having trees and not being too wide.
Ability to get to snow route to get to work a.m.'s after snow falls.
Boulevards wrecked by plowing -- Trees were torn up by plumbing project on Woodland and left blvd a mess -- can't rake or mow blvd now because Woodland Ave traffic won't slow down
I don't like the idea of blocking off Lake View Dr. & no left turn coming form Lakeside (Ordean School) or coming back from church on Snively -- my house is just off Snively & Lake View, I have to go all around the blocks to get home.
The roads in this neighborhood are very rough and hard on our vehicles.
The bank at the steps between Greenwood and Snively is badly eroded -- from bicycles it would appear.
We do not want Lakeview Drive closed to us either coming or going
Street widths -- Woodland Ave. and St. Marie St. are much too narrow to accomodate 4-lane traffic safely. It is very dangerous to bicycle on those streets. Curbs & Gutters -- are part of the outside lanes on Woodland Ave.
Lakeview Dr. and Arrowhead are in terrible shape. Access problems relate to traffic using neighborhood as a short-cut
Upgrading the streets to create pride in the neighborhood -- to create a neighborhood by eliminating thru traffic
Lakeview Drive is a favorite street for joggers, and there are more joggers than cars in the afternoon.
Curbs would be great for Wallace Ave.
Neighborhood Access -- Both Ways!
Assessing me to help pay for repairing Bruce St. would force me to sell my home. I am on a low fixed income. Also concerned that repairs would increase traffic further.
Keep street conditions poor! and keep trees or plant more.
Access is our prime concern.
Bruce Street should be left in its present condition, no additional curb or sidewalk is needed. City crews adequately patch the street as needs arise.
Poor sight distance on (to Rt.) especially if turning left off St. Marie onto Vermillion Rd.
There is illegal on-street parking of a semi-truck every night and on weekends
The one way signs on Lakeview have redistributed the through traffic, but it is still going through the neighborhood.
We'd like a smoother road, but only after we have ensured that this will not cause more through traffic.
Also, safety and access of emergency vehicles.
People walk their dogs and don't pick up after them.
Also safety of travel in the neighborhood. Street conditions are only important insofar as they provide safe access for the residents to travel and move throughout the neighborhood. Other concerns are always secondary to safety. As of now, Lakeview Dr. is not safe, and w/street improvements, other streets will become hazardous.
Maintain existing street widths and neighborhood feel!
It is important to me that streets be maintained uniformly in an area so that no one route becomes preferred for traffic because only one street is in good condition.
Widened driveway entrances -- updated water lines and other utilities.
Other: Traffic
No need to make it wider, just pave it! -- Arrowhead
Street widths: Keep them thin. -- Storm Sewers: lots of houses are not properly drained, and will make a soggy mess of the back yards if ever up to code. Plan gutters on streets accordingly.
More boulevard trees are necessary for privacy and sound barriers.

Question #2 comments

Question #2: Congested intersections
Wallace to Arrowhead going west
Woodland and Arrowhead
Woodland w/St. Marie & Arrowhead
Woodland and Snively -- AM and PM congestion (perhaps unavoidable)
St. Marie and Vermillion -- left turn from St. Marie into neighborhood ver dangerous.
Visibility at the corner of Waverly Pl. and Vermillion is a problem due to shrubs on the north side of Waverly.
Arrowhead and Wallace -- 3 way stop is dangerous
Woodland and Arrowhead frustrates people -- if it were better, people wouldn't cut over on East Arrowhead.

Question #2: Timing of traffic signals
Entering Woodland from Bruce is very difficult because traffic lights at Woodland/St. Marie and Woodland/Arrowhead intersections do not match and traffic is constantly coming from one direction or the other -- (also applies to congested intersections)
Woodland and Arrowhead
At Woodland and Arrowhead -- favors traffic on Woodland (highly irritating)
Arrowhead and Woodland

Question #2: Turn lanes at traffic signals
We need a green arrow at Arrowhead & Woodland, for traffic on Arrowhead traveling west. It's impossible to see traffic coming east on Arrowhead with the center lane turning left. Very dangerous corner!
Arrowhead and Woodland
Need an arrow at left turn Arrowhead onto Woodland.
Arrowhead and Woodland
Need left turn lane at Woodland and Arrowhead
The one coming from W. Arrowhead is often ignored.

Question #2: Lack of traffic signals
Arrowhead and Lakeview Drive
Need a permanent red light to prevent turns off Snively.

Question #2: Stop signs
People don't stop at stop sign on Wallace Avenue, north
Disregard to stop signs
On Lakeview.
1 or 2 stop signs will make short cuts less attractive.
People ignore them.
Vermillion at St. Marie, the sign is hidden.
Would additional stops signs slow traffic on Lakeview Dr.
Arrowhead and Wallace should say "cross traffic does not stop"
Need a stop sign at each Arrowhead crossing.

Question #2: Accidents
Woodland/Arrowhead/Wallace intersection
Corner at Lakeview Drive & Vermilion prior to one way signs.
Not aware of any in 17 years in this house.
Woodland and St. Marie
On the sharp curve at the west end of Lakeview Dr.
The sharp corner on Lakeview right before it connects up with Vermillion

Question #2 comments continued

Question #2: Traffic using the neighborhood as a short-cut
Arrowhead
All streets are viable ways to move traffic-why consider one a short-cut?
Lakeview Drive with East High Schoolers
Woodland Avenue.
Between Snively and Woodlawn on Lakeview.
Lakeview Drive and Vermillion.
Wallace Ave. between Arrowhead Rd. and 4th St.
It's mainly East High School Kids
Lakeview Drive
Woodland-Bruce-Wallace-Woodland
Cars want to avoid the Snively/Woodland intersection
Vermillion Rd. between Arrowhead and St. Marie
Jean Duluth onto Lakeview Drive
Short-cutting very noticeable since Lakeview Dr. was shut off.
East high schoolers go to a from school using Lakeview Dr. and Snively
Really concerned -- post repair especially.
Don't really notice many cars cutting through. Most cars we see going by are people that live on our road.

Question #2: Other
Cars on Wallace dead end. Drivers think it is a through street.
Crossing from corner of Wallace/Arrowhead to west side of Wallace. Extremely dangerous to pedestrians
Speeding down Greenwood Lane.
Speed.
Children's safety
Noise
The speed of the traffic early morning, early evening and occasionally late night.
The speed of vehicles coming off Snively Road
One-way street on Lakeview. People continue to go both directions even when they are aware - esp. at night
Noise from Snively is greater every year.
Fast drivers pass through on Bruce coming around corner from Woodland Ave.
The side streets are used more because of Lakeview being closed
No room for bicycles; the outside lanes of Woodland include gutters!
Question #2 traffic problems -- none of these exist in our neighborhood. Problem -- school buses.
Trucks using Wallace Ave. should be directed to the designated truck route on Woodland Ave; some unnecessary speeding occurs on Bruce to Vermillion.
on street parking of a semi-truck
Narrow Streets blocked in the winter -- especially emergency vehicles.
Traffic and speed have increased greatly. Going too fast for road condition, especially over bridge going northbound.
Speeding in the neighborhood.
Traffic moving too fast.
Cars don't stop going north on Wallace.
Phone and power lines should be buried.
Speeding cars on Wallace Ave.

Question #3 comments

Question #3: Non-specific answers & clarifications
Rush hour -- more during school year
M-F school traffic, M-S normal traffic, Sunday church traffic
Occasional speedster in the middle of the night
Morning and Evening
We are not aware of any excessive short-cutting on Vermillion Rd.
Rush hours, when traffic is congested at intersections of Woodland/St. Marie and Woodland/Arrowhead.
School year -- students and parents turn from Snively down Lakeview before and after school. Problem eased by recent "one way" and "no left turn" designations, but not eliminated. Some commuter cut off traffic also, but high school traffic the worst.
Early A.M. -- people using the UMD facilities
7:30-8:30 there is a steady flow of traffic that is increased when school is in session. School buses cause the only tie up when they stop for the children to board. A simple solution would be for the children to board the buses on the lower side of Lakeview Dr. as the buses are about the only vehicles going that way at that time of day.
East high students before 8 a.m.
Wild driving in the middle of the night, going up on lawns, running over garbage cans set out for collection.
We live on a dead end road and don't notice traffic cutting through the neighborhood.
Aggressive drivers appear on Wallace, starting at St. Marie in the afternoons and early evenings on weekdays.
We often observe speeding and wrong way driving while kids wait for the school bus in the morning.
Traffic counts during summer vacation will no be accurate.
Very noticable traffic going both ways on Vermillion.
Afternoon times not as specific as morning -- high schoolers returning at all different times, cutting class, after extra-curricular activities, etc. But, we see people speeding through at all times.
All day -- All night
A.M. drive time ... but considering the absolute deplorable street conditions, it's a miracle that there is any non-neighborhood (residential) traffic at all right now.
East High students, coming and going.
We get more local traffic now.

#4 On what streets do you see the most through traffic in your neighborhood?

Total	Question #4
32	Lakeview Drive
21	Arrowhead Road
14	Vermillion Road
13	Wallace Avenue.
4	Woodland Avenue
3	Greenwood Street
3	Snively Road
3	St. Marie Street
2	Bruce Street
1	Waverly Place
	Comments
	Lakeview Drive and Arrowhead with the one way on west Lakeview, increase on Vermillion and Greenwood.
	On Lakeview coming off Snively and then going to Arrowhead or St. Marie.
	The only through street is Lakview Drive in this neighborhood.
	Wallace Ave. -- Woodland neighborhood cuts to I-35 entrance on 26th St. by taking Wallace and 4th St.
	Lakeview Drive -- (in spite of its awful, crater like condition)
	Prior to city's temporary signing -- Lakeview; After the city's signing -- Vermillion, Greenwood, and E. Arrowhead.
	Woodland Ave. -- it is too narrow for four lane traffic; it should be only 2 lanes. This would shunt more traffic to Kenwood and Rice Lake Rd.
	Arrowhead and (formerly) Lakeview Dr. Problem eased as noted above, but traffic on vermillion increased.
	Will be terrible if streets are improved, but Lakeview is left open at Snively. Present condition deters some.
	From Snively onto Lakeview, and then onto Arrowhead, and onto the UMD area.
	Lakeview Dr. from Jean Duluth Rd. west to Vermillion Rd. and Lakeview Dr. from Jean Duluth Rd. west to Arrowhead, and then Arrowhead to Wallace Ave.
	Wallace Ave -- Lakeview Drive the one way goes in the wrong direction.
	Lakeview Dr. (prior to the one way sign)
	Wallace Ave., Arrowhead, St. Marie from Hawthorne
	Coming down the hill on Arrowhead onto lower Vermillion Road then turning onto Waverly.
	Woodland, Arrowhead, Vermillion, Wallace, Snively, St. Marie, and Lakeview before it had limited access, now this traffic has been diverted to Vermillion Rd.
	It was Lakeview Dr. Now there may be more on Vermillion and Arrowhead.
	Lakeview Dr. -- definately -- other streets are just now getting some through traffic with the one-way.
	Through traffic cannot be totally prevented, however what traffic that will continue to use streets must be slowed down. What about speed bumps and more support from the police department.
	Lakeview and Arrowhead -- (cutting through not bad on Waverly)
	Since the one-way on Lakeview, the traffic has slowed down considerably, but has increased on Vermillion.
	Pave the roads, and more through traffic will come.
	On East Arrowhead, it's much the same as pre-signs on Snively -- but everyone avoids the road because of bumps. Before Snively signs went up, we had more through traffic from East to West.

#5 What possible solutions can be made to prevent through traffic from using neighborhood streets?

Question #5
Dead end Arrowhead East at Wallace.
Put up sound barrier.
Speed bump.
Posting signs restricting heavy vehicles.
Keeping stop signs at intersections and not widening streets.
Don't know
Less access-one ways which have been put in seem to be helping quite a bit.
Cul de sac at Lakeview/Snively
Remove bridge at Vermillion/St Marie and replace w/ a foot bridge.
Eliminate acces from Snively Road.
Prevent traffic from turning off Lakeview with either a red light, or non-destructive barriers that can be safely broached by emergency vehicles, or stop signs at every corner to make it inconvenient, or one-way streets to make it inconvenient
Open more ave - for exp. Aspen Lane.
Fix streets with potholes so Lakeview isn't the speedway.
Monitor speed and one-way.
I think the present no left turn signs on Snively have made a positive difference. A traffic count of it would hel
Block off end of Lakeview or make into a cul-de-sac. It would prevent speeding traffic (mainly teenagers)
Do not close road at the end of Lakeview and Snively -- close road at Lakeview & Vermillion or put speed bumps on Lakeview and a stop sign at Lakeview and Waverly
Put up a sign to slow down on Bruce St. (young children playing)
Speed bumps should address any kid safety
Speed bumps on Wallace Ave
Block Lakeview Drive at Snively
Have the police patrol it once in a while and catch the speeders.
Dead end Lakeview Drive at Snively
Lakeview Drive as a one way is a good idea, but southbound is dangerous because of the blind intersection at Lakeview and Vermillion. This intersection also ices very badly in the winter, making stopping difficult at th stop sign.
Instead of closing Lakeview Drive, the logical route for us to reach Lakeside, why not put a stop sign at each c of Lakeview -- it would slow traffic and discourage people trying to take it as a short cut.
Make a west entrance only from Snively to Lakeview
Simple -- close it (Lakeview) off
Shunt more rush hour traffic to parallel streets e.g. Kenwood by converting Woodland Ave to 2 lanes and by broadening Kenwood beyond Arrowhead, that is, beyond the Kenwood Mall.
Best solution: block off all or part of Lakeview Dr. at Snively, perhaps allowing exit on to Snively only. Also possible: block off bridge at Vermillion and St. Marie.
Eliminate access to Lakeview Dr. from Jean Duluth Rd., and construct a cul du sac at the eastern end of Lakeview Dr. This action would establish the Waverly Park neighborhood -- traffic would be neighborhood o used by residents and their guests.
I don't think it's necessary -- the public should be permitted to drive on any public street.
Block Lakeview/Snively
Speed Bumps -- there are kinds the snow plows can go over! Please do not limit access to enter & exit Lakeview onto Snively.
Enforce ban on trucks on Wallace.
Just keep Bruce St. in poor repair. It slows everyone down and discourages traffic.
I don't have a concern about through traffic. The city streets are public.
Do not widen or pave streets, maintain street condition at rough, unwidened, and patched condition.
An occassional cruise by Duluth police patrol car at rush hour might help emphasize need for more cautious driving in neighborhood.
Block access on one end of the internal neighborhood streets. -- Don't connect E. Arrowhead to 34th Ave. E.
Block off totally or partially, the Snively end of Lakeview Dr.

#5 What possible solutions can be made to prevent through traffic from using neighborhood streets?
continued

Question #5
I would like to see the intersection of Snively and Lakeview closed. I would also like to insure that Arrowhead is never connected to Victoria or Aspen
Make Lakeview Dr. into a cul-de-sac, or at the very least, no left turn off of Snively and put an island on Snively to prevent cheaters.
Restricted left turn, more stop signs (along Lakeview), one way streets (Arrowhead, west to east), speed bumps, close Vermillion bridge access to St. Marie.
Open Lakeview Drive to two way traffic. This disperses traffic more evenly and Lakeview Drive is a wider street and it is also in much better condition than Vermillion. I don't know if you can totally prevent through traffic here without causing inconvenience to other areas in the neighborhood.
The one-way is a good solution, but it is not working. Every day when I spend time out in front with the kids, 1-5 cars go by the wrong way in an hour! The best solution is a cul-de-sac at the end of Lakeview where it now connects to Snively. It would improve the neighborhood and increase the value of houses and most people are in favor of it. Another solution would be to close off the the bridge over Tischer Creek, however, I don't know if people would like to be inconvenienced this much. Personally, I thought Mary Hennessey's idea of a cul-de-sac and park was great.
I don't believe traffic should be prevented! We are all tax payers. I believe roads should be maintained and obvious defects repaired. However, roads widths act as a natural barrier to through traffic and residential areas should continue to keep minimum road width. Don't make a cul-de-sac at Snively and Lakeview, get rid of the one way, correct the sight distance at the sharp curve on Lakeview, lower speed, indicate that cross traffic does not stop on Wallace' sintersection with Arrowhead.
Close off Lakeview at Vermillion -- Make it a dead end street from Arrowhead, then open up the left turn at Snively -- pave Arrowhead to Wallace -- the half loaf we've got now doesn't work!
Block Lakeview at Snively. Also block Lakeview just after Arrowhead intersection.
I can tolerate increased traffic in the early a.m., and would really like the road to be fixed. Tired of all the potholes on Lakeview and Arrowhead.
Strategically-placed speed bumps should desuade through traffic. Neighborhood residents won't mind having to slow down. The convenience of smooth pavement is worth the minor inconvenience of speed bumps. Speed bumps are the most inexpensive but single handidly most effective deterrent!
Remove one-way designation on Lakeview Dr. -- Dead end Vermillion at the bridge.
Local Traffic Only signs!
I think signs work. Stop signs at every intersection on Arrowhead would make it a hassle for people to short-cut. Speed bumps? or other slowing methods would be great. Locals whip by as fast as through traffic now.
Not making connections to more traveled roads.
A cul-de-sac has already been put at one end of Wallace Ave., thus making it less convenient as a short cut. Not much else can really be done; old habits are hard to break.

Additional Comments

Additional Comments

This survey has obviously been set up to benefit Lakeview residents and give them backing to make the one-way changes to their street. Who has all the pull over there?! We all have traffic before and after school at East. Now you close one alternate route and force them all onto one route. If you are concerned with speed - post a policeman there at the beginning of the school year. We are used to traffic, but I consider my street a "neighborhood street". Also, and now you have forced all the Hunters Park-Morley Heights and much Lakeside traffic on to my street only.

Like I said - who has all the pull over on Lakeview?! At least now maybe they'll let the city fix their street.

Traffic cutting through the neighborhood is most apparent during rush hours of course, as in any other neighborhood in the city. This "problem" has been overstated by residents.

Mostly young fast drivers the problem -- during school year UMD drinkers are around -- worse when racing. plows leave snow on Woodland and Bruce intersection in the winter -- Bruce very bumpy/hard on cars.

I live on Lakeview Drive, have children and am surprised so much is made of nothing -- maybe we should close our whole neighborhood off and enter and exit with tokens or surround us with a shark infested moat (what a joke) -- We are really fortunate we really don't have a traffic problem in the area -- Two main things: 1. These are not neighborhood streets, they are city streets and 2. Through traffic on Lakeview is a major convenience for many residents and a few nearby residents. Through traffic on Lakeview is minimal.

There is no space between the sidewalk and the street on Woodland between Bruce and Arrowhead -- Plows dump snow on the sidewalk, no place to shovel, pedestrians not safe.

Much northbound traffic on Wallace does not yield to traffic going east on Arrowhead -- Sharp turn at Lakeview/Snively intersection is very dangerous -- In spite of signs traffic still enters from east.

We have lived here 28+ years, and feel the neighborhood is fine the way it was. Fix the streets and leave them open to traffic! We need alternate routes -- Woodland is too narrow for 4 lanes of traffic. Alternate route development might include Kenwood Ave., Carver St., College St., and Rice Lake Rd.

Arrowhead and Lakeview in terrible condition -- Woodland/Snively gets congested at times -- Lakeview Dr. has a very dangerous corner at its south end (many pedestrians, blind corner, narrow and sharp, better since one way designation).

We seem to be a throughfare.

Lots of traffic using the neighborhood as a shortcut. It's really scary because we have young children.

Bad corner curves on southern end of Vermillion in the neighborhood.

Stop trying to make a gated neighborhood. These are all public streets. If you want private developments, make the home owners pay for private streets. You are government road authorities, not private developers.

Every area is a neighborhood. How could a few shut off access over to Lakeview Dr. from Snively when even the Fire Marshall worries for public safety.

Arrowhead and Lakeview are in poor condition.

Accident rates should be checked at Arrowhead and Woodland -- Cars often come straight across west to east ignoring the left turn only signs. We like the cul-de-sac idea on Lakeview, but not if that means opening any other street, ever, that would cause an E-W connection via Arrowhead.

**Neighborhood Traffic Circulation Study
Waverly Park Meeting**

**Wednesday, July 12, 1995 at 7:00
Glen Avon Presbyterian Church, 2105 Woodland Avenue**

Meeting Summary
(provided by ARDC Staff)

1. Street Assessments and this Study

Ken Larson, City of Duluth Engineer, explained that the City's Residential Street Improvement Program is a five-year program. The program confirms the need for street improvements and anticipated dates of improvements. Residential streets within the Waverly Park Neighborhood are planned for improvements in 1996. The Arrowhead Regional Development Commission (ARDC) is involved to conduct a study of the traffic circulation within the neighborhood before improvements are made.

Larson further explained that the assessment notices that neighborhood residents received is part of the normal process of improving streets. The timing of the notices is also normal. This does not mean that street designs have been chosen or that the study's recommendations are insignificant. A public information meeting concerning this issue will be held at City Hall on July 18. Approximately 20 percent to 25 percent of the improvements will be paid with the assessments. The remainder will be paid with City general funds.

2. Roles

Gary Tonkin, ARDC Transportation Division Director, provided general information on ARDC. This included ARDC, the Duluth-Superior Metropolitan Interstate Committee (MIC) and ARDC's involvement with the study. He noted that the MIC is planning to do these studies in several neighborhood. The study is being funded as part of a larger transportation planning grant through the Federal Highway Administration, Minnesota Department of Transportation, and ARDC.

Scott Peters, ARDC Planner, explained the City's role and the Neighborhood's role concerning this study. ARDC will conduct the study, the City is responsible for implementation, and the Neighborhood is responsible for providing input and comments on study recommendations. Police, fire, maintenance and St. Louis County representatives will also be called upon when appropriate.

3. Purpose of Study, Study Objectives and Initial Goal

Scott Peters stated that this study is not just for the City's reconstruction program, but a traffic circulation study of the neighborhood. Other transportation issues will be identified. Potential recommendations may include areas outside the study area or immediate

neighborhood. The purpose of the study is to identify any transportation deficiencies and develop recommendations to integrate with street improvements that would improve traffic flow.

Study objectives are in response to concerns expressed in returned surveys. The objectives of the study concentrate on not redistributing traffic within the neighborhood, not completely limiting access to only residents, and not excluding use of any street.

The initial goal is to investigate alternatives encouraging traffic that does not have its origin or its destination in the neighborhood, to use roadways that provide a function that emphasizes mobility. Examples of roadways that provide for mobility include Snively Rd., Woodland Ave., and St. Marie St. In most cases, these are wider streets with higher speed limits and are designed to carry higher volumes of traffic than local roadways.

4. End Goal, General Principles, and Range of Options

Scott Peters explained that the end goal of the study is to identify and investigate potential effects of alternatives related to the range of options. Also, to encourage implementation of the most cost effective, aesthetically pleasing recommendations that do not physically divide the neighborhood, that do not significantly alter residents travel patterns, and that encourages through traffic to use appropriate roadways.

Implementation depends on the City's decision to implement potential recommendations of the study and the availability of funding.

General principles will be recognized and used in considering any alternatives and potential recommendations. These principles identify safety, efficiency of service, livability, amenities, and economy of use. Specific recommendations concerning access and traffic movements are also identified.

The range of options for alternatives and recommendations include the possibilities to investigate. Survey results have indicated which are the most popular and least popular options. The range of options includes leaving streets as they are, reducing access points, expanding access points, maximizing obstacles for through traffic, and examining options outside the neighborhood.

Ken Larson stated that improvements outside the neighborhood include signal and turn lane improvements are planned for Woodland Avenue and 21st Avenue East, and signal timing and turn lane review of Woodland Avenue and Snively Road.

5. Study Boundary and Data Collection

Scott Peters stated the study boundary roughly includes Snively Road to the north, Woodland Avenue to the west, St. Marie Street to the south, and the Aspen Lane and Victoria Street dead ends to the east.

Peters stated other data collection has included investigating other transportation aspects that include sidewalks, bicycle amenities, parking, curb and gutter, sidewalk curb ramps, and infrastructure.

5.b. General questions/comments

Ken Larson clarified that the City's initial scope of the project does not include sewer and water improvements. The City will save some trees and replace any taken through the construction process. Further study would be needed of lower Lake View Drive to determine improvements for that portion of the road.

There was concern if road reconstruction would also include sidewalk grading. Ken Larson stated that most sidewalks are at the proper grade.

There was concern if the road is improved it will lead to more traffic problems. Also safety of children walking to school or the bus stop was a concern. The accuracy of traffic counts during the summer, without school in session, was a concern.

6. Survey Results/Identified Important Issues

Scott Peters stated that approximately 75 surveys have been returned. A total of 216 surveys was delivered in the neighborhood.

General comments included a peak time of traffic from 7:00 a.m. to 8:30 a.m. with most being UMD students, parents with kids, and commuters. Comments also included support for and against a cul-de-sac on Lake View Drive at Snively Road and noticed positive and negative results on implemented Lake View Drive one-way.

The survey results and comments received at the public meeting will be used for identifying issues and developing the recommendations for the study.

7. Next step

Scott Peters explained that the next step of the study includes more specific data collection. This includes investigation of survey findings and development of alternatives. Additional data collection includes intersection analysis, travel times, reviews of traffic control devices including turn signals and signal timing, and review of existing traffic counts.

The next meeting is tentatively scheduled for the second week of August. At the next meeting, potential recommendations ranging from improvements within the neighborhood to improvements outside the neighborhood will be investigated. The next meeting will provide an opportunity to comment and provide input concerning recommendations at the next meeting.

NOTE: The second meeting is now scheduled for mid-September.

Returned Written Comments and Discussed Solutions

In spite of the fact that Lake View Drive persons speak individually and repeatedly, the Arrowhead Road residents will expect every bit as much attention to the situation as Lake View.

Dead ending Arrowhead (at Wallace) is a bold and splendid idea - like the streets up by old Lowell school.

Don't let the cul-de-sac contingent deep six all other ideas. That's what your hearing to some extent.

When you refer to Victoria Street also include East Arrowhead or it's deceptive.

Dual left turn lanes at Snively onto Woodland would make it less frustrating at busy, congested times. In addition, develop an island on Snively to prevent left turns onto Lake View.

Please consider the comments of residents on Lake View Drive. It is not fair that we have to bear the excessive traffic on Lake View Drive.

No connection to 34th, or Aspen or Arrowhead, ever!!!

If a cul-de-sac leads to connecting 34th, Aspen or Arrowhead, then forget the cul-de-sac

Signs are working at Snively and will continue to work if traffic calming techniques are used extensively on Arrowhead.

Bury power lines and plant trees where people want them.

Keep Arrowhead width thin and continue to allow parking on the street.

Safety problems at all times - used as a through route, travel wrong way on one-way.

Need updated traffic counts.

Safety issues with school-age children and crosswalks.

Traffic calming techniques such as islands and bulbs could become targets for vandalism.

Provide a map with street widths and sidewalks shown.

Look at possibly addressing traffic during school year issue - traffic counts.

Utilities in conjunction with street improvements. Wallace/Arrowhead intersection is slick in

winter.

Consider dual left turns at Snively as part of study's recommendations.

MIC Mid-study Neighborhood Meeting

October 19, 1995

NOTICE

Waverly Park Neighborhood Traffic Circulation Study Meeting

Thursday, October 19, 1995, 7:00 p.m. to 9:00 p.m.

**University United Methodist Church
301 West St. Marie Street**

The Duluth-Superior Metropolitan Interstate Committee (MIC), in cooperation with the City of Duluth, conducted a Traffic Circulation Study of the Waverly Park neighborhood over the summer. The study involved analyzing traffic patterns, reviewing transportation deficiencies, developing recommendations and alternatives, and meeting with the neighborhood.

Study recommendations will be based on traffic movement analysis, survey results and your participation. The City of Duluth will be responsible for carrying out recommendations of this study.

The MIC will hold a meeting Thursday, October 19 to discuss findings of the study and develop recommendations addressing traffic flow in the neighborhood. Your attendance and ideas are encouraged.

The MIC will hold the meeting **Thursday, October 19, 7:00 p.m. to 9:00 p.m., University United Methodist Church Fellowship Hall (basement), 301 West St. Marie Street**. Please enter the building through the doors next to the parking lot. Please note that this site is different from where we have held past meetings.

If you have any questions concerning the study or this meeting please contact Scott Peters, Associate Planner, Arrowhead Regional Development Commission (ARDC), 330 Canal Park Drive, Duluth, MN 55802. Phone 722-5545. ARDC provides staff to the Metropolitan Interstate Committee and is responsible for conducting this study.

If you have any questions concerning future neighborhood meetings please contact Ben Boo, 728-2977, Kris Larsen, 724-8423, Mary Riley, 724-4925, or Pat Bagley, 724-9329.

**Metropolitan Interstate Committee
Waverly Park Neighborhood Traffic Circulation Study**

**Thursday, October 19, 1995
University United Methodist Church, 301 West St. Marie Street**

- Participants:** Waverly Park neighborhood residents, ARDC staff, City of Duluth staff and St. Louis County staff.
- Purpose of the Meeting:** To present results of the traffic movement surveys and discuss possible alternatives based on the results and neighborhood participation.
- Desired Outcome:** To inform residents of the survey results, give residents discussion opportunities concerning alternatives, and develop several alternative scenarios based on meeting results.
-

AGENDA

- 1. Review Purpose of the Study** **7:00-7:10**
Review the general principles, range of options, purpose of the study, study objectives, initial goal and end goal.
- 2. Roadway Functions** **7:10-7:20**
Provide an explanation of the roadway functional classification system and how the system affects neighborhood roadways.
- 3. Traffic Movement Surveys** **7:20-7:40**
Review of the traffic movement survey results comparing through traffic with the neighborhood specific traffic.
- 4. Alternatives** **7:40-8:00**
Review of possible alternatives based on survey results and neighborhood ideas. Discuss effects on traffic. Review of examples.
- 5. Group Discussion** **8:00-8:45**
Group discussions examining the possible alternatives and identifying preferred alternatives.
- 6. Meeting Summary** **8:45-9:00**
Review of group preferences, discussion of the next step and next meeting.

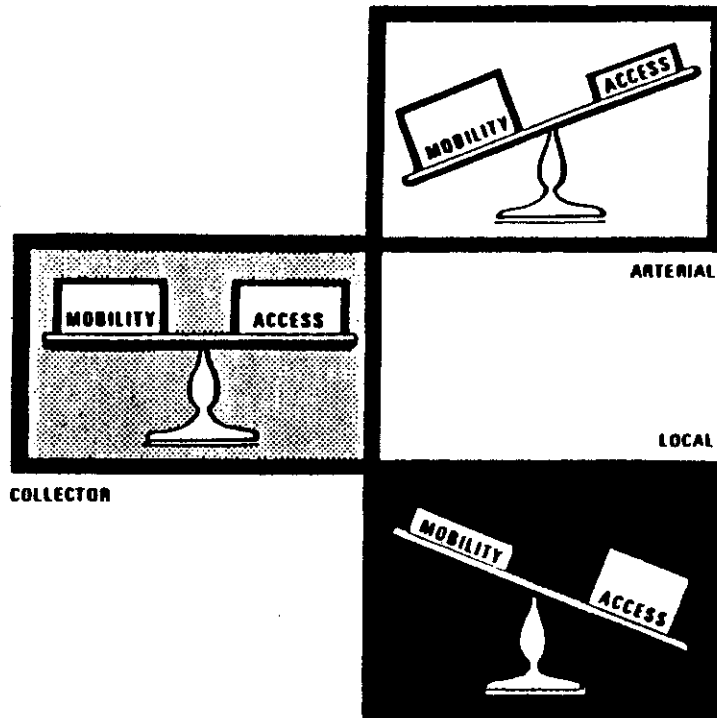
THE THREE BASIC FUNCTIONAL CLASSES

Functional
Class

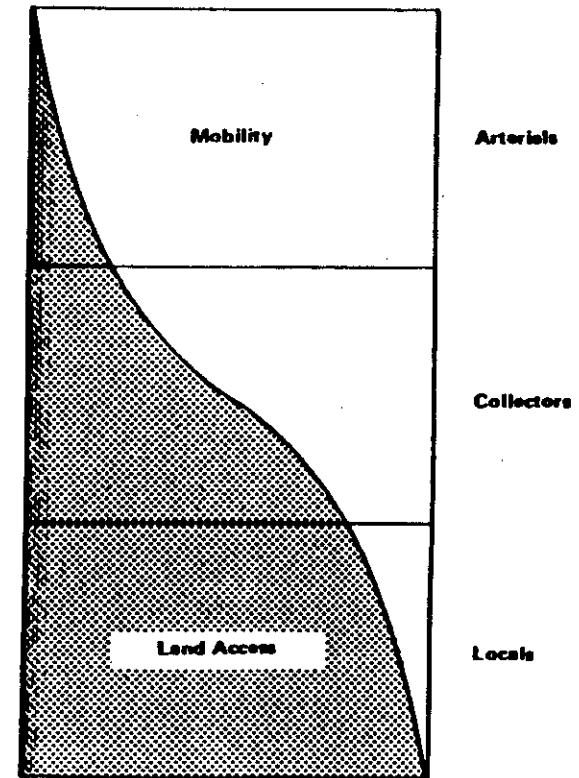
Services Provided

Arterial	Serves long distance through trips providing a high degree of mobility.
Collector	Collects traffic from local roads and connects them with arterials. Provides balance between mobility and access.
Local	Serves local land use with very little emphasis on mobility.



ACCESS-MOBILITY TRADEOFF

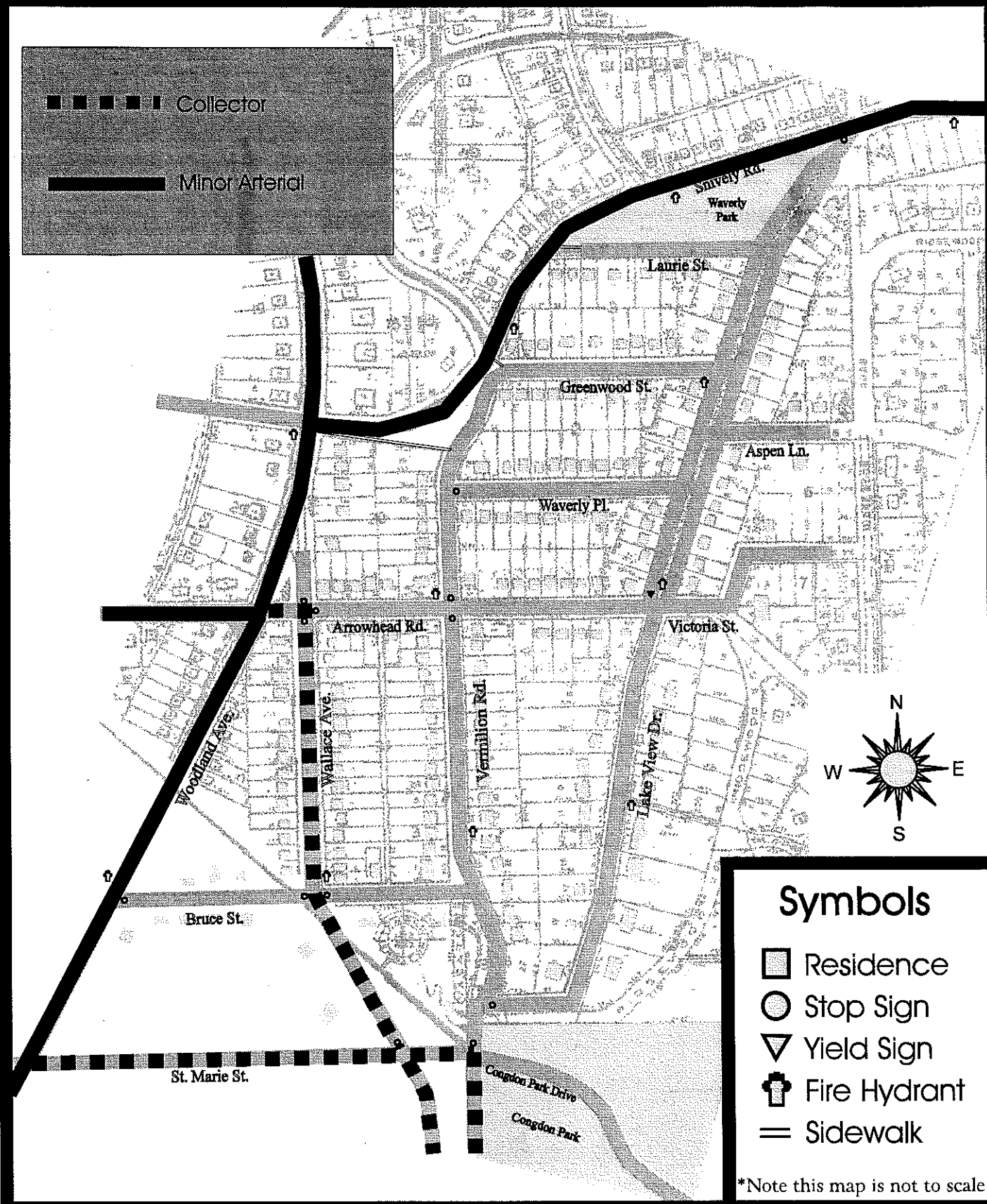


PROPORTION OF SERVICE



Waverly Park Roadway Functional Classification

 Collector
 Minor Arterial



Waverly Park Through Traffic Movements

Summer AM Count

Conducted Friday, August 4, 1995, 7:00 a.m. to 8:00 a.m.

Of all the vehicles observed in the neighborhood, 3 percent of the vehicles were using roadways not intended for through movements.

Of all the through traffic observed in the neighborhood, 4 percent were using neighborhood roadways and 96 percent were using Wallace Avenue.

There were 386 total vehicles observed in the neighborhood during the vehicle movement count.

Of the total, 47 vehicles were on the local roadways excluding Wallace Avenue.

There were 11 vehicles making through movements on the local roadways excluding Wallace Avenue. Again, excluding Wallace Avenue, this results in 23 percent of all traffic on local roadways making through movements.

Summer PM Count

Conducted Monday, August 14, 1995, 4:30 p.m. to 5:30 p.m.

Of all the vehicles observed in the neighborhood, 5 percent of the vehicles were using roadways not intended for through movements.

Of all the through traffic observed in the neighborhood, 7 percent were using neighborhood roadways and 93 percent were using Wallace Avenue.

There were 742 total vehicles observed in the neighborhood during the vehicle movement count.

Of the total, 104 vehicles were on the local roadways excluding Wallace Avenue.

There were 38 vehicles making through movements on the local roadways excluding Wallace Avenue. Again, excluding Wallace Avenue, this results in 37 percent of all traffic on local roadways making through movements.

Waverly Park Through Traffic Movements

Fall AM Count

Conducted Tuesday, September 12, 1995, 7:00 a.m. to 9:00 a.m.

Of all the vehicles observed in the neighborhood, 4 percent of the vehicles were using roadways not intended for through movements.

Of all the through traffic observed in the neighborhood, 6 percent were using neighborhood roadways and 94 percent were using Wallace Avenue.

There were 1722 total vehicles observed in the neighborhood during the vehicle movement count.

Of the total, 223 vehicles were on the local roadways excluding Wallace Avenue.

There were 72 vehicles making through movements on the local roadways excluding Wallace Avenue. Again, excluding Wallace Avenue, this results in 32 percent of all traffic on local roadways making through movements.

Fall PM Count

Conducted Tuesday, September 12, 1995, 2:30 p.m. to 6:00 p.m.

Of all the vehicles observed in the neighborhood, 4 percent of the vehicles were using roadways not intended for through movements.

Of all the through traffic observed in the neighborhood, 5 percent were using neighborhood roadways and 95 percent were using Wallace Avenue.

There were 2968 total vehicles observed in the neighborhood during the vehicle movement count.

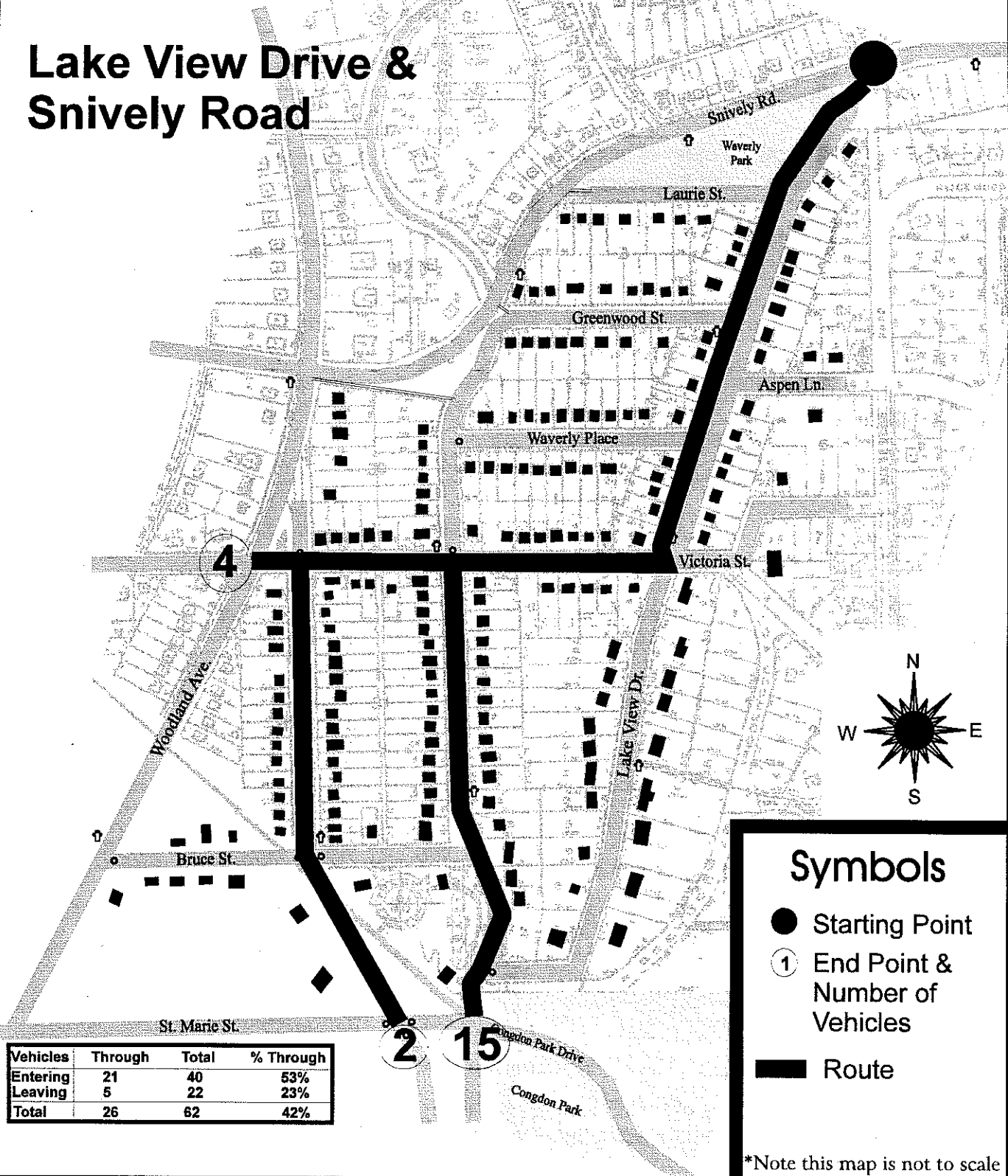
Of the total, 289 vehicles were on the local roadways excluding Wallace Avenue.

There were 109 vehicles making through movements on the local roadways excluding Wallace Avenue. Again, excluding Wallace Avenue, this results in 38 percent of all traffic on local roadways making through movements.

AM Through Movements

September 12, 1995, 7:00 a.m. to 9:00 a.m.

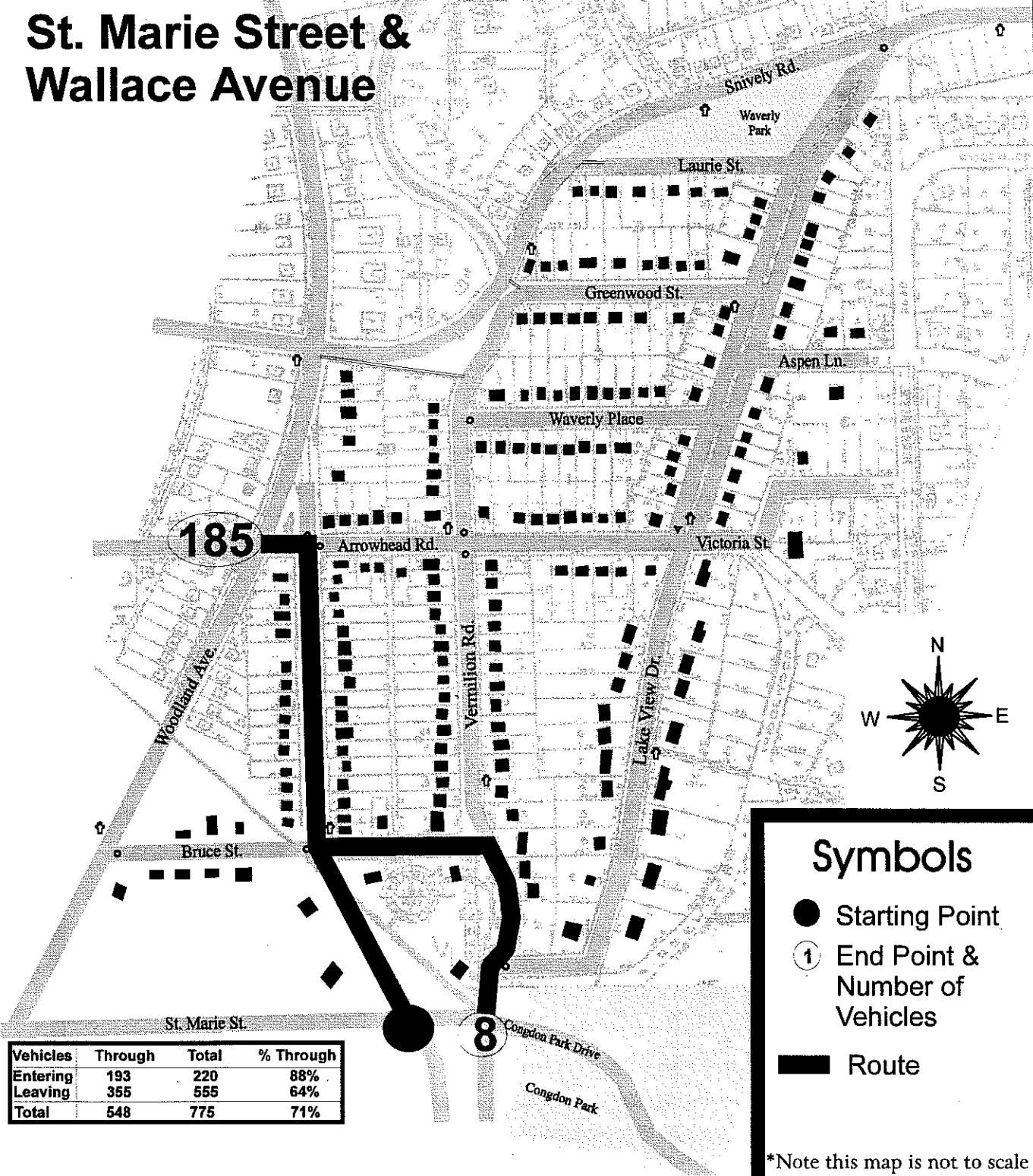
Lake View Drive & Snively Road



AM Through Movements

September 12, 1995, 7:00 a.m. to 9:00 a.m.

St. Marie Street & Wallace Avenue



Vehicles	Through	Total	% Through
Entering	193	220	88%
Leaving	355	555	64%
Total	548	775	71%

Symbols

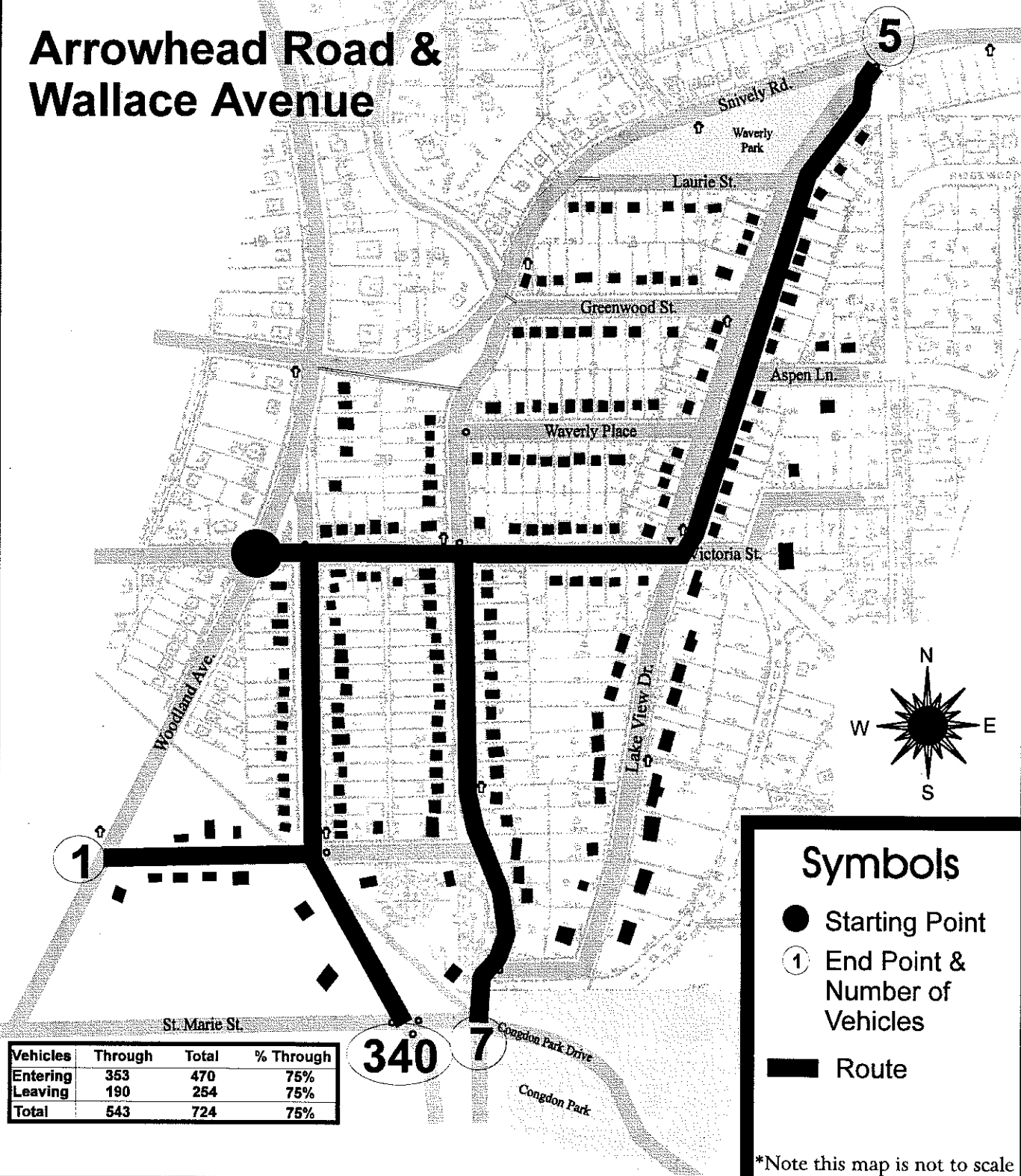
- Starting Point
- ① End Point & Number of Vehicles
- Route

*Note this map is not to scale

AM Through Movements

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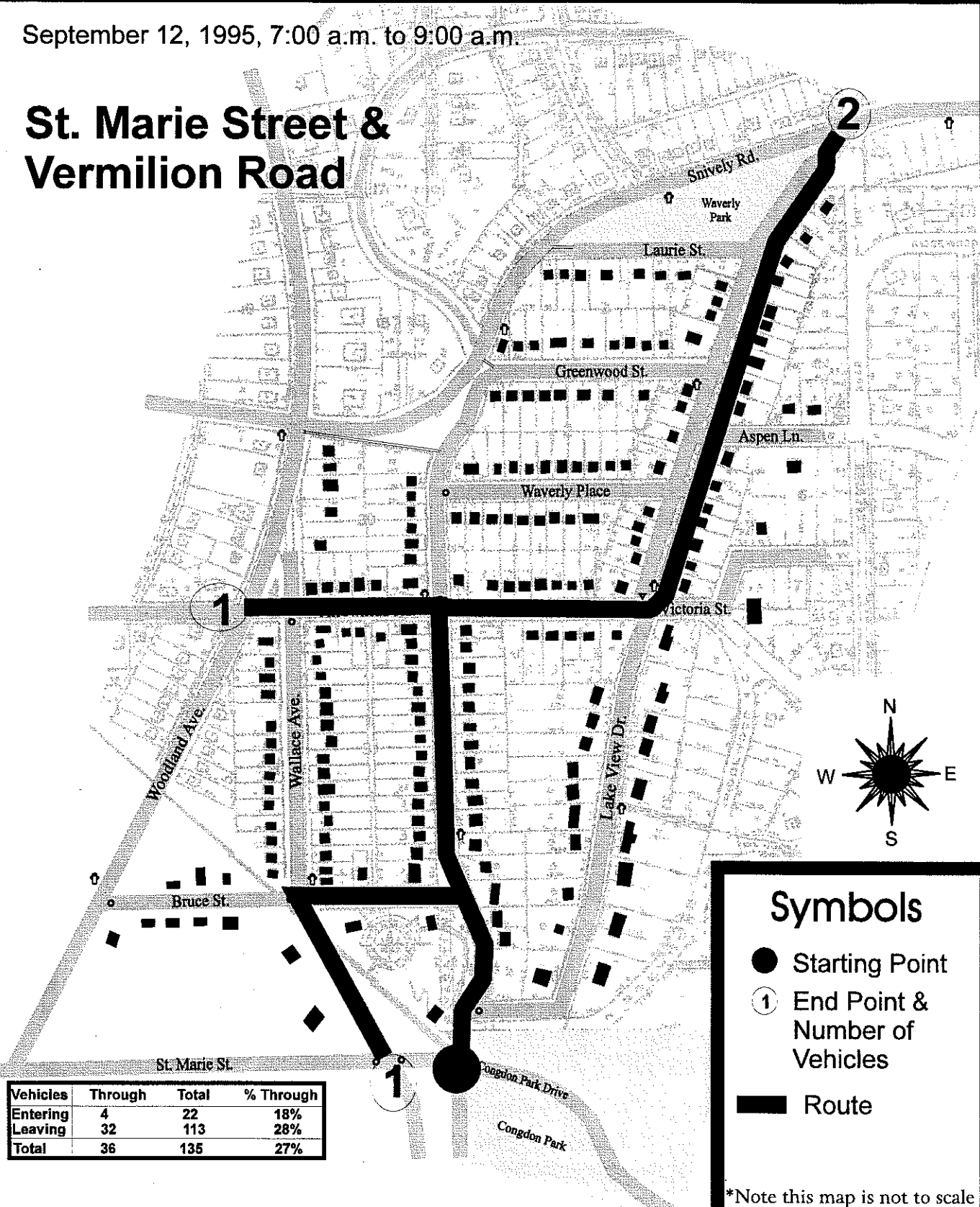
Arrowhead Road & Wallace Avenue



AM Through Movements

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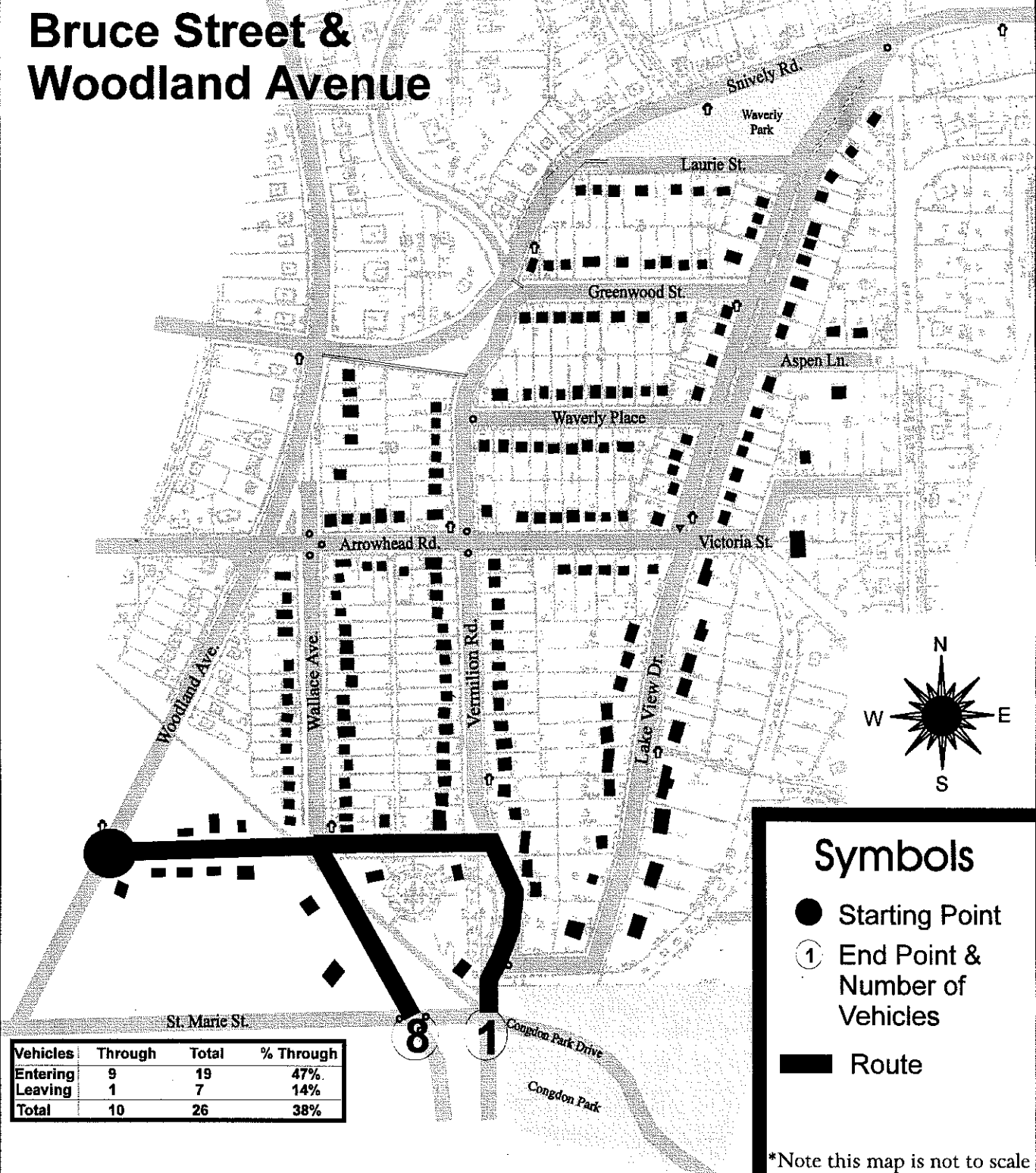
St. Marie Street & Vermilion Road



AM Through Movements

September 12, 1995, 7:00 a.m. to 9:00 a.m.

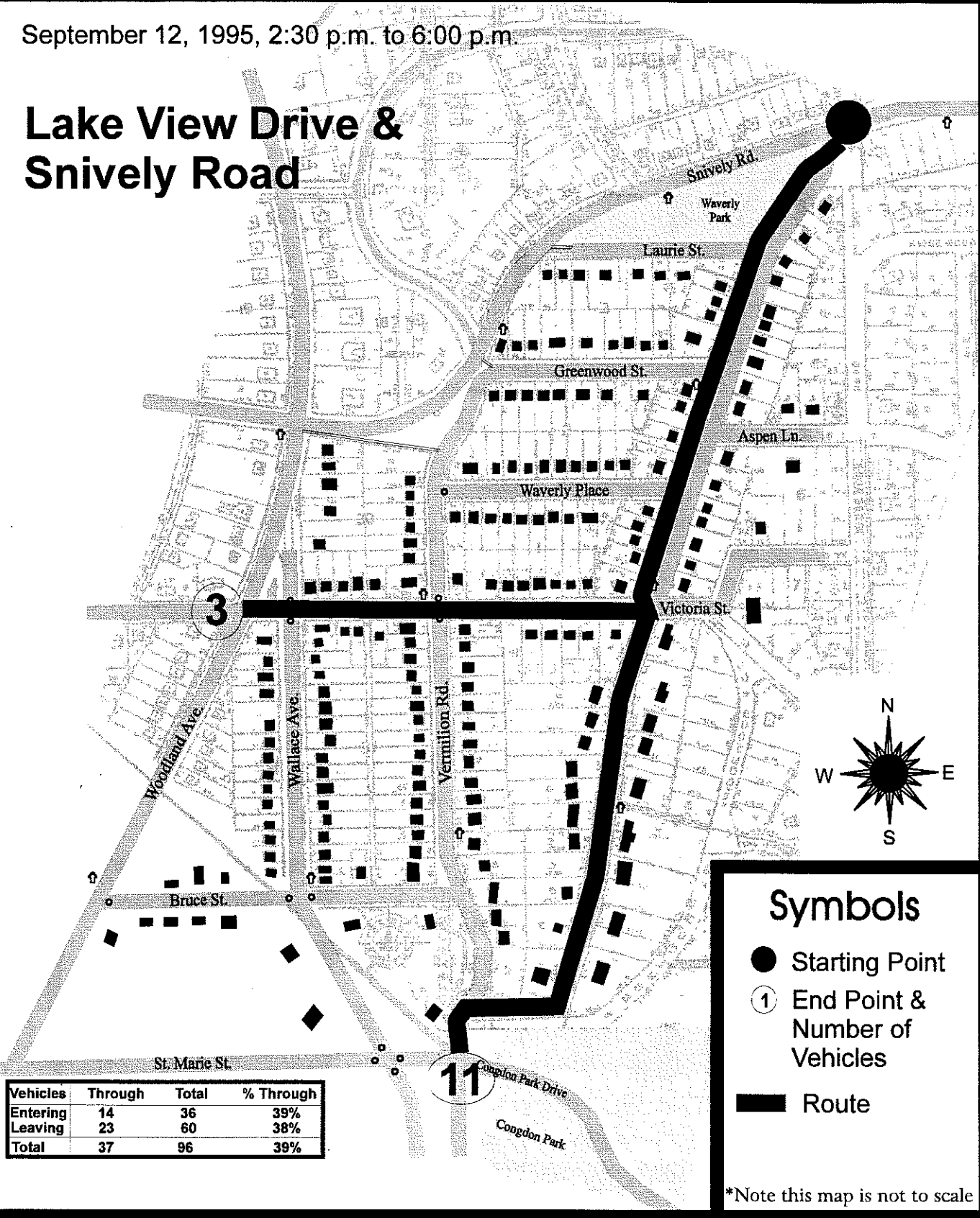
Bruce Street & Woodland Avenue



PM Through Movements

September 12, 1995, 2:30 p.m. to 6:00 p.m.

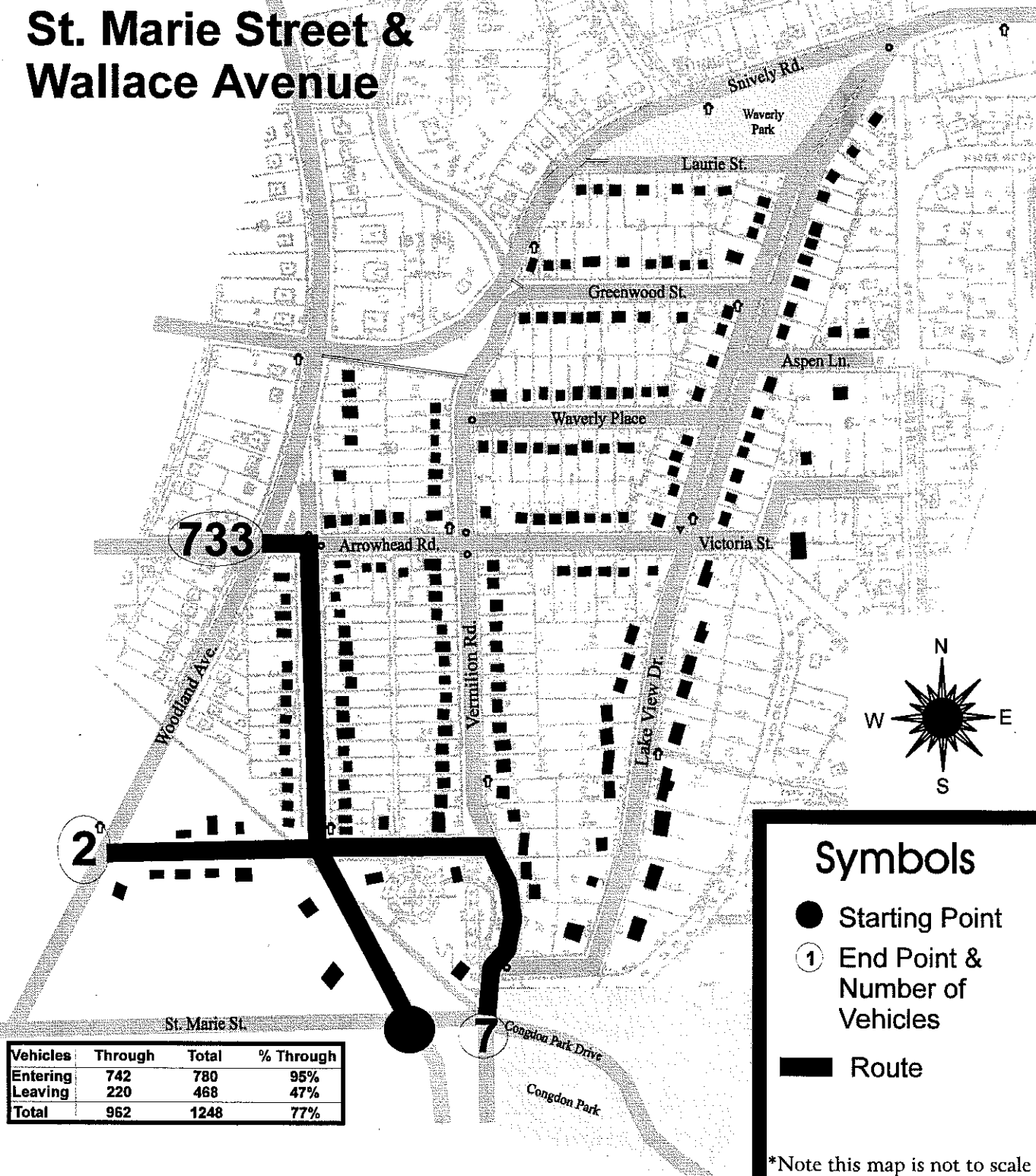
Lake View Drive & Snively Road



PM Through Movements

September 12, 1995, 2:30 p.m. to 6:00 p.m.

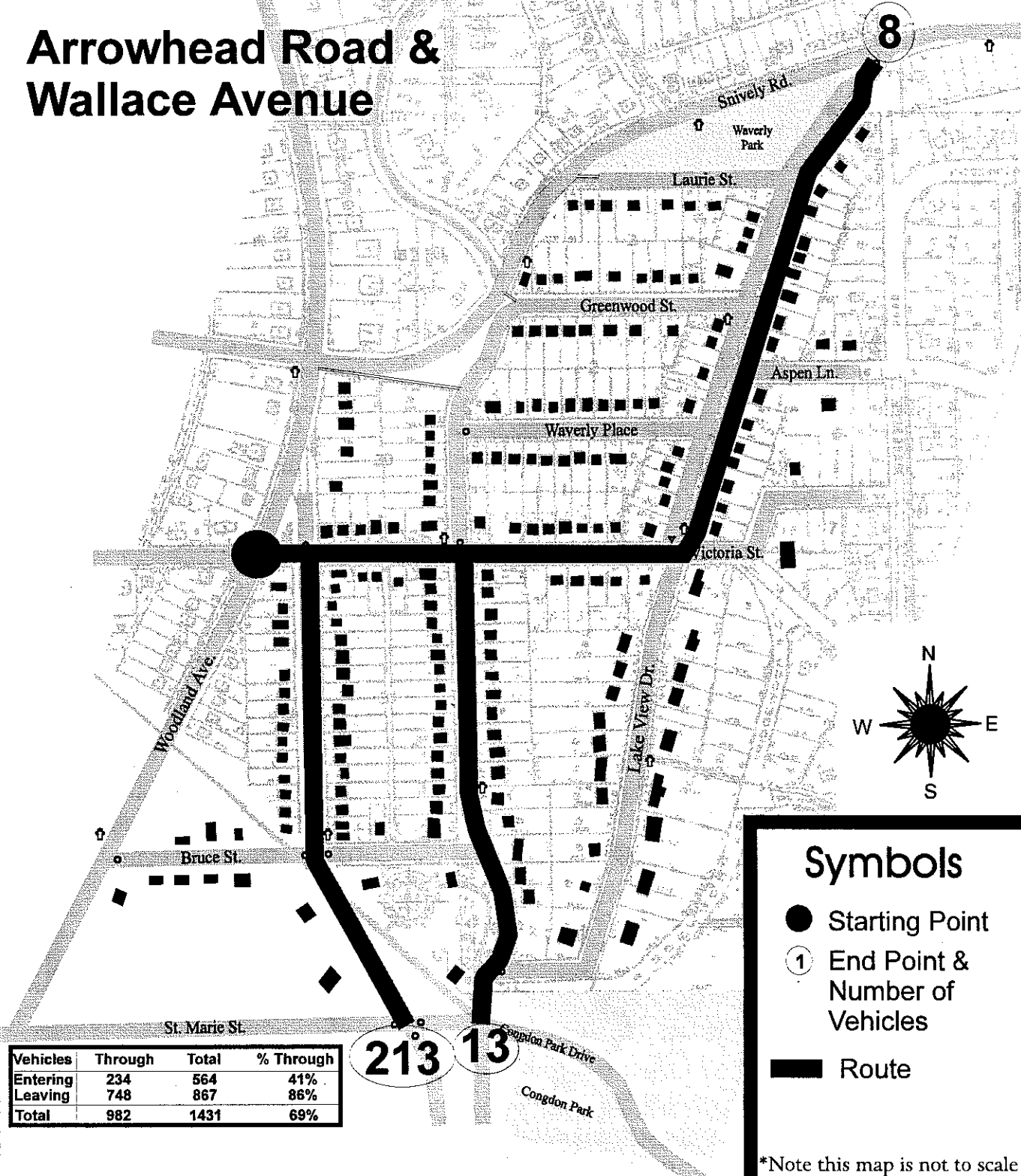
St. Marie Street & Wallace Avenue



PM Through Movements

September 12, 1995, 2:30 p.m. to 6:00 p.m.

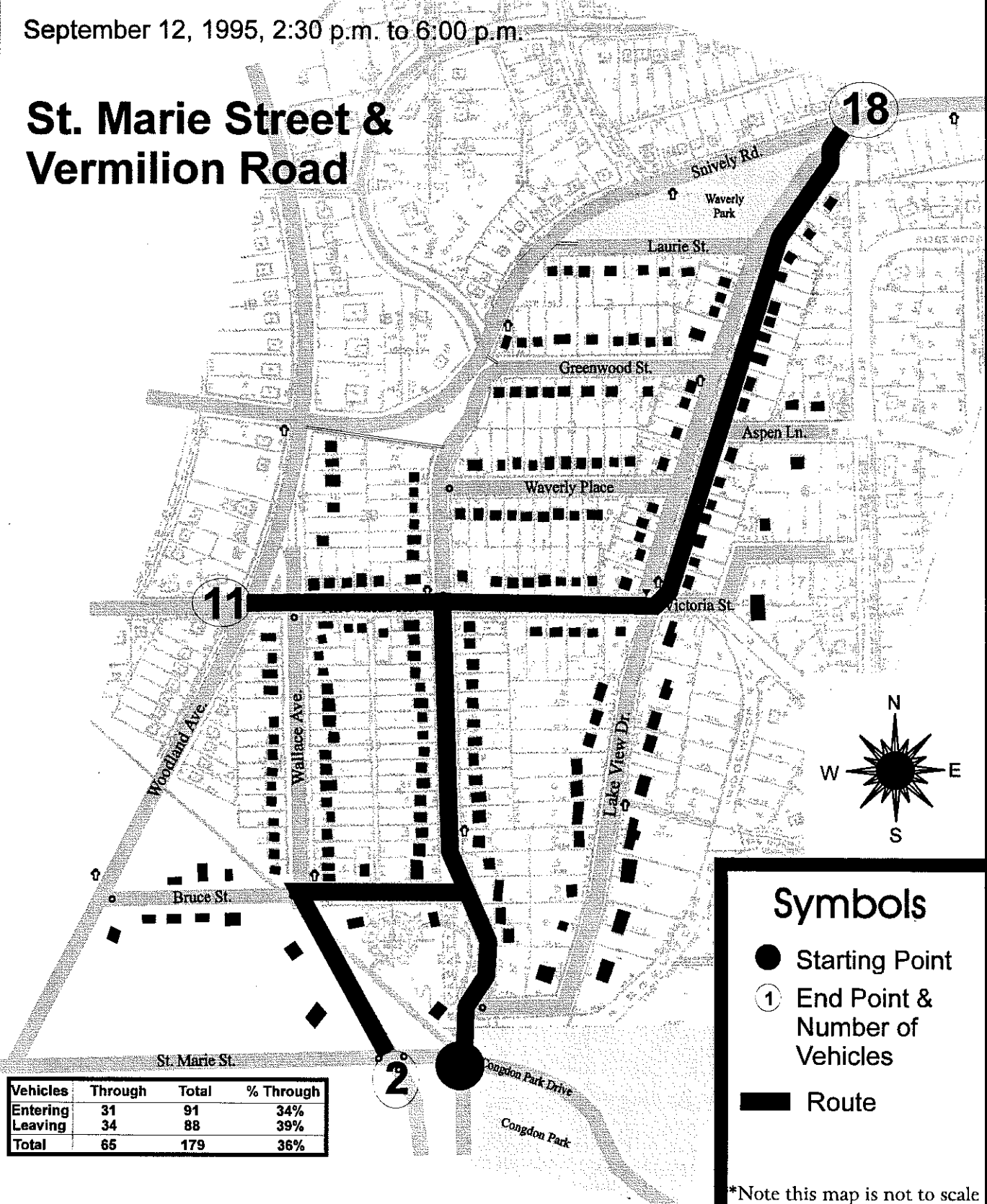
Arrowhead Road & Wallace Avenue



PM Through Movements

September 12, 1995, 2:30 p.m. to 6:00 p.m.

St. Marie Street & Vermilion Road



Symbols

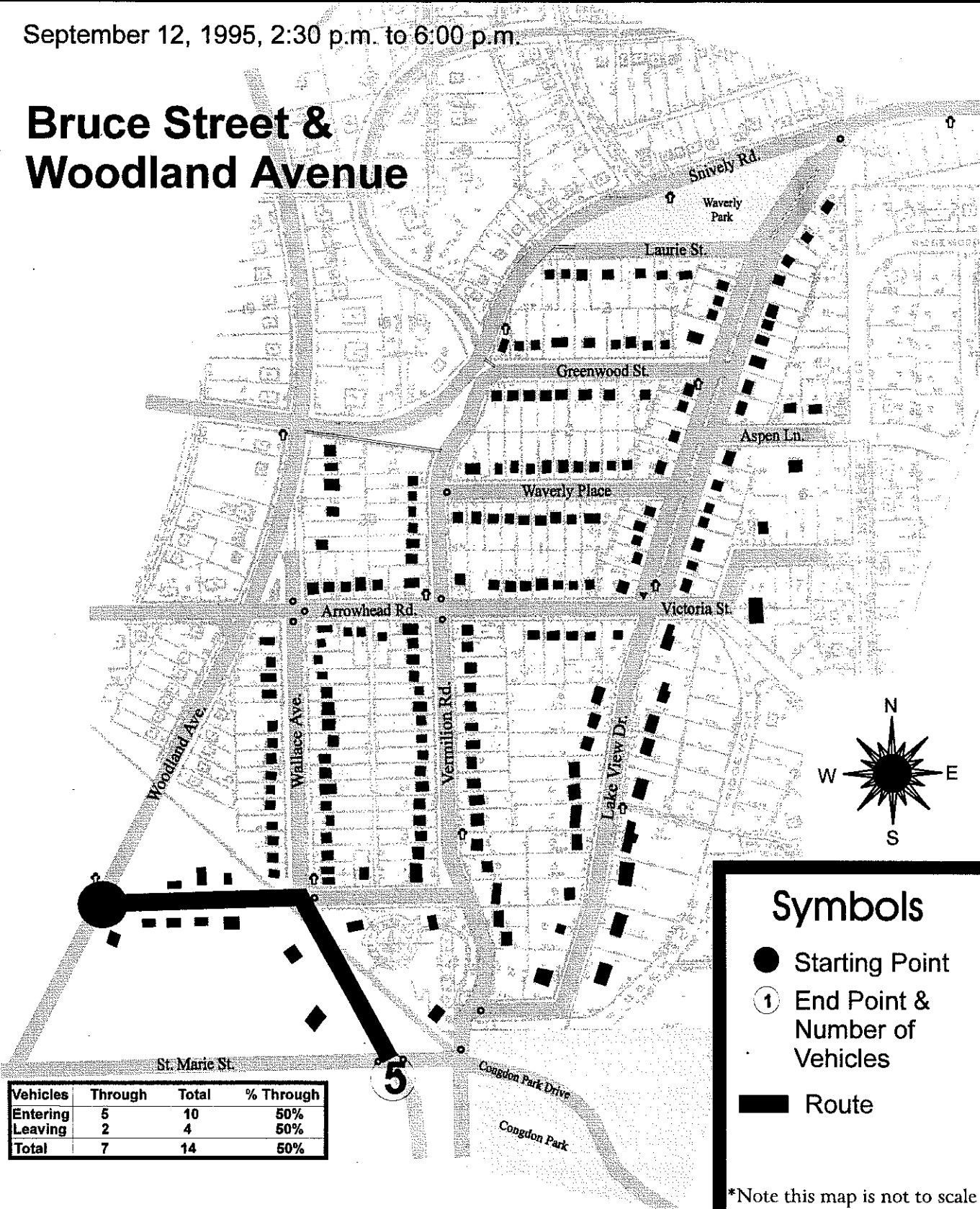
- Starting Point
- ① End Point & Number of Vehicles
- ▬ Route

*Note this map is not to scale

PM Through Movements

September 12, 1995, 2:30 p.m. to 6:00 p.m.

Bruce Street & Woodland Avenue



Possible Alternatives

① Snively Road Median

Install a median on Snively Road restricting left turns from Snively Road to Lake View Drive. This results in right-in and right-out turning movements.

② Relocate Lake View Drive Intersection

Relocate the intersection of Lake View Drive and Snively Road. This may result in more turning movements making the route less desirable. Other options include making the relocated intersection as an entrance or exit only. The topography of the designated area should be considered.

③ Lake View Drive "Bottleneck"

Develop Lake View Drive as a "bottleneck". A "bottleneck" is a traffic calming technique that accommodates one lane of traffic on Lake View Drive at its intersection with Snively Road. Other options include developing the intersection as an entrance or exit only.

④ Lake View Drive cul-de-sac

Develop a cul-de-sac on Lake View Drive at the Snively Road intersection. This would restrict all traffic movements between Lake View Drive and Snively Road.

⑤ Residential Roadway "Speed Humps"

Install "speed humps" on residential roadways such as Lake View Drive, Vermilion Road, and/or Arrowhead Road. "Speed humps" are a traffic calming technique that are more effective than speed bumps in slowing overall traffic speeds. They are approximately four inches high and twelve feet long.

⑥ Close Vermilion Road Bridge

Designate the Vermilion Road bridge near the St. Marie Street intersection for pedestrian and bicycle traffic only. Motor vehicle traffic would not have access between Vermilion Road and St. Marie Street.

⑦ Arrowhead Road/Wallace Avenue "Diagonal Diverter"

Install a "diagonal diverter" at Arrowhead Road and Wallace Avenue intersection. "Diagonal diverters" are a traffic calming technique that physically divides an intersection diagonally. Through movements are not allowed by directing traffic to appropriate roadways. The diverter would prevent traffic from the Arrowhead Road and Woodland Avenue intersection from proceeding eastward on Arrowhead Road. However, this alternative does not increase space for vehicles waiting at the traffic signal. Other intersections in the neighborhood could be considered for this type of treatment.

⑧ Snively Road Dual Left Turn Lanes

Develop dual left turns on Snively Road at the intersection with Woodland Avenue. The dual left turn lanes would increase traffic flow and allow more vehicles to make turning movements.

Other considerations

☛ The “Do Nothing” Alternative

This represents a return to past conditions where no signs restricting left turns off Snively Road to Lake View Drive and no one way designation of lower Lake View Drive existed.

☛ The “Leave as Is” Alternative

This represents current conditions of signs restricting left turns off Snively Road to Lake View Drive and one way designation of lower Lake View Drive.

☛ Combinations

Consider combination of alternatives.

☛ Other Ideas

Consider other ideas.

When evaluating alternatives...

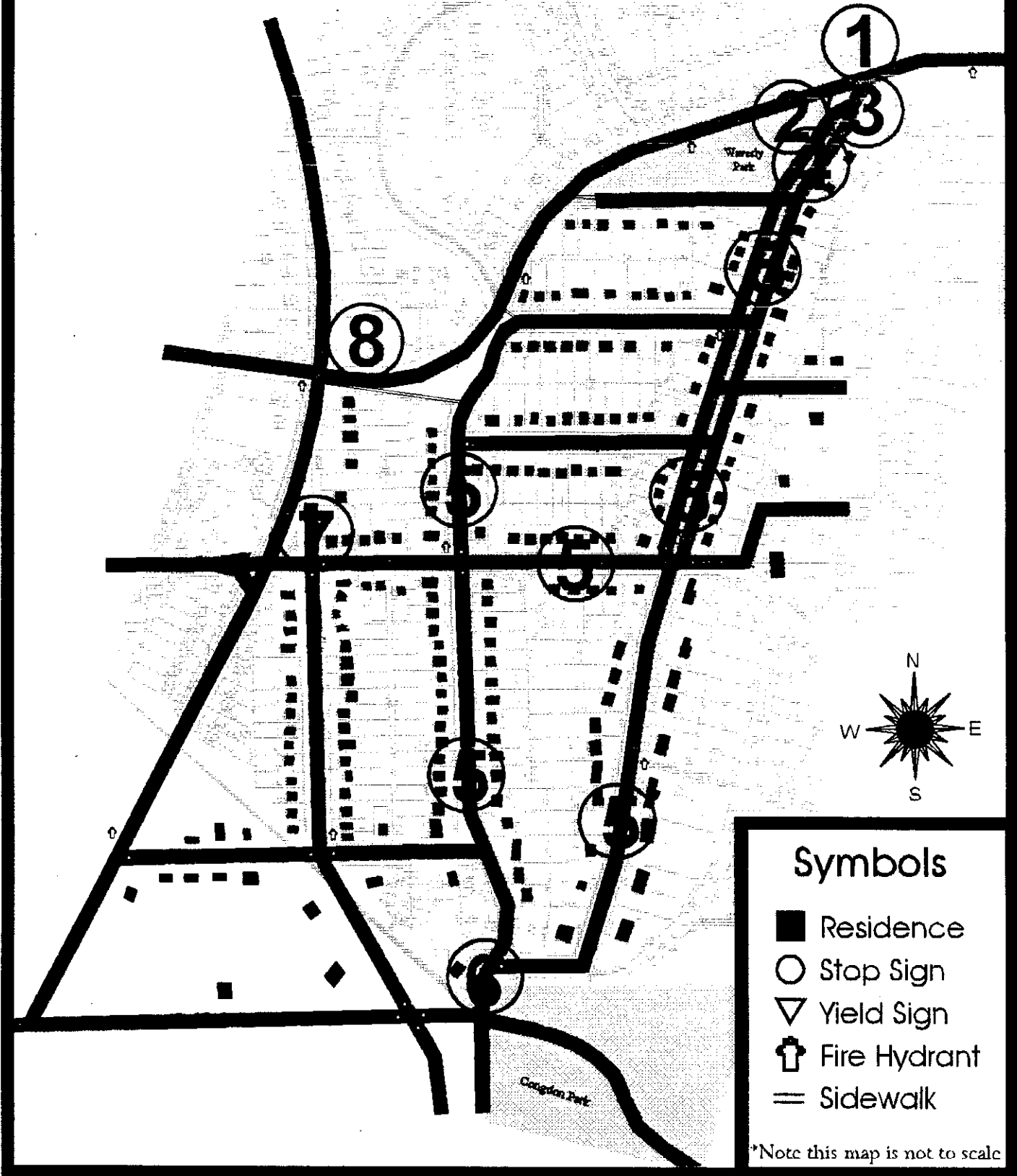
...consider the advantages and disadvantages of the alternative.

...consider if the alternative will really discourage through traffic and/or speed of traffic?

...consider if the alternative affects residents more than through traffic?

Waverly Park

Possible Alternatives



Roadway	Location	1994	1993	1992	1991	1990	1989	1988	<=1987
Arrowhead Road	west of LakeView Drive	380				271			
	east of Lake View Drive	28							
	east of Wallace Ave								487
Lake View Drive	north of Arrowhead Road	283				426			
	south of Snively Road	510				426			413
St. Marie Street	west of Vermillion Road	3,501					4,079		
	east of Woodland Ave	2,341	3,397				3,296		
Woodland Avenue	south of Arrowhead Rd	15,716				15,841	16,830		
	north of Arrowhead Rd	21,198				17,089			
	north of St. Marie Street	15,326					16,108		
	north of Snively Road	10,900*							
Snively Road	west of Lake View Drive	9,100*							7,358
Wallace Avenue	south of Arrowhead Rd	3,100*							
	south of St. Marie St	2,533*							

* indicates most recent count/unknown year

MIC Final Neighborhood Meeting

November 2, 1995

NOTICE

Waverly Park Neighborhood Traffic Circulation Study Meeting

Thursday, November 2, 1995, 7:00 p.m. to 9:00 p.m.

**Glen Avon Presbyterian Church
2105 Woodland Avenue**

The Duluth-Superior Metropolitan Interstate Committee (MIC), in cooperation with the City of Duluth, conducted a Traffic Circulation Study of the Waverly Park neighborhood over the summer. The study involved analyzing traffic patterns, reviewing transportation deficiencies, developing recommendations and alternatives, and meeting with the neighborhood.

Study recommendations will be based on traffic movement analysis, survey results and your participation. The City of Duluth will be responsible for carrying out recommendations of this study.

The MIC will hold a meeting Thursday, November 2 to discuss recommendations of the study addressing traffic flow in the neighborhood. Your attendance and comments concerning the recommendations are encouraged.

The MIC will hold the meeting **Thursday, November 2, 7:00 p.m. to 9:00 p.m., Glen Avon Presbyterian Church, 2105 Woodland Avenue.**

If you have any questions concerning the study or this meeting please contact Scott Peters, Associate Planner, Arrowhead Regional Development Commission (ARDC), 330 Canal Park Drive, Duluth, MN 55802. Phone 722-5545. ARDC provides staff to the Metropolitan Interstate Committee and is responsible for conducting this study.

If you have any questions concerning future neighborhood meetings please contact Ben Boo, 728-2977, Kris Larsen, 724-8423, Mary Riley, 724-4925, or Pat Bagley, 724-9329.

**Metropolitan Interstate Committee
Waverly Park Neighborhood Traffic Circulation Study**

**Thursday, November 2, 1995
Glen Avon Presbyterian Church, 2105 Woodland Avenue**

Participants: Waverly Park neighborhood residents, ARDC staff, City of Duluth staff and St. Louis County staff.

Purpose of the Meeting: To provide neighborhood residents an opportunity to comment on recommendation scenarios.

Desired Outcome: To evaluate neighborhood residents' comments in development of final recommendations.

AGENDA

- 1. Review Neighborhood Analysis of Potential Alternatives** **7:00-7:20**
Review of neighborhood residents' comments concerning the alternatives presented at the last meeting. This includes recommendations of preferred, acceptable and unacceptable.
- 2. Review of Recommendation Scenarios** **7:20-8:00**
A review of the three recommended scenarios developed.
- 3. Process** **8:00-8:10**
Explanation of the process, next steps taken and time lines
- 4. Meeting Summary** **8:10-8:30**
Answers to any remaining questions and meeting wrap up.

Waverly Park Neighborhood Traffic Circulation Study

Neighborhood Analysis of Potential Alternatives

Increasing the Efficiency of the Woodland Avenue Corridor

Strategy: Increase the efficiency of the Woodland Avenue corridor by providing a double left turn lane on Snively Road, providing a right turn lane on northbound Woodland Avenue at the Snively Road intersection, synchronizing traffic signals on Woodland Avenue, and widening Snively Road.

Results: This would help improve the flow of traffic on the Woodland Avenue corridor and the arterial roadway system.

Neighborhood Residents Recommendation: Preferred Alternative.

Snively Road Dual Left Turn Lanes

Strategy: Develop dual left turning lanes and traffic signalization on Snively Road at the intersection with Woodland Avenue. This strategy is shown in the previous recommendation.

Results: The dual left turn lanes would increase traffic flow, increase roadway capacity and allow more vehicles to make turning movements.

Neighborhood Residents Recommendation: Preferred and Acceptable Alternative. The alternative is preferred in combination with a right turn lane on northbound Woodland Avenue at the intersection with Snively Road. The alternative is acceptable in combination with straightening Snively Road.

Snively Road Median

Strategy: Install a median on Snively Road restricting left turns from Snively Road to Lake View Drive.

Results: This results in right-in and right-out turning movements.

Neighborhood Residents Recommendation: Preferred and Acceptable Alternative. The alternative is preferred if the median were developed with provisions allowing left and right exits and if left turns off Snively are prohibited. Differing opinions existed concerning making the alternative acceptable if another access (Vermilion Road bridge) were eliminated.

Lake View Drive cul-de-sac

Strategy: Develop a cul-de-sac on Lake View Drive at the Snively Road intersection.

Results: This would restrict all traffic movements between Lake View Drive and Snively.

Neighborhood Residents Recommendation: Preferred, Acceptable, and Unacceptable Alternative. The alternative is preferred in combination with providing emergency vehicle access to/from Snively Road. Residents did not develop consensus on this alternative.

Lake View Drive “Bottleneck”

Strategy: Develop the entrance of Lake View Drive at Snively Road as a “bottleneck”. A “bottleneck” is a traffic calming technique that accommodates one lane of traffic on Lake View Drive at its intersection with Snively Road. Other options include developing the intersection as an entrance or exit only.

Results: This would restrict Lake View Drive to one lane of traffic at its intersection with Snively Road. The alternative would work best in combination with other alternatives.

Neighborhood Residents Recommendation: Acceptable and Unacceptable Alternative. The alternative is acceptable in combination with a median on Snively Road. The recommendation is unacceptable, as perception is that vehicles will continue to turn left/disregard the no left turn restrictions on Snively Road. The alternative would need to be combined with other alternatives.

Residential Roadway “Speed Humps”

Strategy: Install “speed humps” on residential roadways such as Lake View Drive, Vermilion Road, and/or Arrowhead Road. “Speed humps” are a traffic calming technique that are more effective than speed bumps in slowing overall traffic speeds. They are approximately four inches high and twelve feet long.

Results: This strategy would help in reducing the speed of traffic on neighborhood roadways. However, it does not reduce the volume of traffic.

Neighborhood Residents Recommendation: Acceptable and Unacceptable Alternative. The alternative is acceptable if used in combinations of leaving accesses open. The alternative is unacceptable in that the present roadway conditions (deteriorated surfaces/potholes) serve this purpose.

Close Vermilion Road Bridge

Strategy: Designate the Vermilion Road bridge near the St. Marie Street intersection for pedestrian and bicycle traffic only. Motor vehicle traffic would not have access between Vermilion Road and St. Marie Street.

Results: Motor vehicle traffic would be prohibited from using the intersection. This alternative would provide for greater motor vehicle safety at the intersection. However, use of Wallace Avenue and Bruce Street would increase.

Neighborhood Residents Recommendation: Acceptable and Unacceptable Alternative.

There was no consensus among neighborhood residents concerning this alternative. Concerns with safety, crime, isolation, and lack of lighting were present.

Arrowhead Road/Wallace Avenue “Diagonal Diverter”

Strategy: Install a “diagonal diverter” at Arrowhead Road and Wallace Avenue intersection. “Diagonal diverters” are a traffic calming technique that physically divides an intersection diagonally. Through movements are not allowed by directing traffic to appropriate roadways.

Results: The diverter would prevent traffic from the Arrowhead Road and Woodland Avenue intersection from proceeding eastward on Arrowhead Road. However, this alternative does not increase space for vehicles waiting at the traffic signal. Other intersections in the neighborhood could be considered for this type of treatment.

Neighborhood Residents Recommendation: Acceptable and Unacceptable Alternative. The alternative is acceptable if the need and location were further examined. An emphasis in preventing through traffic from west Arrowhead Road to Snively Road via Lake View Drive was suggested. There was no consensus concerning this alternative.

Other Traffic Calming Techniques

Strategy: Develop other traffic calming techniques to slow traffic on Arrowhead Road and/or other local roadways.

Results: Development of traffic calming techniques would reduce vehicles speeds in the neighborhood, but do not prohibit through traffic from using neighborhood roadways.

Neighborhood Residents Recommendation: Acceptable and Unacceptable Alternative. The alternative is acceptable if traffic from west Arrowhead Road can be slowed down when it enters the neighborhood. The alternative is unacceptable since currently parked cars serve the same purpose and traffic currently is not affected. In addition, it is currently difficult to travel on the local roadways in the winter without any traffic calming techniques implemented.

Relocate Lake View Drive Intersection

Strategy: Relocate the intersection of Lake View Drive and Snively Road.

Results: This may result in more turning movements making the route less desirable. Other options include making the relocated intersection as an entrance or exit only. The topography of the designated area should be considered.

Neighborhood Residents Recommendation: Unacceptable Alternative. The alternative is unacceptable as the slope of the intersection would be dangerous. The location of the proposed route is through the park area.

Expand Access

Strategy: Expand access to the neighborhood by connecting Aspen Lane and E. Arrowhead Road with the Hidden Valley neighborhood to the east.

Results: This alternative would provide greater neighborhood access and provide more options for travel within the neighborhood

Neighborhood Residents Recommendation: Unacceptable Alternative. The alternative is unacceptable as the disadvantages outweigh the benefits to neighborhood roadway traffic.

Scenario One - Reconstruct the Roadways

Leave street design as is

The first scenario represents reconstructing the neighborhood roadways, leaving the existing signage restricting left turns off Snively Road to Lake View Drive, and leaving the one way designation of lower Lake View Drive. Streets should be reconstructed at their current widths when possible.

The through movement survey indicated that most of the traffic on neighborhood roadways is local resident traffic. The volume of through traffic was low compared to all traffic in the neighborhood. The small percentage of traffic that uses the neighborhood roadways opposed to arterial and collector streets do not warrant additional restrictions to access or roadway conditions to further restrict through traffic.

Advantages of Scenario One

- ☛ Residents' travel patterns are not drastically altered.
- ☛ The current signage restricting left turns off Snively Road and designating lower Lake View Drive as a one way southbound is for the most part working.
- ☛ No further examination, studies or engineering that may delay construction is needed beyond what would normally be done.

Disadvantages of Scenario One

- ☛ The scenario does not take into account the potential increase of traffic on the improved residential roadways.
- ☛ It is very difficult and costly to retrofit more improvements or traffic calming techniques after the residential roadways are reconstructed.
- ☛ Major improvements to the arterial and collector system is not scheduled (Snively Road, Woodland Avenue, Wallace Road, and St. Marie Street).

Effects on Neighborhood Residents

Improved roadways may result in increased speeds and possible increased volumes of traffic. Through traffic may increase because of disregard for the current signage.

Effects on Through Traffic

It may be more inviting for through traffic since local roadways are improved and the arterials and collectors in the area will not be improved. The improved local roadways may also lead to increased speeds resulting in quicker travel times.

Effects on Others (Police, Fire, Maintenance)

- ✓ No increased obstacles to maintenance (snow plowing) will be developed.
- ✓ No accesses are eliminated.
- ✓ Police may be asked for closer monitoring of vehicles disobeying signage.

The City of Duluth is responsible for Scenario One.

Scenario Two - Improve the Arterial Roadways

Improve the Surrounding Arterial Roadways

The second scenario represents increasing the efficiency of the arterial roadways that border the neighborhood. This involves:

- a) synchronizing traffic signals on Woodland Avenue at St. Marie Street, Arrowhead Road, and Snively Road to provide smoother traffic flow,
- b) providing dual left turn lanes on Snively Road at the Woodland Avenue intersection and possibly widening of Snively Road at the intersection to accommodate the dual left turns,
- c) providing a designated right turn lane on northbound Woodland Avenue at the Snively Road intersection,
- d) installing a median on Snively Road restricting left turns from Snively Road to Lake View Drive, but allowing left and right turn exits from Lake View Drive.
- f) installing a median on St. Marie Street restricting direct access from Vermilion Road, south of St. Marie Street OR leaving the one way designation on lower Lake View Drive.

Advantages of Scenario Two

- ☞ Improving the efficiency of the surrounding arterial roadways could improve the flow of traffic on arterial roadways.
- ☞ Improvements encourage through traffic to use appropriate roadways.
- ☞ The medians restricting entrances to local roadways serve as a compromise between contingents that endorse access closure and those who do not.

Disadvantages of Scenario Two

- ☞ The physical improvements may affect residential traffic more than through traffic.
- ☞ The scenario requires unscheduled improvements to other roadways.
- ☞ The scenario also requires implementation by more than one jurisdiction (City of Duluth and St. Louis County). However, this could also be seen as a positive opportunity.

Effects on Neighborhood Residents

Potential reduction of through traffic on local roadways may occur. The physical improvements may alter neighborhood residents travel patterns.

Effects on Through Traffic

Through traffic is encouraged to use proper roadways. The arterial roadway system is also improved to encourage through traffic use.

Effects on Others (Police, Fire, Maintenance)

- ✓ Minimum increase in maintenance difficulties through development of the medians.
- ✓ No accesses are eliminated.

The City of Duluth and St. Louis County are responsible for Scenario Two.

Scenario Three - Further Study of Access Closures and Traffic Calming

Extensive Traffic Calming Techniques and Possible Access Closures

The third scenario requires further review by the City of Duluth. This scenario offers a pair of options. MIC Staff through this study has concluded that access closures are not warranted because through traffic volumes are low. This is based on the Institute of Transportation Engineers (ITE) recommendation. The ITE recommends residential street closures as a control device for high through traffic volumes if daily traffic volumes exceed 3,000 vehicles/day and non-local traffic consists of 20 percent or more of all traffic. (p.44, ITE Journal, May 1993). However, traffic calming techniques may help in reducing vehicle speeds.

If neighborhood residents and the City of Duluth desire to further pursue access closures the following options are suggested.

1. Consider a temporary test period in which the effects of a Lake View Drive cul-de-sac and/or closure of the Vermilion Road bridge can be measured. Temporary devices such as concrete barriers or barrels could be used as temporary obstacles.
2. Reexamine possible access closures after improvements to the arterial system and reconstruction of the neighborhood roadways occur.

Advantages of Scenario Three

- ☒ It provides adequate analysis of all the alternatives
- ☒ Evaluation of through traffic movements can be properly addressed after residential roadways are reconstructed.

Disadvantages of Scenario Three

- ☒ An additional cost of implementing potential solutions will occur.
- ☒ Implementation will occur after the residential roadways are improved.

Effects on Neighborhood Residents

It gives actual experimentation of different alternatives. Temporary traffic control devices can be unsightly and may attract vandalism.

Effects on Through Traffic

The temporary test period may be confusing, lead to higher speeds, and possible accidents.

Effects on Others

- ✓ Increased obstacles may cause problems for maintenance crews.
- ✓ The temporary test periods need to be closely coordinated with police and fire.
- ✓ Police may be asked for closer monitoring of vehicle movements and potential vandalism.

The City of Duluth is responsible for Scenario Three.

Other Recommendations

Other recommendations include small physical improvements, increased enforcement, better signage, increased winter maintenance and noise abatement recommendations. These recommendations will be included in the final recommendations.

Street Widths. Neighborhood residents' consensus was to reconstruct roadways at current widths if possible.

Arrowhead Road/Wallace Avenue Intersection. Better signage may be needed at the intersection to inform vehicles that eastbound traffic does not stop. Motorists also need to be alerted of potential pedestrian traffic. Pedestrian movements through the intersection need to be easier. There is currently disregard for the stop signs at the intersection. Westbound traffic on Arrowhead Road and northbound traffic on Wallace Road have difficulty at the stop signs in the winter with the slippery roadway conditions at the intersection. In addition, Wallace Road is not a truck route and possibly should be signed as such.

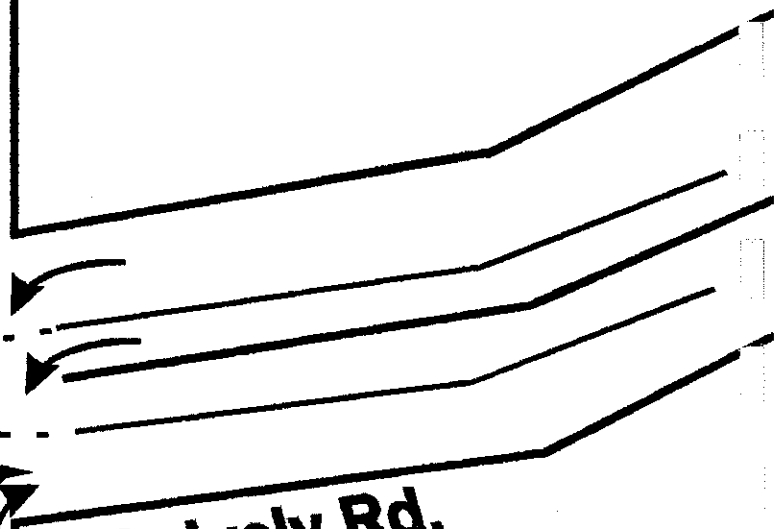
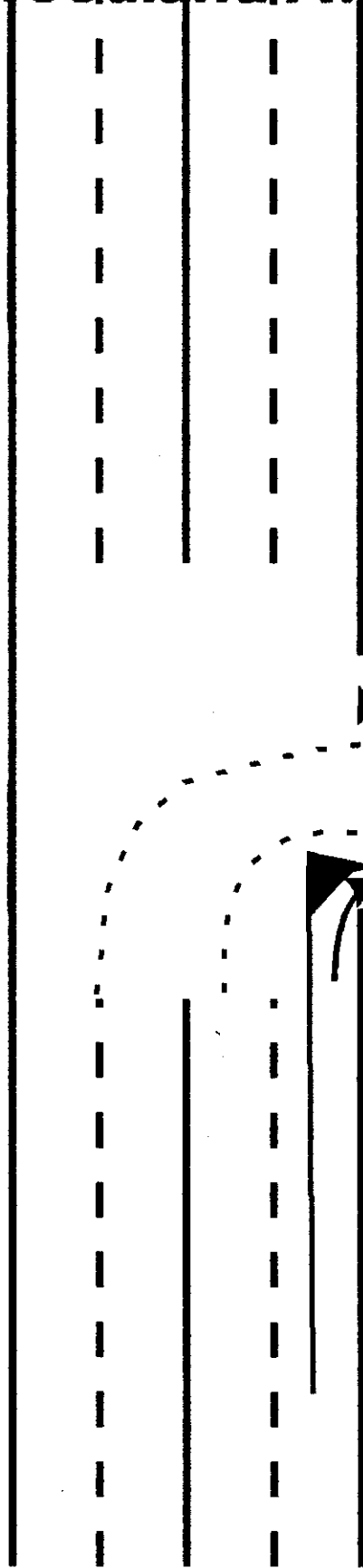
Bruce Street/Woodland Avenue Intersection. Visibility is a concern on Bruce Street at the intersection with Woodland Avenue. Shrubs block the view of northbound traffic on Woodland Avenue.

Vermilion Road/Waverly Street Intersection. Visibility is a concern at the intersection. Shrubs block the view of southbound traffic on Vermilion Road.

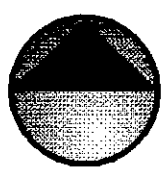
Laurie Street and Greenwood Street. Traffic noise from Snively Road is a problem for residents near the roadway.

Vermilion Road/Lake View Drive/St. Marie Street Intersections. There is current disregard of stop signs and do not enter signs at the Vermilion Road/Lake View Drive intersection. The ninety-degree angle on Lake View Drive is dangerous for vehicles because of the speed of traffic and disregard of one way signage. The area is dangerous for pedestrians because of a lack of sidewalks and roadway shoulders in the area. In addition, shrubs located north of the area contribute to a "blind corner" for motorists and pedestrians. The stop sign on Vermilion Road at the intersection with St. Marie Street is hidden in the shrubs. Southbound traffic cannot see it.

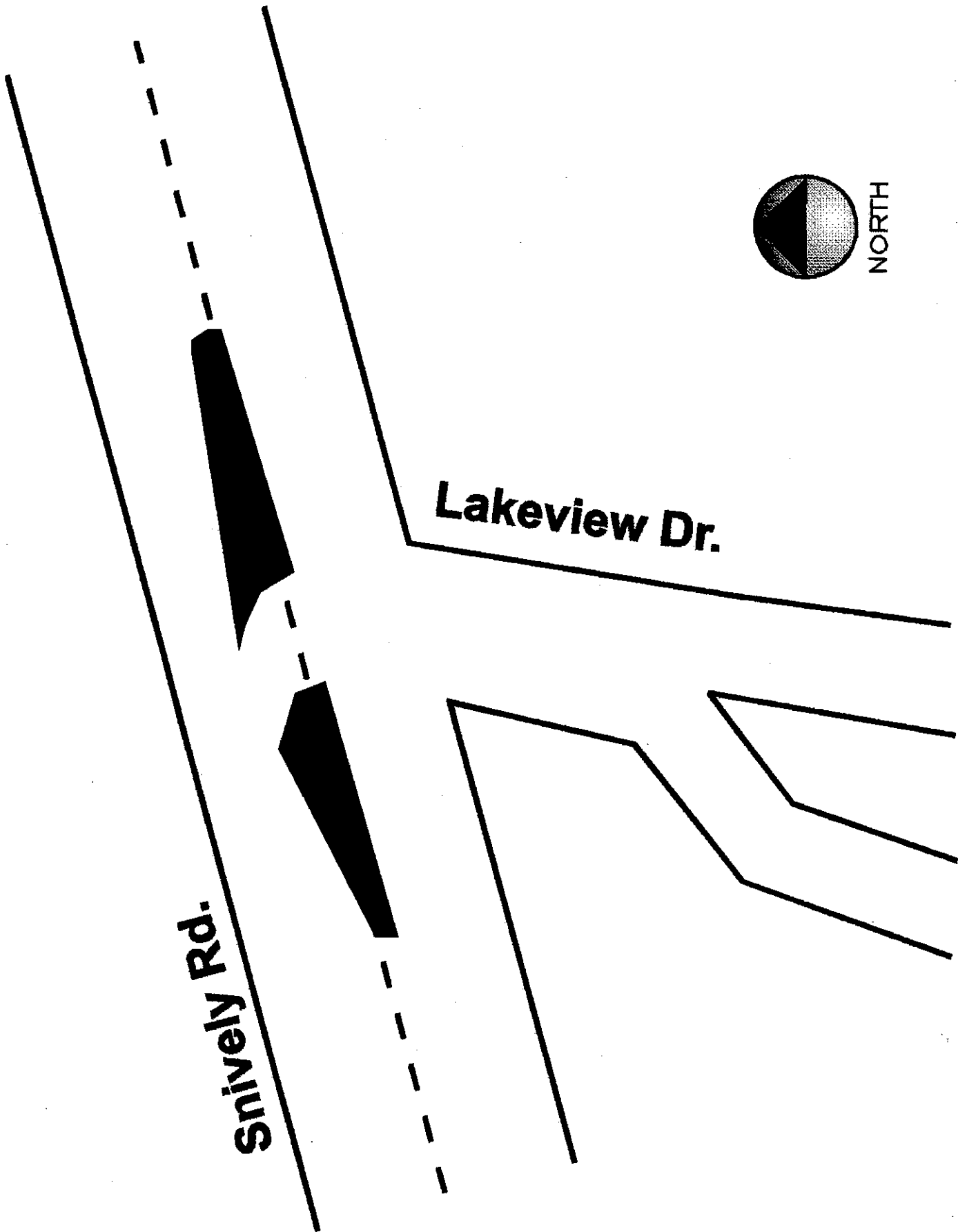
Woodland Ave.



Snively Rd.

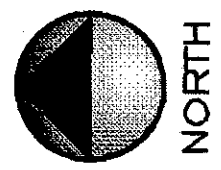


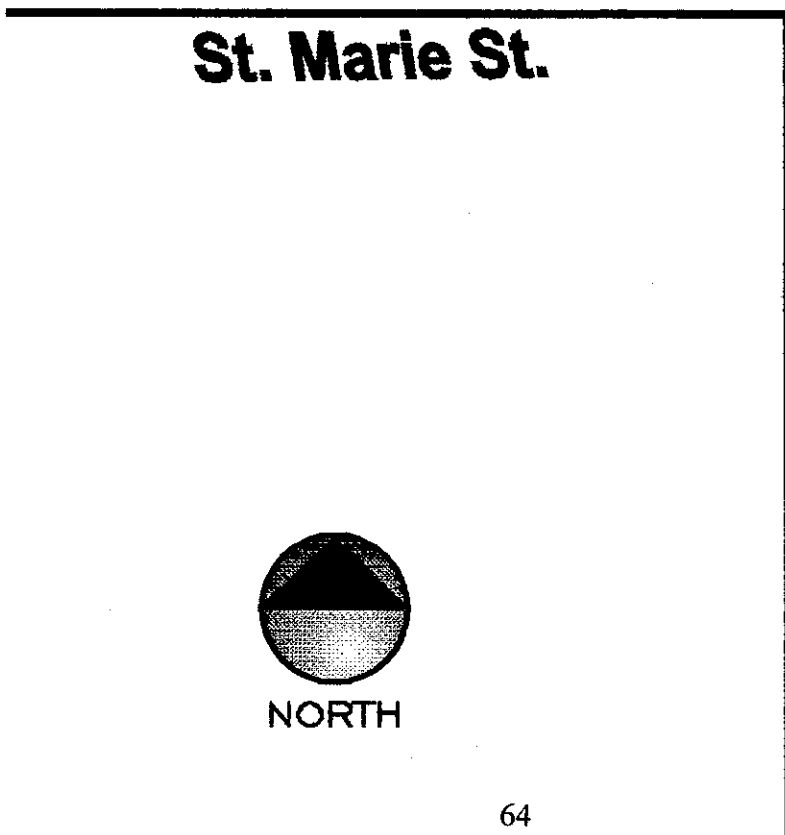
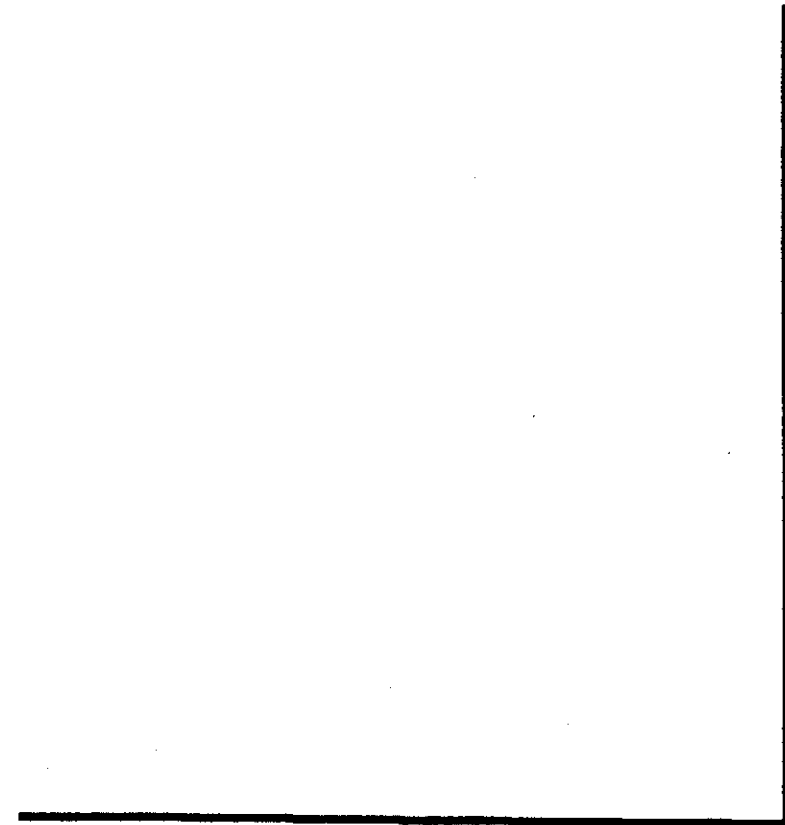
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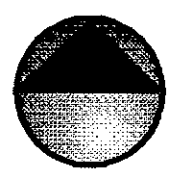
Snively Rd.

Lakeview Dr.

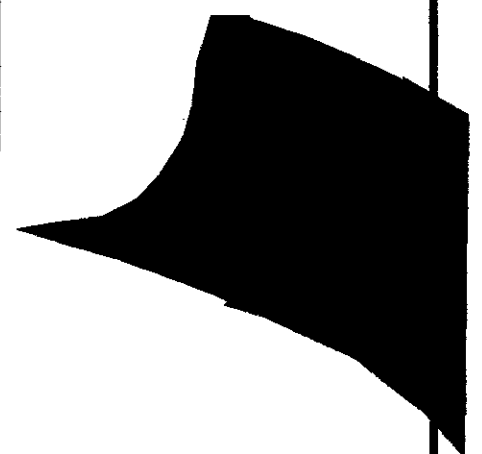




St. Marie St.



NORTH

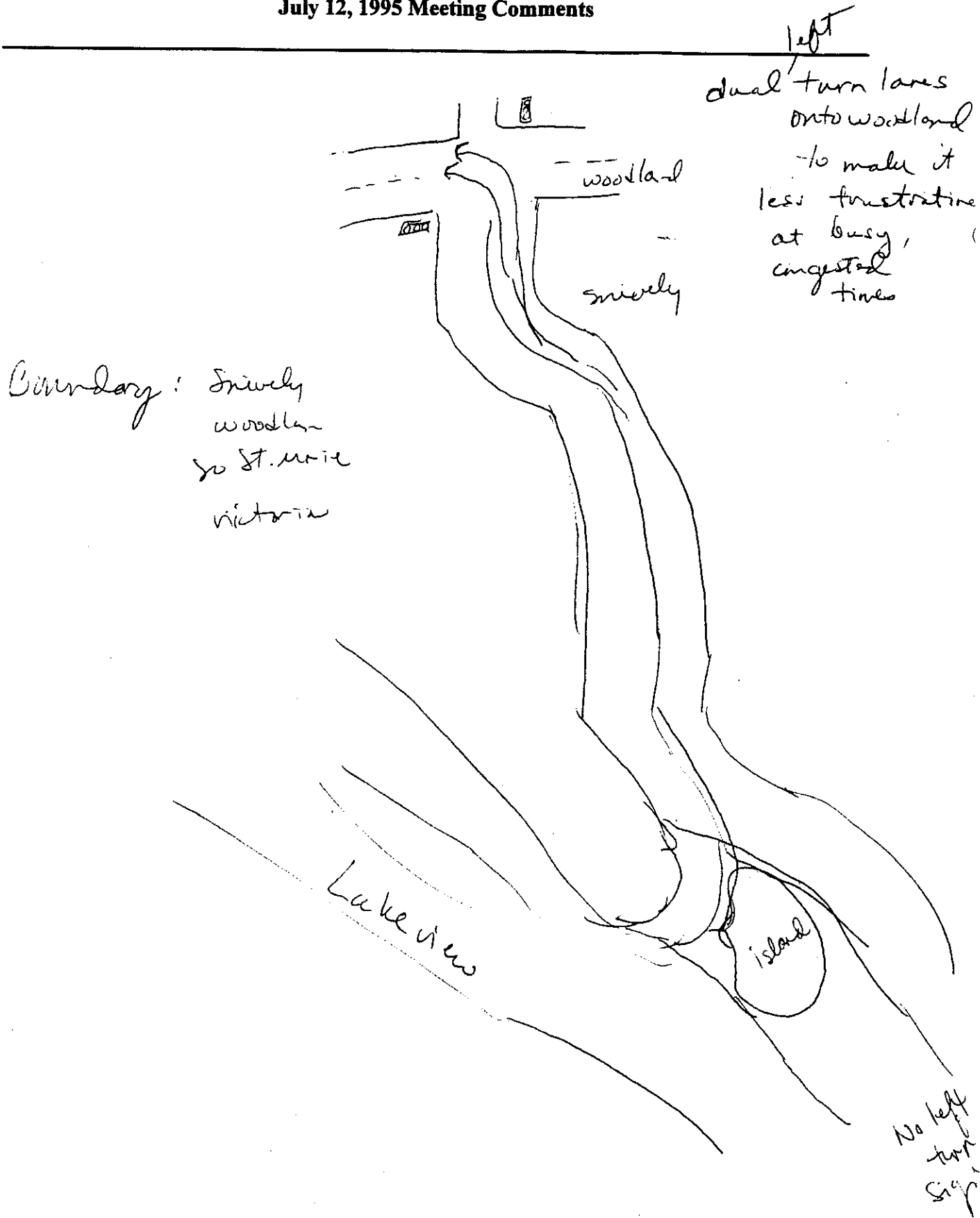


Vermillion Rd.

Written Comments

Waverly Park Neighborhood Traffic Circulation Study

July 12, 1995 Meeting Comments



Waverly Park Neighborhood Traffic Circulation Study

July 12, 1995 Meeting Comments

In spite of the fact that Lakewood Ave persons speak individually and repeatedly, the Arrowhead Road residents will expect every bit as much attention to the situation as Lakewood.

Dead ending Arrowhead ^(at Wallace) is a bold + splendid idea - like the streets up by old Lowell school.

Don't let the cul-de-sac contingent deep 6 all other ideas. That's what you're hearing to some extent.

Waverly Park Neighborhood Traffic Circulation Study

July 12, 1995 Meeting Comments

Please consider the
comments of Residents
on Lakewood Drive.
It is not Fair that
we have to bear the
excessive traffic on
Lakewood Drive.

Here is a summary of what we want

1. No connection to 34th or Aspen, ever!!! Arrowhead ^{not a thru}
2. Cal de sac - Mr. says he wants it, Mrs says not. if it means they're going to try opening to 34th or Aspen in trade at some point!! He she feels signs are working et snivily + will continue to work if traffic calming techniques are used extensively on Arrowhead.

3. Buy power lines + plant trees ^{where} people want

4. Arrowhead thinner, with on street ^{them.} parking preserved.

5. Thanks! Thanks! Thanks!

We have great faith in you ladies gups doing a good job.

Please provide your comments concerning what is working and what is not working with the present roadway conditions.

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

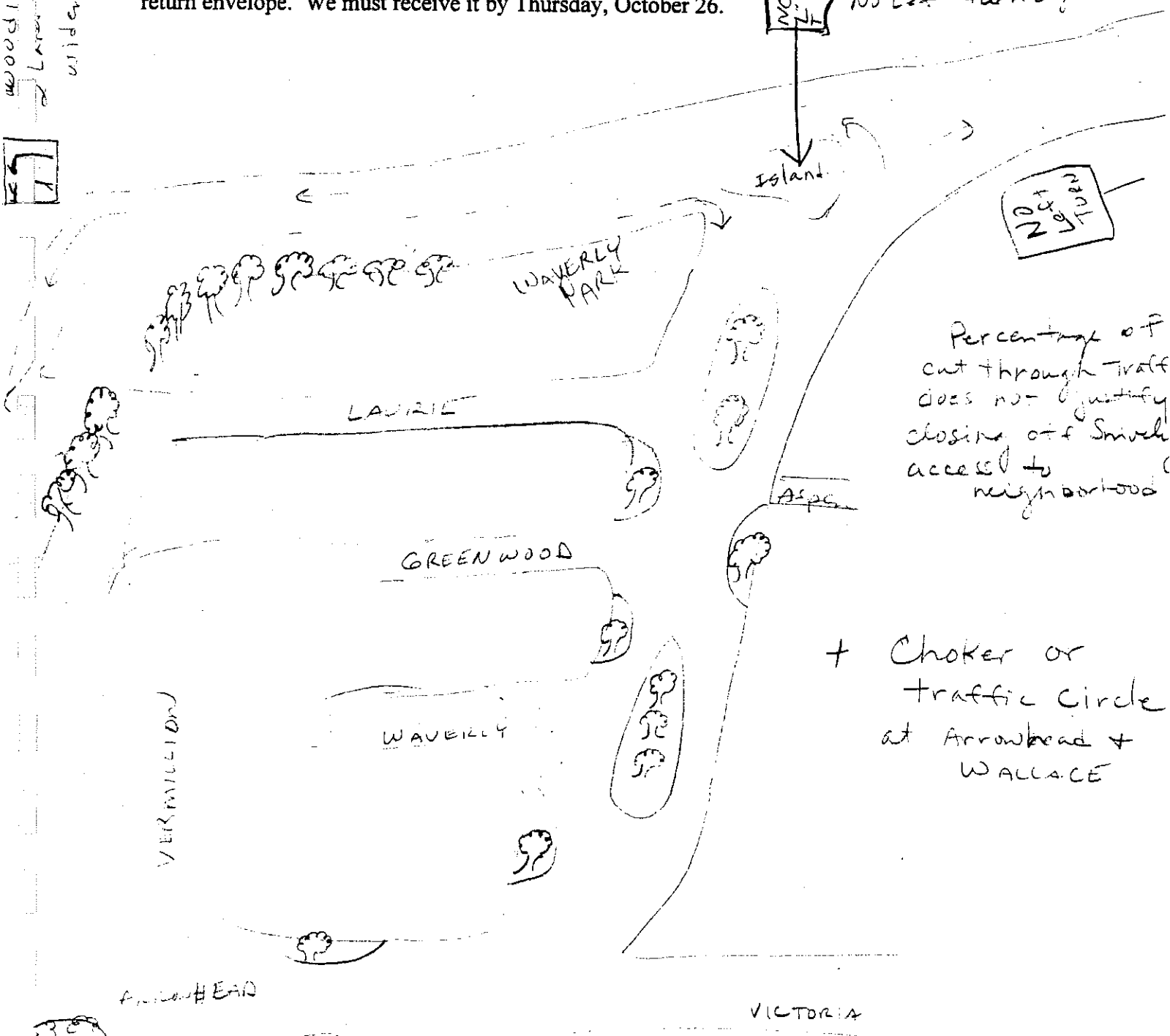
woodland
Laurie
wider to 3 lanes



NO LEFT TURN

NO Left turn sign

NO LEFT TURN



39

Close of
removal of...

Laurie View

Please provide your comments concerning what is working and what is not working with the present roadway conditions.

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

My preference is #4 - Lakewood Drive cul-de-sac. However in my small group was a neighbor from Laurie St. and I felt uncomfortable since he vocally opposed it. It solves ingress + egress ^{problem}.

2nd choice is combination of #1 ^{and} #8. I don't believe the amount of p.m. traffic in Arrowhead + out Lakewood warrants a diverter - the case from Woodland to Wallace + Snively is greater than in the a.m.

I oppose closing the Bridge for safety, crime problems. Also, that end of Lakewood Dr. becomes extremely isolated.

Please provide your comments concerning what is working and what is not working with the present roadway conditions.

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

As far as we're concerned, there is absolutely NOTHING wrong with the present traffic conditions, except that the street is in need in repair.

There is NOT a lot of traffic on Lakeview Drive now and never has been in all the many years that we have lived here. If the people that are complaining think there is too much traffic here, they shouldn't have purchased a home here. They knew it when they bought their home.

It is our understanding, that according to Traffic Engineer's concerns, the traffic is not supposed to be diverted from one street to another. By putting in a no left turn, cul de sac, one way street, closing bridges and using diverters, we would be doing EXACTLY THAT.

And, since when does everybody in the Waverly Park area have a say in what goes on on Lakeview Drive? They don't pay the taxes for Lakeview Drive. We who live on it do!

We, as two people, who live on Lakeview Drive object to all the changes that other park members are trying to impose on us. Fix the street, leave the width as it is, and otherwise leave it alone.

Please provide your comments concerning what is working and what is not working with the present roadway conditions.

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

The issue that concerns us the most is that we are not experimenting with temporary solutions to find out what works and what doesn't work. This guarantees that the more radical the proposed solution, the more likely there will be an extremely vocal minority objecting to it, which further guarantees an overly compromised and probably mediocre end state.

Consider, for instance, the notion of making Lakeview a cul-de-sac at the Snively end. Several neighborhood members consider this option to be the one that will accomplish the greatest good. Several other members adamantly object to it, saying it will impose unacceptable hardships. The same can be said for blocking off the Vermilion/St. Marie bridge.

Both of these options could be temporarily implemented using any number of methods: concrete dividers, 55-gallon drums, etc. This would allow us to actually measure both the positive and negative impacts of each option before making permanent changes.

Both of us believe that making a cul-de-sac on Lakeview would solve all the traffic flow problems. And we would gladly accept the hardship of having to use the Arrowhead/Woodland intersection for all eastbound travel in return for the absolute guarantee that the neighborhood would not be used as a shortcut.

A more moderate but almost equally effective solution would be to:

- Strengthen the "no left turn" off of Snively.
- Either block the bridge or make it a one-way outbound.
- Make Vermilion one-way (west) between Arrowhead and Waverly.



Please provide your comments concerning what is working and what is not working with the present roadway conditions.

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

At the present time, people are still going the wrong way on the one-way. (Lower Lakeview Dr). There still seems to be a fair amount of school traffic in the morning when I'm getting ready for going to work. I don't get home until after school traffic is over. I have had people try to pass me on the one way because I stay to the right. I have also ~~being~~ been at the stop sign with my left turn signal on and a car has pulled up to my left to turn before me - more than once.

I think some of the concerns are premature. Improving traffic flow on Woodland and Srinivas would help keep people on the arterial. I don't think any streets should be completely blocked off unless the improvements cause an increase in the traffic flow. Winter driving conditions need to be considered when blocking off streets. There are some streets including Arrowhead Road that are difficult to get down without chicanes or blockers.

**Please provide your comments concerning
what is working and what is not working
with the present roadway conditions.**

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

Brace street across Wallace needs a walk/pedestrian
stop light

**Please provide your comments concerning
what is working and what is not working
with the present roadway conditions.**

Please place this sheet in the comment box as you leave. You may also mail this sheet in the return envelope. We must receive it by Thursday, October 26.

Looking over the alternatives presented we find option 4, making Lake View Drive into a cul-de-sac the most attractive. It will once and for all prevent cars from using Lake View Drive as a through street & it will prevent afternoon traffic from the same. It would help if the traffic lights on Snively and Woodland were synchronized as well. We realize that residents on Laurie Str. may be opposed to this alternative. However loudly they object, they are nevertheless very few in number compared to the rest of us who would dearly like to keep the neighborhood quiet and safe (Perhaps they'd like Laurie Str. opened up to Snively?)

The second most appealing alternative is option #1, Snively Road Median. It would reduce traffic in the AM, but not in the PM. I know that as soon as our road is fixed hundreds of drivers will use it as a shortcut. I ~~have~~ have at least 10 friends who specifically say that the only reason they

do not use our road is because of its poor quality. It only takes them $\frac{1}{2}$ - 1 min longer to drive on Snively and Woodland, but in our speed-driven culture, 1 minute is apparently lots of time. In other words, we would like to prevent all that potential traffic from developing the habit of driving through our neighborhood, bringing noise, pollution and most importantly a dangerous environment for our many children.

The options that best meet the needs of a neighborhood that values its neighborliness, safety and quiet are options 4, the cul-de-sac, and also on the other end, option 6, close Vermilion Road Bridge. That intersection is quite dangerous anyway. Every winter we have several rear accidents. Closing it off would be safer for all concerned. Surely 1 minute or less of added driving time is nothing compared to the benefits of a neighborhood where the kids can truly play safely.

Thank you,

Mr. Scott Peters, Assoc. Planner
 A R & C
 330 Canal Park Dr.
 Duluth, Minn. 55802

Dear Mr. Peters:

I am writing regarding the traffic circulation study of the Waverly Park neighborhood. I am a long time (40 years) resident of Lakeview Drive. As such, I can state, unequivocally, that there has never been a traffic problem in the neighborhood.

I strongly oppose the present no left turn from Snively to Lakeview Drive. It is completely unwarranted. The one way designation of the 1700 & 1800 blocks, on the other hand, is reasonable because that part of the drive is narrow, with no sidewalks and a blind corner. Lakeview Drive off Snively has two double lanes separated by a median. With the no left turn sign, all traffic is funneled down Arrowhead Road which is narrow and often congested (cars parked on the street).

When I canvassed my block, the 1900 block, seven of the ten houses represented opposed, at that time, the cul de sac.

I believe a vocal minority has succeeded in their bid to close Lakeview Drive to the public, and that is wrong. The entire neighborhood should have a voice in this matter.

Cordially,

3 November 1995

Dear Mr. Peters,

I would like to provide some follow-up input to the 2 November meeting regarding street repairs and modifications in the Woodland Park neighborhood.

First, I understand the final figure for through traffic in the neighborhood is approximately 38%. I don't need to point out that, with no modifications to traffic flow, this figure will undoubtedly increase if the neighborhood roads are improved. If the roads are widened, the figure is bound to increase more.

With that as a starting point, and with the assumption that less, not more, through traffic is the goal, I think it is imperative that we implement some type of traffic flow plan that will act as a deterrent to through traffic.

I agree with the notion that the single biggest deterrent to using the neighborhood as a short cut would be creating a cul-de-sac at the intersection of Snively and Lakeview. This would effectively block both major neighborhood shortcuts (Snively/Lakewood to and from Woodland/Arrowhead, and Snively/Lakewood to and from the Vermilion bridge).

Understanding that the above recommendation has strong opposition from some people who live in that part of the neighborhood, the next biggest deterrent would be the following combination: a) strengthen the "no left turn" from Snively onto Lakeview by putting in an island, b) enhance the left turn option from Snively on to Woodland, and c) prevent traffic from entering the neighborhood via the Vermilion bridge (this could be accomplished by either blocking off the bridge completely or by making it a "one way" out).

The single biggest frustration in this process is that we are not considering using temporary structures to experiment with various options prior to permanent implementations. For instance, Lakeview could be made into a cul-de-sac temporarily by using common concrete construction barriers; the same could be done with respect to blocking off the Vermilion bridge. This would allow all parties to assess the impacts--both positive and negative--before taking any irrevocable steps. Why don't we consider this? It is a well known axiom of management that, when venturing into the unknown or when the stakes are really high, a reversible choice is preferable to an irreversible choice.

Thank you for taking the time to consider my input.



Any Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

• We do not like the NO LEFT TURN sign at Snively. Even residents ignore it, or turn around in a driveway or at Sussex to make a right turn onto Lakeview. These are public roads - we don't think the public's access should be restricted.

• The one-way designation on lower Lakeview does not pose a hardship.

We like any Scenario ~~because~~ ^{that} does not ~~completely~~ close any access. We are against any closures! -
Moderately acceptable would be verification bridge feature.

We would not want streets to be reconstructed to be any narrower. It's already too narrow! If streets are narrower, then parking on the street should be prohibited.

For all scenarios: ① We do not want to put up with any delays in construction. We want this project to take place in 1996. ② We do not want any "additions" to this project that will add to our assessment.

How does the city (or MTC) ever reach consensus on any street improvement project? I'm concerned that if a small but vocal faction doesn't get its way, then that faction will work against reconstruction next year.

Minor and petty point: It's Lakeview Drive (one way), Waverly Place
What's so wrong with through ⁷⁹ traffic. Put police ~~there~~ on Lakeview - monitor road with ~~set~~ out, use stop signs.

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

Street improvement may encourage "short cut" traffic to speed thru the neighborhood.

The "no left turn" sign at Snively + Lakeview has made a big difference. If Lakeview is improved, however, enforcement of the no left turn needs to happen. I've requested a patrol check that area a.m.s a couple of times + it hasn't happened.

The only time of day I've seen a problem (living near intersection of Lakeview + Lanier) is between 7:30 + 8⁰⁰ a.m.s Mon thru Fri. - presently. East high school is in the area - cars will be expected.

People seem to be asking for a major street change 6 blocks from their homes in order to prevent cars from passing their houses.

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

This is not an alternative that serves the majority of the neighbors! We have been meeting for months, and not once has a large body recommended this Scenario!

The increased traffic due to better roadway surfaces will draw more traffic at speeds that are not acceptable.

Please do not support this alternative.

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

We can plan on more traffic with this Scenario
I believe this is unacceptable for the neighborhood.

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

- New roadways would become ~~an~~ preferred alternative to Sively/Woodland for through traffic. Current signage is not effective. We cannot do this scenario without additional work (medians, cul-de-sacs ~~etc~~) etc. We absolutely need to plan & schedule improvements to Sively/Woodland.

Scenario One - Reconstruct the Roadways

Great if

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

1. Problems

(a) thru traffic + speed on Parkview Drive (

(b) Speed on Arrowhead + through traffic

(c) Speed on Vermillion + through traffic

2. Easy Solution

Cul de sac - Lakeview + Spruce

~~harder~~

Harder solutions

3. Harder Solution

Solution # 2

Plus circle on Vermillion & Arrowhead and circle on Lakeview + Arrowhead?

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

This will be more inviting for through traffic, esp. since arterial streets are not going to be improved. With 38% of the traffic already from outside the neighborhood THIS IS UNACCEPTABLE

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

Signage is not enough to stop it from onto Lakewood Dr.
improved roads will increase usage of neighborhood for
thru traffic

Laurie streets 10 houses cannot dictate what happens
to the rest of us! We have a whole neighborhood
to care for, 200 homes?

If the roads are fixed the increased traffic will
cause Lakewood Dr. to become an artery. I think the
improvements around us would help, but
they would not prevent our problems.

See back of Scenario II

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

Very against this scenario. Because of all the reasons you addressed in the disadvantages.

Amount of cars I see the traffic the other neighborhoods streets were.

The city system is not working at present and I don't see it getting any better in the future.

If this is what the city plans to do I would prefer that nothing be done at all!

Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

This must include narrowing Arrowhead rd

This ignores the W → E traffic
down Arrowhead + out Snively.

You aren't listening, the traffic
studies you've done are with
horrible roads + signs up!! You're
missing the point. With the
roads improved, the freeway dumping
out on 26th and Lakewood
set for major development we
are going to have a thru way!!

#1 is not acceptable

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

I like the access to Snively remaining open at Lakeview Drive. Because our neighborhood is not usually plowed very quickly on heavy snowfall days, we need the entrance/exit at Snively.

A median along with the No Left Turn should prevent even more so, the "cut thru" am traffic. I still don't feel, however, that the amount of traffic is such a great problem — living on a city ~~avenue~~ street means cars go by!

I can live with a few calming devices + route inconveniences if access to my home is not restricted.

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

I believe that on a local and city wide basis that re-engineering of our main roadway is vital. It is difficult to open new throughways; therefore, improving flow and continuity is the best option. Once this is done, neighborhoods like ours can take a better look at what will happen when we ^{improve} change our roads.

With options and cost as a part of the Scenario's we probably can get on with it.

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

- a) - good - needed
- b) - good - needed
- c) - good
- d) - good
- F) - some additional thought required on this option.

This is the only option that addresses the real problem - which is in Woodland and access to Woodland - Please do not alter neighborhoods due to problems outside of our roadways -

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

ABSOLUTELY MANDATORY

Needs to be done in conjunction with other techniques (eg median at Sively / Labview).

- Install a "test" median @ Sively / 2' view immediately
- Make Labview "One-way" Westbound between Junction & Wallace

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

In considering the median on Snively
- the median should be longer
towards Glenwood.

I foresee high schoolers
scooting around the median when
they see no traffic coming. It happens
in our neighborhood now.

Doing this would give the median
more depth and a more substantial
look thereby safer.

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

a) good

b) good

c) good

d) good

e) block the bridge going north, but allow exiting the neighborhood going south.

These are all good ideas, but these ideas won't come into effect for several years, these are the things which should be done before Waverly Park

Needs add traffic calming devices and/or cul de sac

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

I am full agreement with this scenario

- ① Median on Smively - great
- ② ~~control~~ restrict entrance to vermillion from "the bridge"
- ③ reduce speed entering lower Arrowhead by barrel or hump, etc.

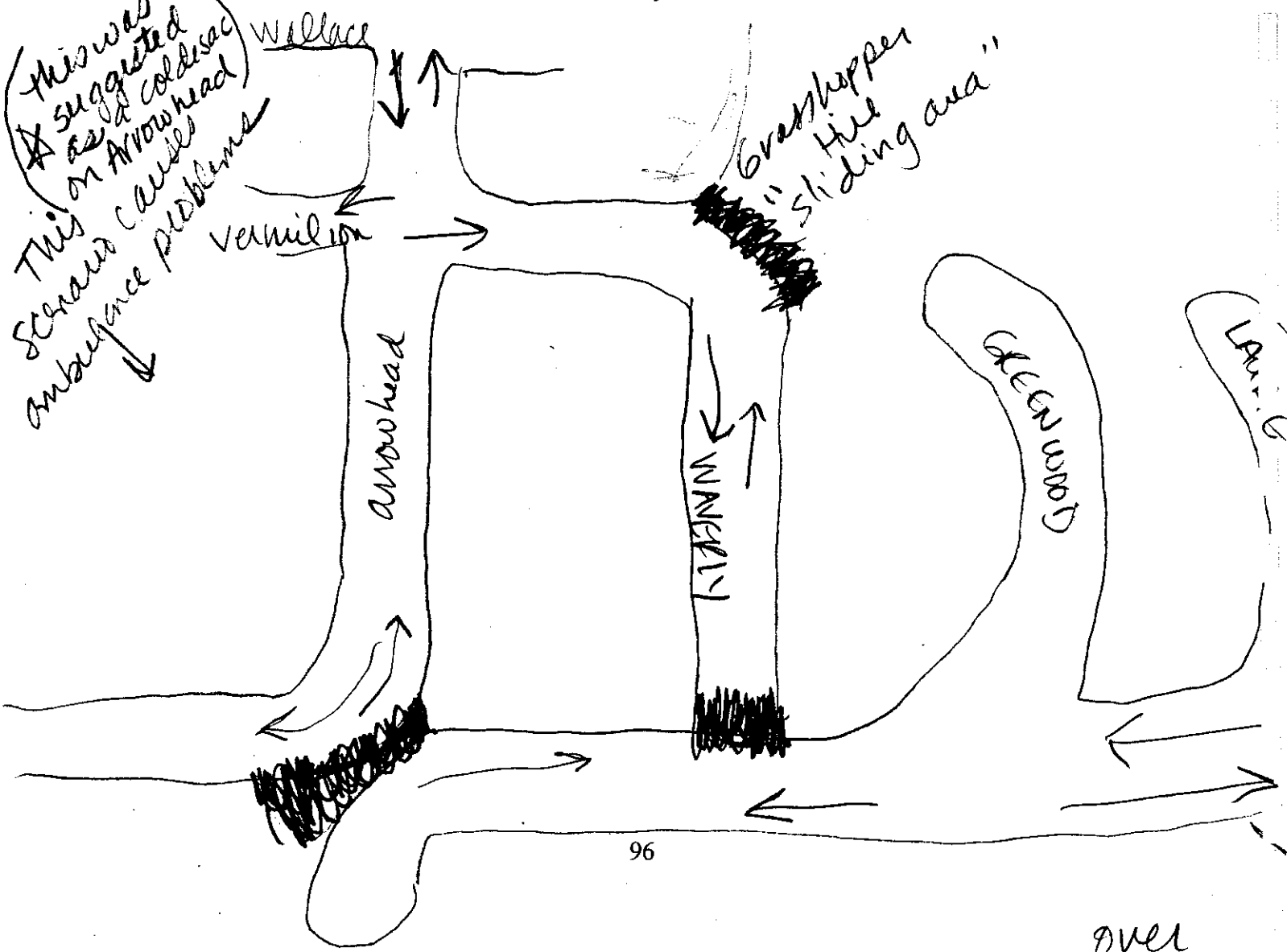
Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

See back of sheet

Arterial roadways
would not be done soon enough to help
our situation before patterns of travel
are ingrained even with deterrents
at Lkview, Snively and Vermilion, St. Nazaire

(This was suggested as a cold sac
This on Arrowhead
ambulance problems)



Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

Smively Rd & Woodland intersection needs to be improved to allow for greater flow of traffic.

if our streets in the neighborhood are fixed - people going home will cut through instead of going to the lights, as they presently are doing.

... it is probably alone. But is necessary.

Add to Close Bridge
Cut in, see Lake view
(give Laurie St there private
access to these street.

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

OK

will circle on
Vermillion & Arrowhead
and Arrowhead & Lakeview

Exit at Bridge - but
no entrance from
St Marie

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

This utterly ignores the problem we will have of W → E traffic down Arrowhead and out Lakeview with out adding ↴

It is O.K. if coupled with traffic calming devices that control ↴

W → E Arrowhead Traffic
N → S Lakeview Traffic

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

~~Q~~
Concrete dead ends look terrible!
is the purpose of this change
in the first place to slow down +
decrease neighborhood through traffic
or end any ^{public} use of the streets?

It doesn't make sense to me that
my (+ emergency, police, fire) access is
cut off to my home because street / traffic
signs are not enforced once it's decided
they go up. Does 4% of traffic warrant street
closure?

During + after a blizzard - how
is the cat-plow going to return on
Lakeview?

There is often a car stuck at
cars parked on Lakeview drive after a heavy
snowfall - it's narrow + it's good to have
another way out. On Laurie St, we're already
on 1 dead end!

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

Closure at either Vermillion or Lakeview
is a simple solution with unknown consequences.
I don't think it will be acceptable to the
range group. It is my favored option.

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

NO - this is not a solution -
in the long run this would be
an expensive situation to fix at
a later date - post new roads -
to fix -

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

①

② NO

Additional comments: Streets should
be kept same width!

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

with improvements on our roads, the traffic
will increase "greatly" - bumps will not
deter increased usage

Scott - My notes!

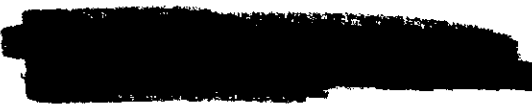
Scenario One - Reconstruct the Roadways

Please write comments concerning the first scenario below. Include comments approving and/or disapproving aspects of the scenario.

- ① Laurey St. - wants this one
- ② petition not to reconstruct streets?
- ③ Not everyone on Laurey agrees w/ this scenario
- ④ Arrowhead - not any wider, want it narrow
- ⑤ See 5+ cars lft turn - going faster.
- ⑥ Ditto #5
- ⑦ No scheduled improvements on Woodland?
that is preferred alt. to improve arterial
- ⑧ St. Marie + Wood / Arrow + Wood
have imp planned.
- ⑨ Cars backed up beyond Laurey St
to make lft turn. Wood (Snively)
- ⑩ Doesn't like scenario 1 [redacted]
not acceptable to anyone.
- ⑪ Snowplowing - hard to get into Laurey St
after snow b/c a snow in the road

Scenario Two - Improve the Arterial Roadways

Please write comments concerning the second scenario below. Include comments approving and/or disapproving aspects of the scenario.

- ① Snow left on optim C. would be a mess.
- ② Walking traffic will have probs king w/c.
- ③ ^{currently} NOT clear signs at Arrow + Wood for left + straight thru movement.
- ④ Something about Snively + Lakeview doesn't want split median, just wants ^{a full} median.
- ⑤  a 90° int at Snively + Lakeview.
- ⑥ Verm + St. Marie - Closure to Bridge.
- ⑦ Wants something @ Verm + St. Marie but not what you show - "Skydiving".
Wants
- ⑧ Likes what you did w/ the purple marker.
- ⑨ Median is a bandage.
- ⑩ likes inconvenience of it. is OK w/ it

Scenario Three - Further Study of Access Closures and Traffic Calming

Please write comments concerning the third scenario below. Include comments approving and/or disapproving aspects of the scenario.

Scenario
2

(19)

Cul-de-sac ~~to~~ on each side of Laurie
or on either side of Greenwood.

Scenario

2 (20)

mandatory / Acceptable.
but you need more as in traffic
calming

Scenario

3 (1)

Likes A, B, C on Scenario 2.

CONSENSUS