

Neighborhood Traffic Management Information and Application Packet

Applicant Name

Neighborhood Association

Street Name



CITY OF *Salem*
AT YOUR SERVICE

Introduction

If you have requested a copy of this information and application packet, you are probably concerned with speeding, traffic, or high traffic volumes on your neighborhood street. The Neighborhood Traffic Management Program (NTMP) is designed to assist you and the City in both identifying and remedying these problems. Please read through this information packet carefully before you begin. We encourage you to speak with your neighbors about your concerns and enlist them in your efforts. You must also contact your neighborhood association and let them know you will be undertaking this effort and to schedule your issue on their agenda. A map and list of neighborhood associations is included in this booklet. If you have any questions before you begin, please call the Public Works Department at (503) 588-6211.

BACKGROUND

The Neighborhood Traffic Management Program (NTMP) was adopted by the City Council in May 1999. The NTMP is an element of the *Salem Transportation System Plan*. It provides the citizens of the City of Salem a process for addressing their concerns with respect to speeding and high traffic volume issues. The program also provides the City's Public Works Department with a mechanism for evaluating the need for installing a traffic calming device (such as a circle or speed bump) due to traffic impacts in a neighborhood.

The process was developed by a Citizens Advisory Committee (CAC) consisting of representatives from the majority of the neighborhood associations, the City of Salem Public Works Department, City of Keizer, Marion County, and a traffic engineering consultant. Most of the suggestions and recommendations from the CAC are incorporated into the adopted process.

The NTMP is a two-part process. The first part of the process is a "self-help" program that encourages citizens to work with their neighbors to clearly define the problem and take steps to resolve it without constructing a traffic calming device. If the first part of the process is unsuccessful, the problem is forwarded to City staff for further evaluation. If the problem meets the minimum speed and volume requirements and receives funding, the traffic calming device will be constructed according to city standards.

CONTENTS

This information packet contains the following:

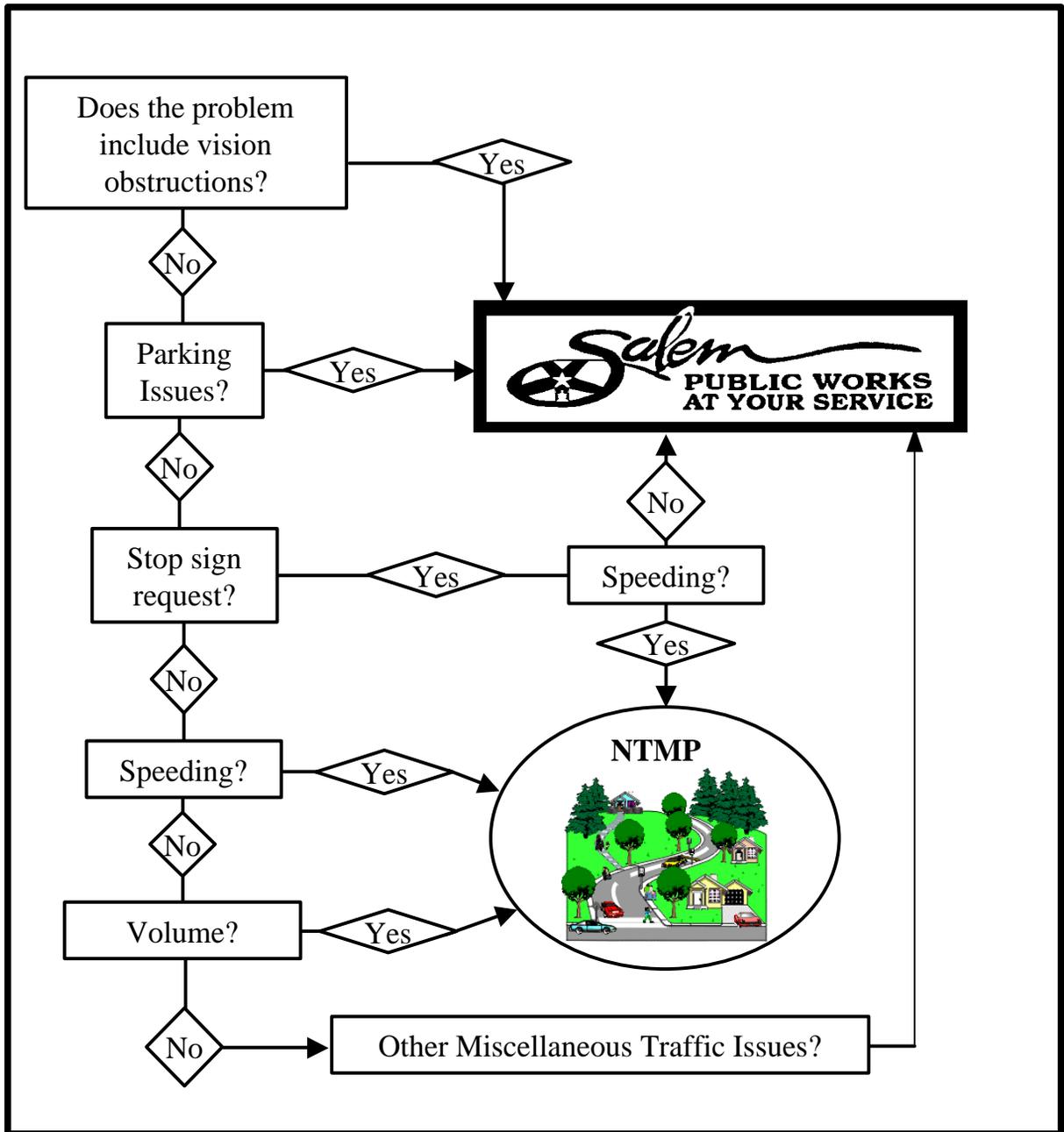
- An overview of the process.
- A step-by-step description of the process including example documents.
- The NTM application form (A)
- The NTM data collection forms (DC-1, DC-2, DC-3, DC-4)
- Examples of Level 1 - (Self-Help) Education and Enforcement Measures
- Examples of Level 2 - (Construction) Traffic Calming Measures
- Neighborhood Association Map (inside back cover)

This packet will serve as the documentation for the project. All applicable information should remain with this packet until the project is completed and filed.

A copy of the element containing policy text that has been incorporated into the *Salem Transportation System Plan* can be obtained by contacting the City of Salem Department of Public Works at (503)588-6211.

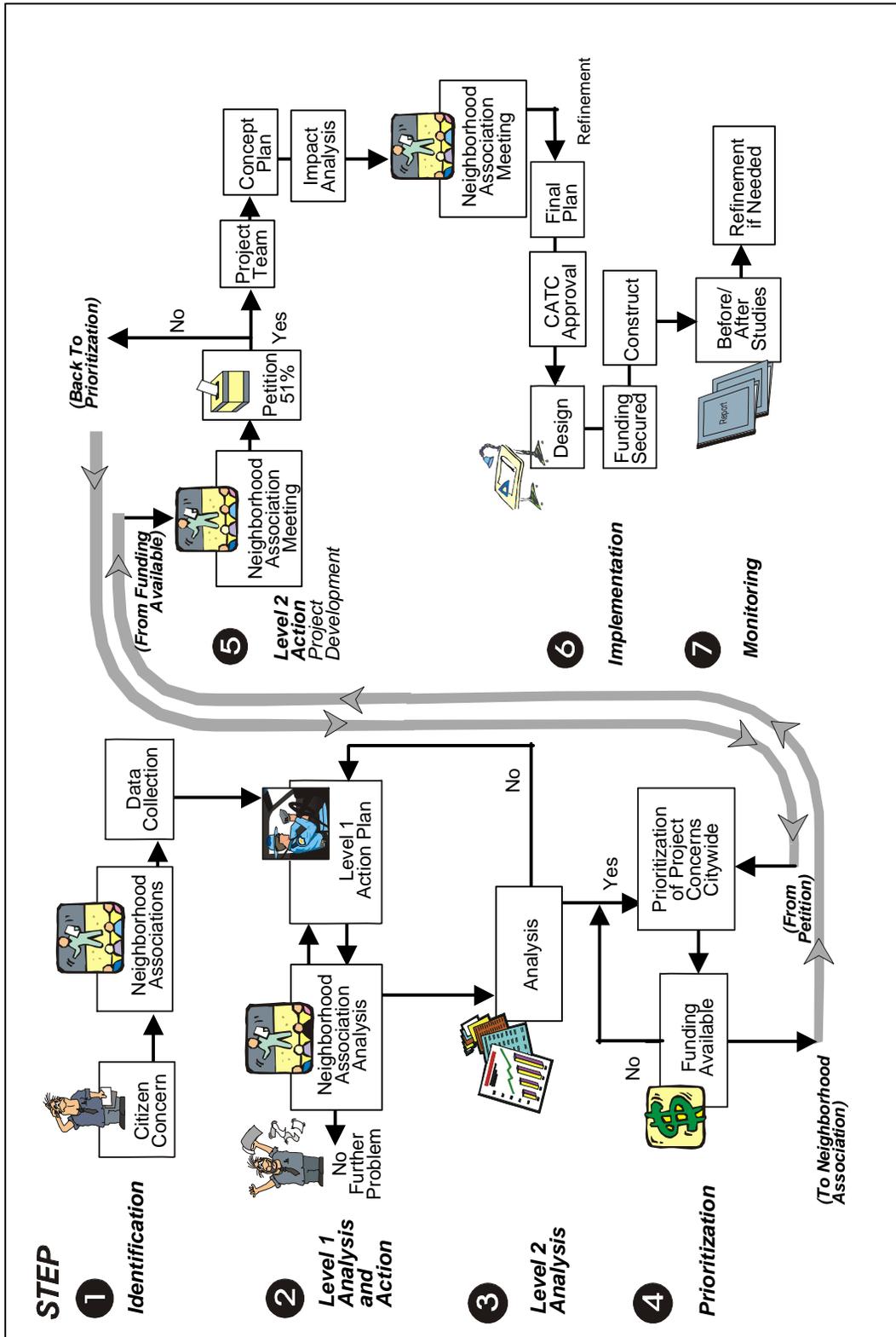
Is NTM Appropriate?

The flow chart on this page will help the applicant and Neighborhood Association determine whether or not a traffic problem is appropriate for the NTM process, or if it should be immediately forwarded to the Public Works Department. High traffic volumes and consistent speeding on residential streets are appropriate issues for the NTM program. Issues that should be brought to the Public Works Department's attention immediately include: safety hazards (except speeding); street or sign maintenance requests; commuter or illegal parking; vision clearance problems; and proposals for changes in traffic signing or striping. If you have any questions about whether a problem is appropriate for NTM that cannot be answered by the chart, please contact the City of Salem NTM Coordinator at (503) 588-6211.



NTM Process Flow

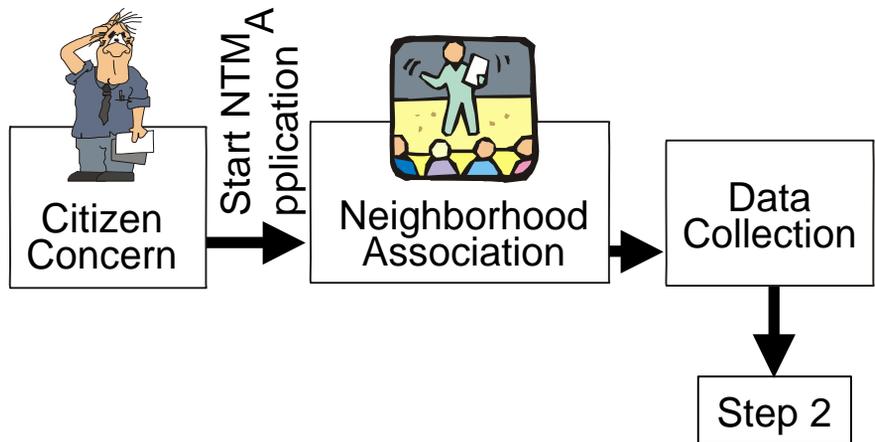
The flow chart on this page is designed to provide an overview of the entire NTM process. Each Step is described in detail on the following pages.



STEP

1

Identification



Step 1 - Identification

Citizens having a concern about a traffic problem on their residential street can either contact the City of Salem at (503) 588-6211 or their Neighborhood Association to obtain a copy of this application to begin the Neighborhood Traffic Management (NTM) process.

The application is NTMP Form A located in the middle of this packet. Instructions for filling out the application are located on the back of the application.

After filling out the application, the next step in the process is to submit it to the Neighborhood Association. Contact your Neighborhood Association to find out when they review NTM applications. Each association uses a slightly different system.

The Neighborhood Association will review the application for completeness. The applicant is encouraged to attend the meeting where the application is to be reviewed so that they may answer any questions that the association may have.

The Neighborhood Association will ensure that the problem belongs in the NTM program. Some issues, such as parking and stop signs, do not belong in the NTM program. If the traffic problem does not belong in the NTM program, the association will forward the information to the Public Works Department for action.

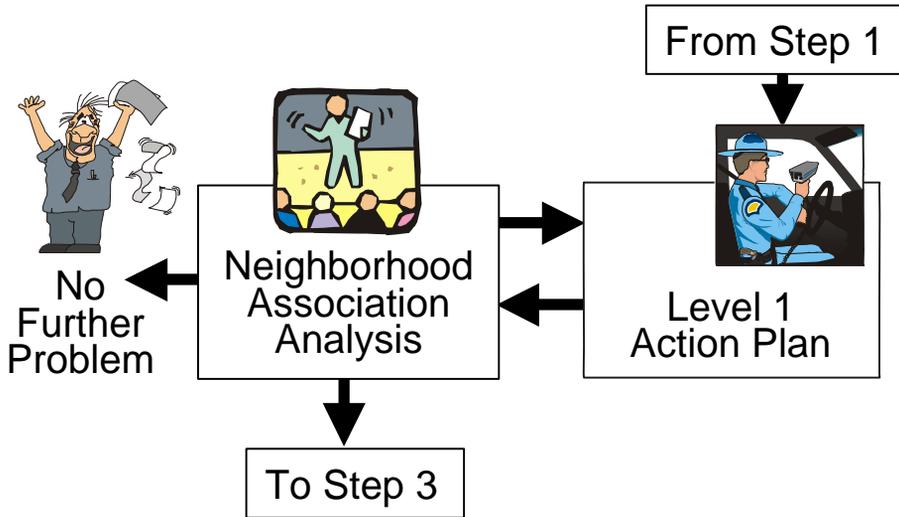
Once the Neighborhood Association deems the application complete, the applicant will perform preliminary data collection. At a minimum, volume and speed counts and neighbor concurrence of the problem will be required. The forms containing instructions for collecting the data are included in this packet and are labeled DC-1 through DC-4. **It is the applicant's responsibility to collect the data.**

When completed, the data and survey are returned to the Neighborhood Association for the next step in the process.

STEP

2

Level 1 Analysis and Action



Step 2 - Level 1 Analysis and Action

Based upon the data collected, the Neighborhood Association will assist the applicant select at least two Level 1 Mitigation (Education and Enforcement) procedures to be implemented. Level 1 Mitigation measures are attached to this packet. Level 1 measures are geared towards teaching proper behavior to drivers that are impacting the applicant and surrounding neighbors.

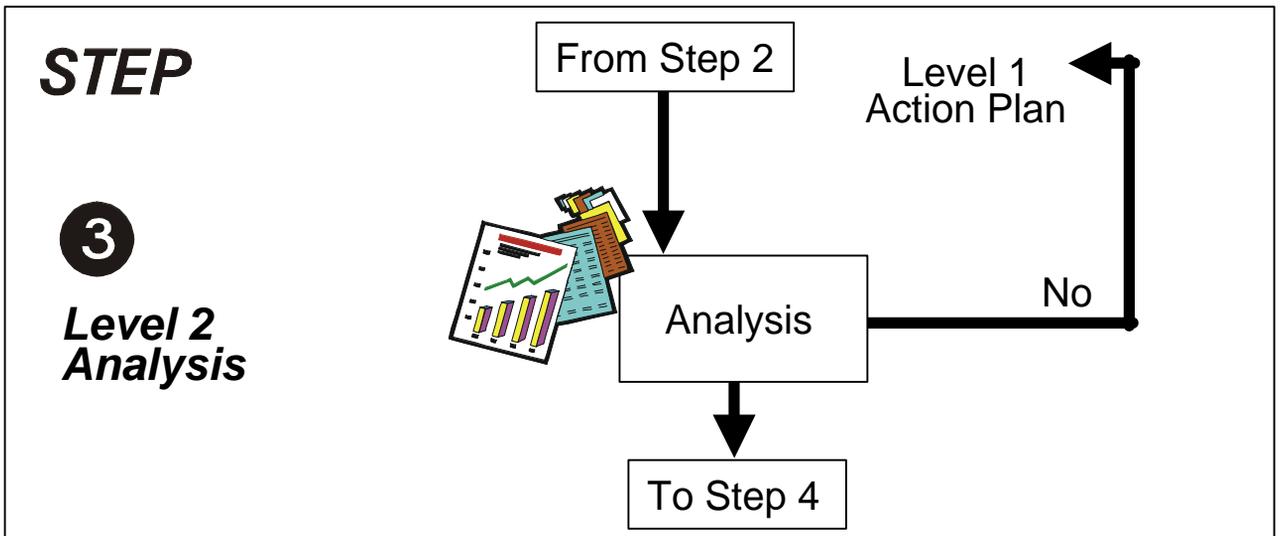
If the Level 1 Mitigation Measures are implemented and successfully resolve the issue, then the process is complete.

If the Level 1 Mitigation Measures do not resolve the issue, the matter is again brought to the Neighborhood Association. The association will evaluate the data collected by the applicant and determine whether the problem warrants additional evaluation by the Public Works Department. The criteria identified in the following table are the minimums required to proceed to Level 2 analysis.

Street Type*	Median Speed	Volume	Fronting Land Use
Local	> 25 MPH	600vpd	> 75% residential and institutional (including parks)
Collector	≥ Posted Speed	None	> 75% residential and institutional (including parks)
Arterial	≥ Posted Speed	None	> 75% residential and institutional (including parks)

*As classified in the Salem Transportation System Plan.

If Level 2 analysis is not warranted, the applicant may continue to implement Level 1 Mitigation Measures to resolve the problem. **A citizen who does not agree with the decision of the Neighborhood Association may appeal the decision to the City's Transportation Services Manager.**



Step 3 - Level 2 Analysis

A traffic problem that meets the minimum criteria for advancement to the Level 2 Analysis is forwarded to the Public Works Department's, Neighborhood Traffic Management Coordinator. The NTM Coordinator will review the application to determine completeness and conduct a preliminary evaluation for the problem.

Because the data collected by the applicant may not encompass enough information to complete the Level 2 Analysis, speed and volume counts may be conducted at the problem location. The additional data will enable city staff to evaluate traffic flow patterns in addition to the speed and volume components of the problem.

If the data collected by staff indicates that the volumes or speed data are not indicative of the problem or they do not meet the minimum criteria, the application packet will be returned to the Neighborhood Association with the recommendation that continued Level 1 Mitigation Measures be implemented.

If the application proceeds to Level 2 Analysis, the additional data will be evaluated to determine which mitigation methods are most appropriate to resolve the problem. Preliminary cost estimates for the planned traffic calming measure will be prepared for funding evaluation.

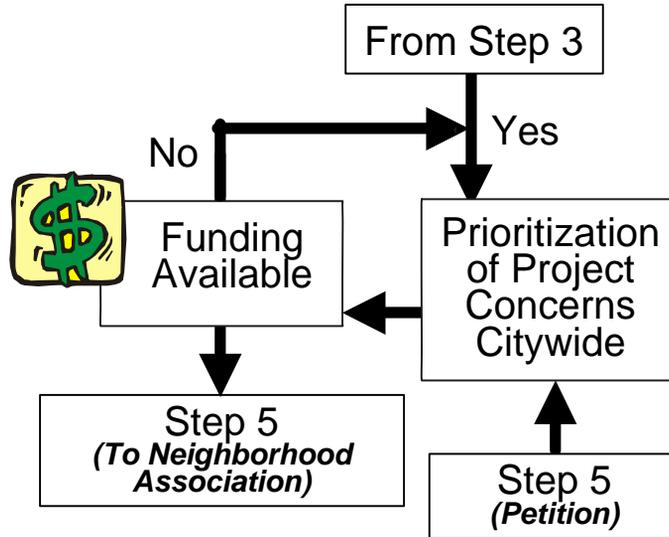
Not all traffic calming measures will be appropriate for some types of problems. No measures that prohibit the flow of traffic will be constructed on streets classified as collector or arterial streets in the *Salem Transportation System Plan*. The types of measures constructed on collectors or arterials will be limited to devices designed to reduce vehicle speeds and increase pedestrian safety.

Examples of possible Level 2 Traffic Calming Measures are included in this application packet after the application and data collection forms.

STEP

4

Prioritization



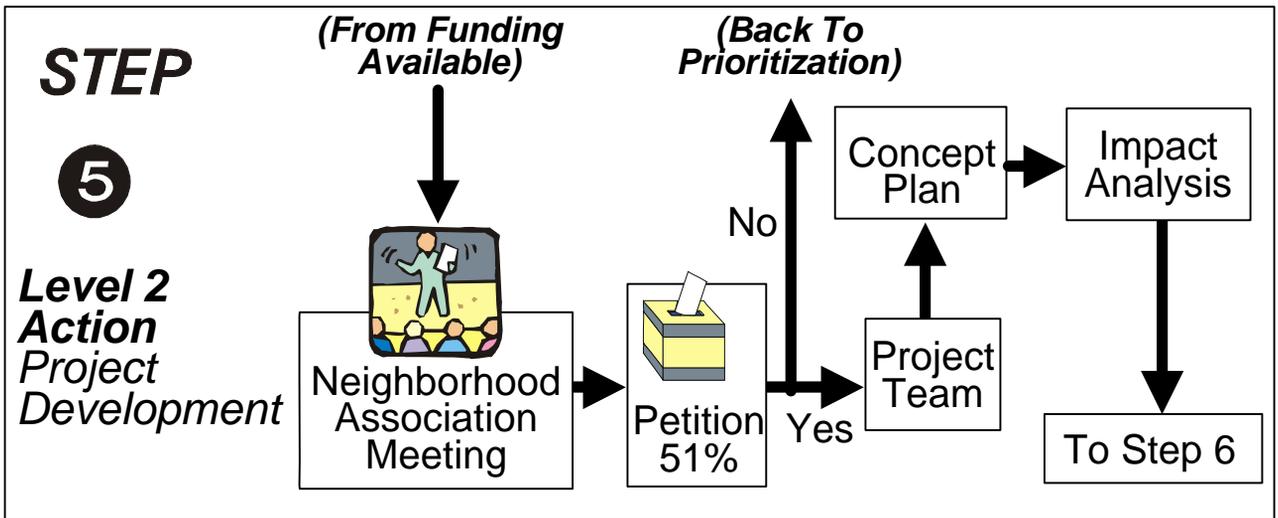
Step 4 - Prioritization

Each project that advances to the prioritization part of the process will be evaluated using the scoring system identified in the table below. Please note that the scores vary depending on the classification of the street to be evaluated. Volume and speed are both high point totals for local streets. Collectors and arterials provide higher point totals to speed only. This is because collectors and arterials are designated to carry traffic.

Criteria	Local Street Score	Collector Street Score	Arterial Street Score
Speed	40	40	30
Volume	25	10	10
Transit/School Bus Route	5	5	10
Pedestrian Generator	10	15	15
Sidewalks	5	10	15
Partial Private Funding	5	5	5
School	10	15	15
Total Score	100	100	100

Once the projects are prioritized on a city-wide basis, the projects with the highest rating will be funded. The number of projects constructed in a year will depend on available funding. Projects that are not funded will remain in the prioritization process for two additional years. If they are not funded in that two-year timeframe, they will be re-evaluated to determine whether the problem still exists.

Applicants will be notified of their project status once the funding evaluation for the year has been completed.



Step 5 - Level 2 Project Development

Once the project is funded, the Neighborhood Association and the applicant will be invited back into the process. The next requirement of the project will be a petition of the homeowners adjacent to the proposed project to determine whether or not the project has neighborhood support in the project area. This petition will be mailed by the City. Notification will be sent to both property owners (and tenants, if any) within the project boundaries. Only the owners will be counted in the petition, so tenants are encouraged to share their opinions with the property owners. The 51 percent majority of those voting will be required for the project to proceed.

If the homeowner petition does not pass, the project is returned to the prioritization process for re-evaluation.

A project team consisting of neighborhood representatives and other stakeholders will be organized. The project team will serve as an advisory committee to assist the Public Works Department in designing a concept plan and implementation schedule that will meet with the approval of the neighbors. The concept plan will consist of identifying the appropriate traffic calming measure and identifying approximate location for installation of the measure to ensure proper functionality.

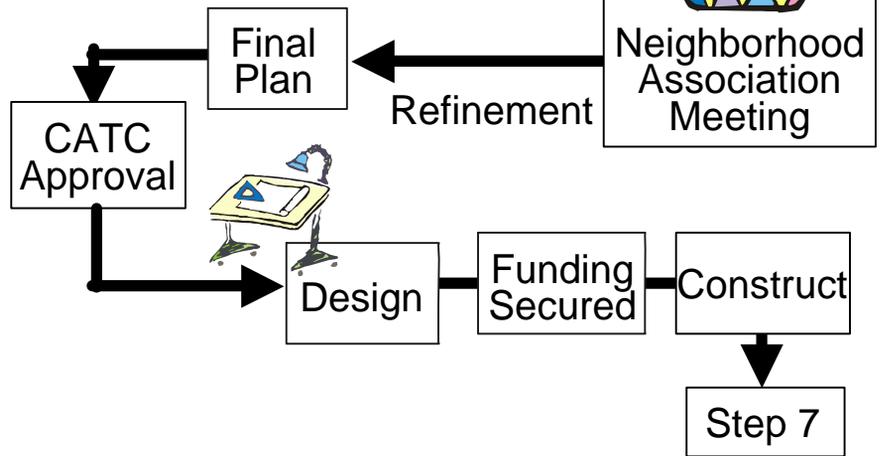
As part of the design of the project, the Public Works Department will conduct an Impact Analysis to ensure that the proposed solution does not simply create a new problem elsewhere. This analysis will evaluate such impacts as possible increases in emergency response times and impacts to adjacent residential streets.

STEP



6

Implementation



Step 6 - Implementation

The recommendation from the project team including the results of the impact analysis will be forwarded to the Neighborhood Association for their final approval. Any additional requirements could be added at this time and incorporated into a Final Plan.

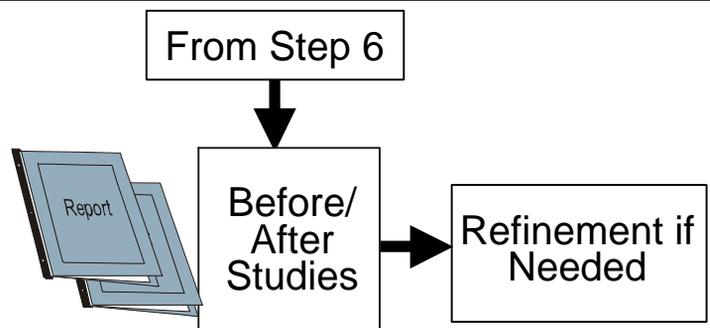
The Final Plan will be submitted to the Citizens Advisory Traffic Commission (CATC). CATC acts as an oversight committee for traffic projects within Salem. Their approval will complete the application process.

At this point, the final plan will be submitted to the City Engineer for design of the mitigation measure. The design will be based on Street Standards established for the different types of mitigation devices. The project will be constructed using the funds earmarked for the project in Step 4 of this process.

STEP

7

Monitoring



Step 7 - Monitoring

City staff may conduct before/after studies of the mitigation devices to ensure that they are functioning properly and that they actually produce the predicted results. If the studies show that the results are different than predicted, the mitigation devices may be modified to produce the expected results or eliminated as a future option for NTM mitigation.

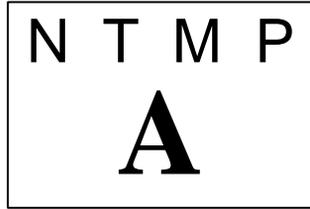


Instructions for Application (NTMP Form A)

To complete the application for the Neighborhood Traffic Management Process (NTMP), follow these steps:

1. Fill out Section 1 of the application form. It is important to include a brief but thorough description of the problem including the start and end points.
 2. Submit the application form to the Neighborhood Association. Contact the Traffic Chairperson of your Neighborhood Association to find out the correct procedure for submission.
 3. Once the Neighborhood Association has received the application, they will review it to ensure that the problem is appropriate for NTMP. If the problem is not appropriate for NTMP, you will be provided with contact information for the correct agency to notify.
 4. If the Neighborhood Association determines the problem is appropriate for NTMP, traffic volume, traffic speed and adjacent neighbor survey information must be gathered for the next step in the process. The forms are attached to this application packet.
 5. Once all of the data has been collected, Section 2 of the application form must be completed. The street designation will be supplied by the Neighborhood Association. The remainder of the information in Section 2 is the responsibility of the applicant.
 6. Upon completion of Section 2, the application form is returned to the Neighborhood Association with all of the appropriate documentation. The Neighborhood Association will review the data submitted and recommend a minimum of two Level One Mitigation Measures to be implemented by the applicant. The recommendations will be recorded on the application. Refer to the Level One Mitigation Measures information provided with this application for additional information about these measures.
 7. If the problem is not resolved as a result of the recommended Level One Mitigation Measures, the applicant will notify the Neighborhood Association. At this time the Neighborhood Association will determine whether additional Level One Measures should be attempted or if the problem meets the criteria for Level Two Mitigation Measures. If the criteria for Level Two Measures are met, the application and all supporting documentation is submitted to the Traffic Section of the City of Salem, Public Works Department for inclusion in the second step of the NTMP.
 8. The NTMP Level Two form provided with this application provides an overview of the NTMP. The applicant and Neighborhood Association will be informed of the progress of the application through the NTMP. This notification will be in the form of a postcard with pertinent information at three different phases of the NTMP. These phases are: once the problem has been analyzed and a Level Two Mitigation Measure, if any, has been identified; upon funding determination; and upon the completion of the preliminary design.
- 

Nearhood Traffic Management Program Application



Section 1 (To be completed by Applicant)

Applicant Name: _____ Daytime Telephone: _____

Applicant Mailing Address: _____
Evening Telephone: _____

Location of Problem: _____
(For intersections, list both streets. For roads, indicate name and problem limits. e.g. Long Ave. between Church & Olive.)

Description and Frequency of Problem: _____

(e.g. Excessive speeding on street, high volumes, etc.)

Section 2 (To be completed by Neighborhood Association/Applicant)

Street Classification: _____ Volume: _____
(Designated in Salem TSP) (Attach DC-2 or DC-3)

of Through Lanes: _____ Speed: _____
(on Primary Roadway) (Attach DC-1)

Roadway Width: _____ Survey: _____
(Width from curb to curb) (Attach DC-4)

Parking: _____
(Indicate which side or both)

Diagram:

Section 3 (To be completed by Neighborhood Association/Applicant)

Level One Checklist

9 First Level One Recommendation _____

Date Completed: _____

9 Second Level One Recommendation _____

Date Completed: _____

Section 4 (Neighborhood Association Recommendation)

The Neighborhood Association has determined that the following action be taken for this application:

9 Problem Resolved, Process Complete

Date: _____

9 Continue Level One Mitigation

9 NTMP Level Two, Refer to Public Works

9 Not NTMP Eligible, Refer to Public Works

Traffic Chair: _____

Remarks: _____

Association Chair: _____

Neighborhood Association: _____



Speed Count Instructions (NTMP Form DC-1)

To Estimate the Traffic Speed on a Specific Roadway, follow these steps:

1. Identify a location on the roadway where the traffic will represent the problem.
 2. Near the identified location, select a safe place to sit for two hours that provides adequate vision clearances to monitor all oncoming vehicles.
 3. Identify a two-hour window for the time of day when the problem seems to be the most pronounced.
 4. If the traffic volumes are low, a single counter may be adequate. Two people may be required, one to operate the radar gun, the other to record the data.
 5. Obtain the radar gun from the City of Salem Police Department at 588-6499. The radar guns can be borrowed for up to a week. Valid picture identification (a driver's license) is required to borrow the gun.
 6. Fill out Section 1 of the opposite side of this form with all of the appropriate information.
 7. Bring some sort of timing device that will let you know when two hours are over.
 8. Be in place approximately 10 minutes before the two-hour window begins. This will ensure if there are any problems, they can be resolved before the counts start. Make sure to play with the radar gun in advance so you know how it works.
 9. At the beginning of the two-hour window, begin recording the speed of the vehicles that approach on the roadway.
 10. It is important to differentiate the direction of travel for the vehicles (ie. eastbound versus westbound traffic.) The distribution of traffic may be used to determine which mitigation measures, if any, are appropriate.
 11. Data must be collected for either two hours or 50 vehicles in both directions - whichever comes first. On a typical local street, the two hour limit will probably be met. If you collect 50 vehicles in one direction, but the other direction has not reached 50, continue to collect data in both directions until you reach 50 vehicles in the other direction or two hours has elapsed, whichever comes first.
 12. At the end of the count, total the number of vehicles for each speed.
 13. Calculate the 50 percent speed for each direction of travel by completing these steps for each direction of travel. Add the total number of vehicles recorded for each direction and multiply by 0.50. Round to the nearest whole number. Count the vehicles from the slowest speed to the highest speed. When you reach the number you calculated, record the speed. This speed is the 50th percentile speed.
- 

Neighborhood Traffic Management Program Speed Data

N T M P
DC-1

Section 1 (To be completed prior to start of data collection)

Roadway Name: _____ Count Date: _____

Counter Name(s): _____ Count Time (Two-Hour): _____

Weather Conditions: _____

Section 2 (To be completed during data collection)

	Totals	_____ bound	Speed	_____ bound	Total	
			Above 39 MPH			
			39 MPH			
			38 MPH			
			37 MPH			
			36 MPH			
			35 MPH			
			34 MPH			
			33 MPH			
			32 MPH			
			31 MPH			
			30 MPH			
			29 MPH			
			28 MPH			
			27 MPH			
			26 MPH			
			25 MPH			
			24 MPH			
			23 MPH			
			22 MPH			
			21 MPH			
			Below 21 MPH			

Actual Count Time: _____

_____ bound Total:
_____ X 0.50 = _____

_____ bound Total:
_____ X 0.50 = _____

_____ bound
50th % Speed

_____ bound
50th % Speed

Neighborhood Traffic Management Program Speed Data

N T M P
DC-1

Section 1 (To be completed prior to start of data collection)

Roadway Name: Long Avenue (between Church & Olive) Count Date: 1/14/99

Counter Name(s): Betty Rubble Count Time (Two-Hour): 2-4 PM

Weather Conditions: Slightly cloudy, occasional showers

Section 2 (To be completed during data collection)

	Totals	<u>North</u> bound	Speed	<u>South</u> bound	Total	
28	1		Above 39 MPH		2	53
27	1		39 MPH		1	51
26	2		38 MPH		3	50
24	0		37 MPH		3	47
24	3		36 MPH		4	44
21	3		35 MPH		5	40
18	1		34 MPH		3	35
17	5		33 MPH		5	32
12	2		32 MPH		2	27
10	3		31 MPH		4	25
7	2		30 MPH		3	21
5	0		29 MPH		5	18
5	2		28 MPH		3	13
3	1		27 MPH		2	10
2	2		26 MPH		2	8
0	0		25 MPH		1	6
0	0		24 MPH		2	5
0	0		23 MPH		1	3
0	0		22 MPH		1	2
0	0		21 MPH		0	0
0	0		Below 21 MPH		1	1

Actual Count Time: _____

North bound Total:

28 X 0.50 = 14

South bound Total:

53 X 0.50 = 27

North bound
50th % Speed

33

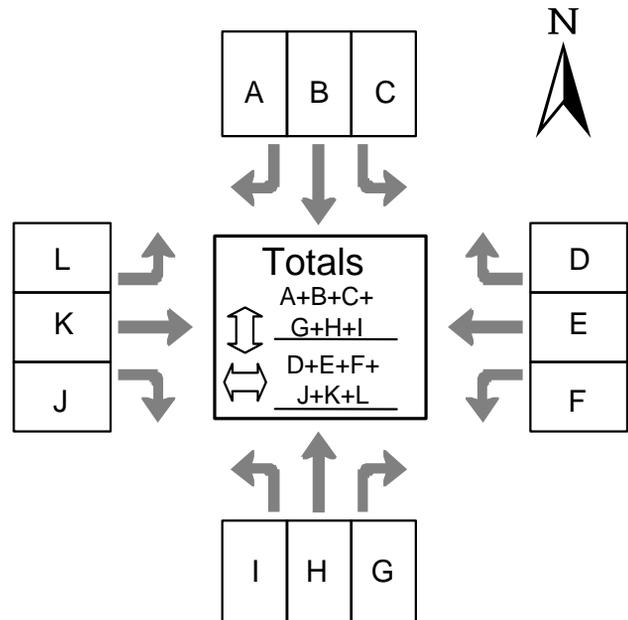
South bound
50th % Speed

32

Intersection Count Instructions (NTMP Form DC-2)

To Estimate the Traffic Volumes on at a specific intersection, follow these steps:

1. Note that this is a two-page, double-sided form. Make sure to have all four components in addition to these instructions.
2. Near the identified intersection, select a safe place to sit for two hours that provides adequate vision clearances to count all vehicles entering the intersection.
3. Identify a two-hour window for the time of day when the problem seems to be the most pronounced.
4. If the traffic volumes are low, a single counter may be adequate. It may be advisable to have two different counters, one for each direction of travel.
5. Select a day to perform the counts. If the counts are simply to identify the intersection volumes, the best time to conduct the counts is on a Tuesday, Wednesday or Thursday evening between the hours of 4 and 6 PM. If the counts are to identify a specific problem, pick the day and time to correspond.
6. Fill out Section 1 of the form with all of the appropriate information.
7. Bring some sort of timing device that will provide a minimum of a minute breakdown.
8. Be in place approximately 10 minutes before the two-hour window begins. This will ensure if there are any problems, they can be resolved before the counts start.
9. At the beginning of the two-hour window, begin counting the vehicles that pass through the intersection.
10. It is important to correctly record each direction of travel through the intersection for the vehicles (ie. eastbound turning left versus eastbound through or eastbound turning right).
11. At 15 minute intervals, move to the next box for data recording.
12. At the end of the two-hour count, tally up the numbers for each 15 minute record.
13. Fill out Section 3 of the form. This will provide an estimated daily volume for the intersection counted.



Neighborhood Traffic Management Program Intersection Count Worksheet



Section 1 (To be completed prior to start of data collection)

North/South Roadway Name: _____ Count Date: _____

East/West Roadway Name: _____ Count Time (Two-Hour): _____

Counter Name: _____ Weather Conditions: _____

Sketch the Intersection:



Section 2 (To be completed during data collection)

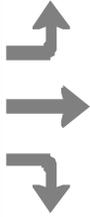
15 Minute Interval: _____



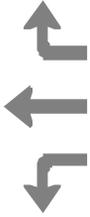
1

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Totals	
⇕	_____
⇔	_____



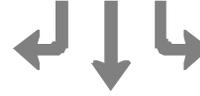
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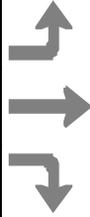
15 Minute Interval: _____



2

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Totals	
⇕	_____
⇔	_____



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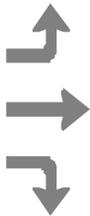
15 Minute Interval: _____



3

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Totals	
⇕	_____
⇔	_____



--	--	--

15 Minute Interval: _____



4

--	--	--





Totals	
⇕	_____
⇔	_____



--	--	--

Section 2 Continued

15 Minute Interval: _____

5

Section 3 (To be completed after data collection)

Add the totals for:

1, 2, 3 and 4: \updownarrow _____ \leftrightarrow _____	3, 4, 5 and 6: \updownarrow _____ \leftrightarrow _____
2, 3, 4 and 5: \updownarrow _____ \leftrightarrow _____	4, 5, 6 and 7: \updownarrow _____ \leftrightarrow _____
	5, 6, 7 and 8: \updownarrow _____ \leftrightarrow _____

Neighborhood Traffic Management Program Intersection Count Worksheet

N T M P
DC-2

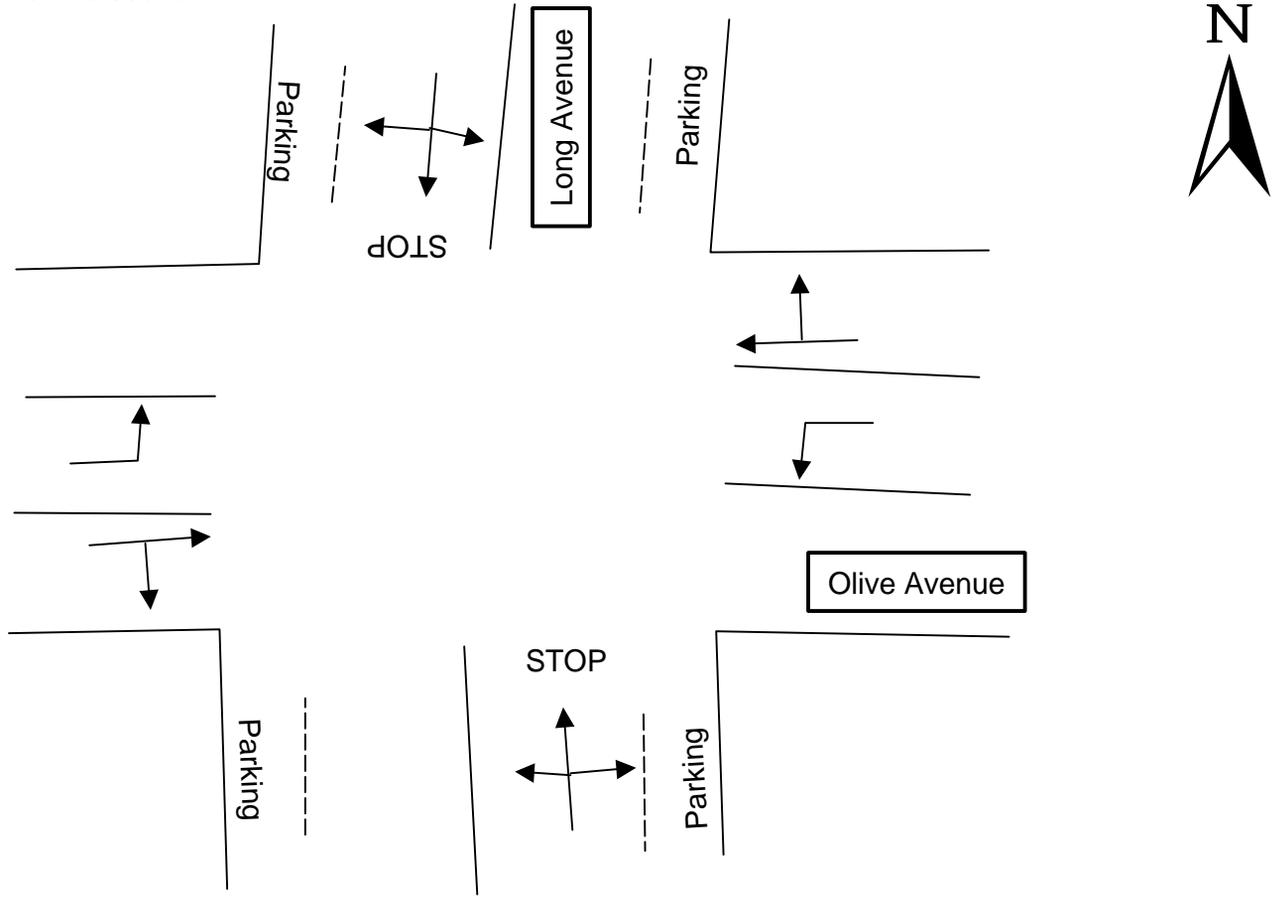
Section 1 (To be completed prior to start of data collection)

North/South Roadway Name: Long Avenue Count Date: 1/14/99

East/West Roadway Name: Olive Avenue Count Time (Two-Hour): 4-6 PM

Counter Name: Betty Rubble Weather Conditions: Raining

Sketch the Intersection:



Section 2 Continued

15 Minute Interval: 5:00–5:15 N

5

$$\begin{array}{l} 3+5+2+ \\ 1+4+1=16 \end{array}$$

Totals

16
30

$$\begin{array}{l} 4+8+4+ \\ 3+6+5=30 \end{array}$$

15 Minute Interval: 5:15–5:30 N

6

$$\begin{array}{l} 2+7+1+ \\ 1+4+3=18 \end{array}$$

Totals

18
33

$$\begin{array}{l} 7+8+4+ \\ 4+6+4=33 \end{array}$$

15 Minute Interval: 5:30–5:45 N

7

$$\begin{array}{l} 0+3+1+ \\ 0+2+1=7 \end{array}$$

Totals

7
18

$$\begin{array}{l} 3+5+2+ \\ 1+4+3=18 \end{array}$$

15 Minute Interval: 5:45–6:00 N

8

$$\begin{array}{l} 2+4+1+ \\ 1+2+2=12 \end{array}$$

Totals

12
20

$$\begin{array}{l} 5+6+1+ \\ 2+4+2=20 \end{array}$$

Section 3 (To be completed after data collection)

Add the totals for:

- | | | |
|---|---|--|
| 1, 2, 3 and 4: \updownarrow _____ \leftrightarrow _____ | 3, 4, 5 and 6: \updownarrow _____ \leftrightarrow _____ | |
| 2, 3, 4 and 5: \updownarrow _____ \leftrightarrow _____ | 4, 5, 6 and 7: \updownarrow _____ \leftrightarrow _____ | |
| | 5, 6, 7 and 8: \updownarrow <u>16+18+7+12=53</u> \leftrightarrow <u>30+33+18+20=101</u> | |



Roadway Traffic Count Instructions (NTMP Form DC-3)

To Estimate the Traffic Volumes on a Specific Roadway, follow these steps:

1. Identify a location on the roadway where the traffic will represent the problem.
2. Near the identified location, select a safe place to sit for two hours that provides adequate vision clearances to count all oncoming vehicles.
3. Identify a two-hour window for the time of day when the problem seems to be the most pronounced.
4. If the traffic volumes are low, a single counter may be adequate. It may be advisable to have two different counters, one for each direction of travel.
5. Select a day to perform the counts. If the counts are simply to identify the roadway volume, the best time to conduct the counts is on a Tuesday, Wednesday or Thursday evening between the hours of 4 and 6 PM. If the counts are to identify a specific problem, pick the day and time to correspond.
6. Fill out Section 1 of the opposite side of this form with all of the appropriate information.
7. Bring some sort of timing device that will provide a minimum of a minute breakdown.
8. Be in place approximately 10 minutes before the two-hour window begins. This will ensure if there are any problems, they can be resolved before the counts start.
9. At the beginning of the two-hour window, begin counting the vehicles that approach on the roadway. Pedestrian counts may be taken, but are not usually required.
10. It is important to differentiate the direction of travel for the vehicles (ie. eastbound versus westbound traffic.) The distribution of traffic may be used to determine which mitigation measures, if any, are appropriate.
11. At 15 minute intervals, move to the next box for data recording.
12. At the end of the two-hour count, tally up the number for each 15 minute record.
13. Fill out Section 3 of the form. This will provide an estimated daily volume for the roadway counted.



Neighborhood Traffic Management Program Roadway Count Worksheet

N T M P
DC-3

Section 1 (To be completed prior to start of data collection)

Roadway Name: _____ Count Date: _____

Counter Name: _____ Count Time (Two-Hour): _____

Weather Conditions: _____

Section 2 (To be completed during data collection)

Row	15 Minute Interval (e.g. 4:15 to 4:30)	Direction/Count: (e.g. Eastbound/1111)	Direction/Count: (e.g. Westbound/1111)	Roadway Totals	Pedestrian Counts (optional)
1					
2					
3					
4					
5					
6					
7					
8					

Section 3 (To be completed after data collection)

Add Totals for Rows 1, 2, 3, and 4: _____
 Rows 2, 3, 4, and 5: _____
 Rows 3, 4, 5, and 6: _____
 Rows 4, 5, 6, and 7: _____
 Rows 5, 6, 7, and 8: _____
 Select Highest Value: _____

Multiply the Highest Value by 10

This value is the approximate Average Daily Traffic (ADT) for the roadway.

Neighborhood Traffic Management Program Roadway Count Worksheet



Section 1 (To be completed prior to start of data collection)

Roadway Name: Long Avenue (between Church & Olive) Count Date: 1/13/99

Counter Name: Betty Rubble Count Time (Two-Hour): 4-6 PM

Weather Conditions: Slightly cloudy, occasional showers

Section 2 (To be completed during data collection)

Row	15 Minute Interval (e.g. 4:15 to 4:30)	Direction/Count: Eastbound	Direction/Count: Westbound	Roadway Totals	Pedestrian Counts (optional)
1	4:00-4:15	5	4	9	
2	4:15-4:30	9	7	16	
3	4:30-4:45	7	5	12	
4	4:45-5:00	8	7	15	
5	5:00-5:15	18	9	27	
6	5:15-5:30	13	7	20	
7	5:30-5:45	10	3	13	
8	5:45-6:00	4	5	9	

Section 3 (To be completed after data collection)

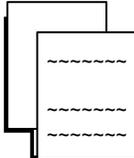
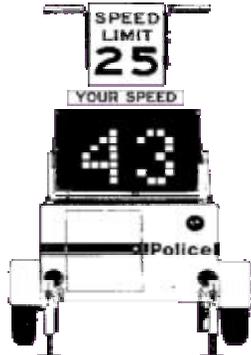
Add Totals for Rows 1, 2, 3, and 4: $\frac{9+16+12+15=52}{4}$
 Rows 2, 3, 4, and 5: $\frac{16+12+15+27=70}{4}$
 Rows 3, 4, 5, and 6: $\frac{12+15+27+20=74}{4}$
 Rows 4, 5, 6, and 7: $\frac{15+27+20+13=75}{4}$
 Rows 5, 6, 7, and 8: $\frac{27+20+13+9=69}{4}$
 Select Highest Value: 75

Multiply the Highest Value by 10

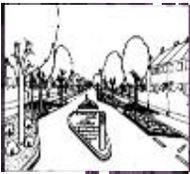
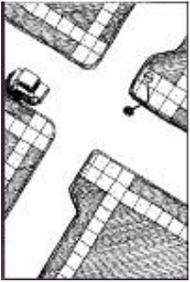
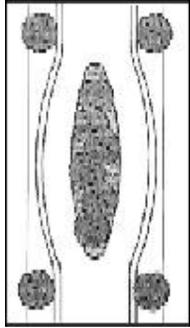
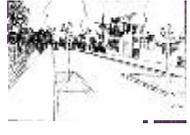
$$75 \times 10 = 750$$

This value is the approximate Average Daily Traffic (ADT) for the roadway.

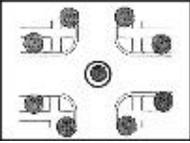
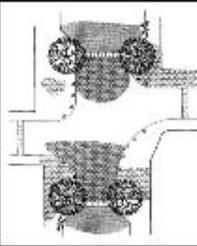
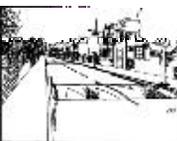
Level 1 Education and Enforcement Measures

Measure	Graphic	Description	Contact
Enforcement (selective)		Police issuing tickets to vehicles violating speed zones. Can be effectively combined with other NTM elements such as education, public awareness, speed trailer and signs/banners.	City of Salem Police 588-XXXX Safe Communities Program
Signs		Yard signs have been typically used as part of a public awareness or education program.	City of Salem Public Works 588-6211 Lawn Sign Program
Neighborhood Flyers		In neighborhoods where the speeding problem is caused by neighbors, a flyer distribution can be used to educate neighbors.	City of Salem Public Works 588-6211 NTMP Coordinator
Public Awareness/ Traffic Watch		Campaigns typically organized by agency to involve neighbors. Speed watch can include neighbors using a radar speed measuring device to identify speeders who receive a standard letter. Public awareness can include education activities, but also newsletters, neighborhood organization activities, etc...	City of Salem Police Department 588-XXXX Safe Communities
Speed Trailer		A trailer unit with a reader board that indicates the approaching vehicle speeds. Portable and can be moved from site to site. Can be reinforced with actual police enforcement on a selective basis.	City of Salem Police Department 588-XXXX
Enforcement (automated)		Use of photo or video enforcement to ticket violators of speed zones. Also red light running photo enforcement is being developed.	Not Currently Available

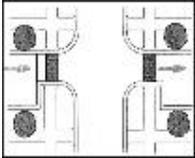
Level 2 Traffic Calming Measures

Measure	Graphic	Description	Speed Volume Reduction		Cost
			Speed	Volume	
Chicane		Channelization or curb extension that realign the straight path of a street, deflection straight vehicle movement.	3 to 4 MPH	Low volume reduction and diversion	\$3,000 to \$20,000
Choker (curb extension)		A roadway narrowing. This could be a curb extension at an intersection (also called bulb outs, neckdowns and throating) to reduce the roadway width at a selected location.	3.3 MPH	Moderate volume reduction and diversion	\$5,000 to \$15,000
Choker (median)		A roadway narrowing. With a median, the narrowing of the roadway comes from placing an island in the middle of the road. Some cities have used large raised pavement markers on the centerline at intersections to reduce speed of turning traffic. Medians can also be used for pedestrian refuge and/or access control to restrict turning movements. For access control it is important that medians are long enough to effectively create right-in/right-out restriction.	3.3 MPH	Moderate volume reduction and diversion	\$3,000 to \$10,000
Choker (pinch point)		A roadway narrowing . Curb lines are extended into the street area (usually landscaped islands or pedestrian extensions) to narrow the roadway.	3.3 MPH	Moderate volume reduction and diversion	\$5,000 to \$15,000

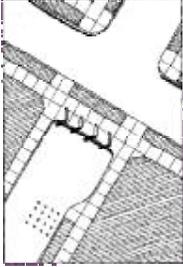
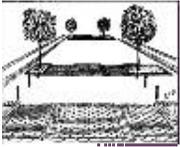
Level 2 Traffic Calming Measures

Measure	Graphic	Description	Speed	Volume Reduction	Cost
Circles		A round island in the middle of an intersection	5.7 MPH	Low volume reduction and diversion	\$5,000 to \$15,000
Diverters		Channelization or islands that restricts movements at an intersection. Typically, allows right turns, not through traffic. There are full and partial diverters depending upon the number of movements restricted or diverted at an intersection.	0.4 MPH	High volume reduction, high diversion impact	\$3,000 to \$15,000
Entry Treatments		Generally use of landscaping and architectural elements at the roadway entrance to a neighborhood. Can include curb extensions and pavement texturing.	3.3 MPH	Moderate volume reduction and diversion	\$5,000 to \$25,000
Humps		Raising of pavement surface about 3" over about 10 to 20 feet (an undulation). Similar to this measure are speed tables, raised pedestrian crossings and raised intersections.	7 MPH	Low volume reduction or diversion	\$3,000 to \$5,000
Intersection Realignments/ Route Modification		Takes a standard 3 or 4 leg intersection and skews it to deflect traffic while maintaining safe design characteristics. Modify a route to make it less direct.	5.7 MPH	Low volume reduction and diversion	\$4,000 to \$20,000

Level 2 Traffic Calming Measures

Measure	Graphic	Description	Speed Volume Reduction		Cost
			Speed	Volume	
One Way Streets		Takes the entry to a neighborhood area and makes the access road one way (typically out). Similar in some respects to a diverter. Can be used in connection with entry treatments.	No Data	Significant volume reduction and diversion	\$5,000 to \$30,000
Pavement Texture Pavement Markings		Instead of smooth pavement surface, create roughness by using raised markers, pavers, colored concrete with patterns. Can be used to emphasize pedestrian crossing location. Sometimes paint is used to create channelization or narrowing. Increases driver awareness of changed conditions (entering a neighborhood or pedestrian zone).	Limited speed reduction	Limited volume change	\$1,000 to \$15,000
Parking On-street		Many streets less than 30' do not allow parking on one or both sides. By allowing parking, the traveled way is narrowed. Speeds must be slow for safe sight distance.	No Data	Limited volume reduction.	\$0 - \$1,000
Part Time Restrictions (PTR)		Use signs to limit vehicle movements during key times (typically school times or peak hours). Can be turn restriction, truck restrictions, through traffic restrictions, etc... Very difficult and expensive to enforce and can have high violation rates.	Moderate speed reduction (if through traffic removed)	Moderate volume reduction (if restrictions enforced).	\$500 - \$5000

Level 2 Traffic Calming Measures

Measure	Graphic	Description	Speed Volume Reduction		Cost
			Speed	Volume	
Road Closure		Uses islands or barricades to close the end of a street. Creates a cul-de-sac for vehicles, pedestrians and bicycles can go through. Contrary to TPR emphasis on connectivity.	Speed reduction limited to site of closure.	Significant volume reduction and diversion.	\$2,000 - \$15,000
Speed Cushions		A European device similar to a speed hump, but narrower to allow buses or emergency vehicles with larger wheel bases to pass over without impact.	Speed reduction	Little volume reduction	\$1,500 - \$3,000
Truck Restrictions		No truck signs are posted at key cut through routes affecting through truck trips not local truck trips.	No speed reduction	Significant truck volume reduction (if enforced)	\$ 250 - \$1,000
<p>Source for graphics:</p> <p><i>Traffic Calming</i>, American Planning Association, Planning Advisory Service, Report Number 456, July 1995. <i>Handbook for Walkable Communities</i>, Burden & Wallwork. <i>Civilised Streets: A Guide to Traffic Calming</i>, Environmental & Transport Planning, Brighton, Great Britain, 1992.</p>					