NTCP Roadway Count Worksheet
Example

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

Roadway Name: 24th Avenue (between Geary & Hill) Count Date: 1/13/01

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: (e.g. Eastbound/1111)	Direction/Count: (e.g. Westbound/1111)	Roadway Totals	Pedestrian Counts (optional)
1	4:00–4:15	Eastbound 5	Westbound 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: 9+16+12+15=52
Rows 2, 3, 4, and 5: 16+12+15+27=70
Rows 3, 4, 5, and 6: 12+15+27+20=74
Rows 4, 5, 6, and 7: 15+27+20+13=75
Rows 5, 6, 7, and 8: 27+20+13+9=69
Select Highest Value: 75

Multiply the Highest Value by 10

75x10= 750

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

NTCP Speed Data Worksheet

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

NTCP
Speed Count Instructions

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. Pick any time during the day except the AM Peak (between 6:30 AM and 8:30 AM) or the PM Peak (between 4:00 PM and 6:00 PM) to conduct the study. If the AM Peak or PM Peak is designated as the problem, two sets of counts must be made. One off-peak to determine the average roadway speed and the second during the peak hour that is indicative of the problem.

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 Albany Police Department at 917-3208. 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% speed for each direction of travel by completing these steps: Add the total number of vehicles recorded for each direction and multiply by 0.50. Round to the nearest whole number. In the far left and right columns of the table, add the total number of vehicles - starting from the bottom. (See the example sheet, the columns with the large circles in them.) When you total to the number you calculated, circle that number and record the speed associated with that number. This speed is the 50th percentile speed.

NTCP Speed Data Worksheet
Example

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

Roadway Name: 24th Avenue (between Geary & Hill) Count Date: 1/14/01

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	East bound	Speed	West 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	𝍸	5	40
18	1	|	34 MPH	|||	3	35
17	5	𝍸	33 MPH	𝍸	5	32
12	2	||	32 MPH	||	2	27
10	3	|||	31 MPH	||||	4	25
7	2	||	30 MPH	|||	3	21
5	0		29 MPH	𝍸	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: 2:02–4:02 PM

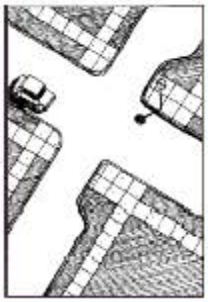
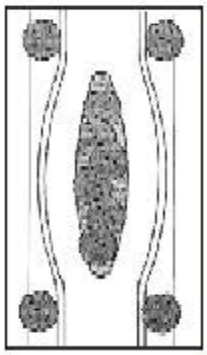
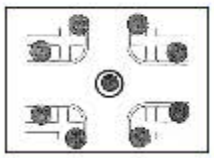
East bound Tota
28 X 0.50 = 14

West bound Tota
53 X 0.50 = 27

East bound
50th % Speed
33

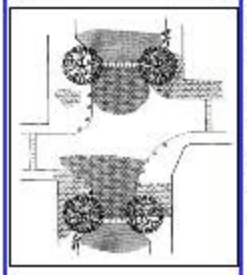
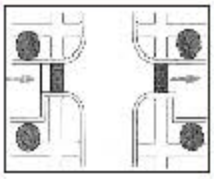
West bound
50th % Speed
32

Typical Constructed Mitigation Measures

Measure	Graphic	Description	Speed Reduction	Volume Reduction	Cost	Road Type
Chicane		Channelization or curb extensions that realign the straight path of a street, deflection of straight vehicle movement.	3 to 4 MPH	Low volume reduction and diversion	$3,000 to $20,000	R = Yes C = Yes A = Yes ER = Yes
Choker (Curb Extension)		A roadway narrowing. This could be a curb extention 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	$3,000 to $15,000	R = Yes C = Yes A = Yes ER = Yes
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 restrictions.	3.3 MPH	Moderate volume reduction and diversion	$3,000 to 10,000	R = Yes C = Yes A = Yes ER = Yes
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	R = Yes C = Yes A = Yes ER = Yes
Circles		A round island in the middle of an intersection	5.7 MPH	Low volume reduction and diversion	$5,000 to $15,000	R = Yes C = No A = No ER = Maybe

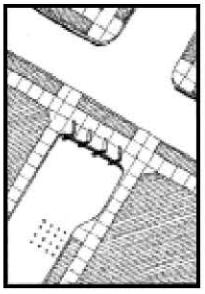
For Road Types: R = Residential, C = Collector, A = Arterial, ER = Emergency Response. Maybe = To be evaluated on a case-by-case basis.

Typical Constructed Mitigation Measures

Measure	Graphic	Description	Speed Reduction	Volume Reduction	Cost	Road Type
Diverters		Channelization or islands that restrict 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	R = Yes C = No A = No ER = No
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	R = Yes C = Yes A = Yes ER = Yes
Humps		Raising of pavement surface about 3 inches 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 and diversion	$3,000 to $5,000	R = Yes C = No A = No ER = No
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	R = Yes C = No A = No ER = Maybe
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	R = Yes C = Maybe A = Maybe ER = Maybe

For Road Types: R = Residential, C = Collector, A = Arterial, ER = Emergency Response. Maybe = To be evaluated on a case-by-case basis.

Typical Constructed Mitigation Measures

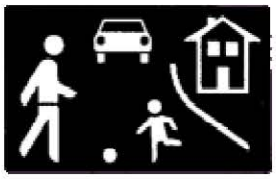
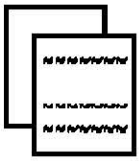
Measure	Graphic	Description	Speed Reduction	Volume Reduction	Cost	Road Type
Pavement Texture/ Pavement Markings		Instead of smooth pavement surface, create roughness by using raised markers, pavers, colored concrete with patterns. Can be used to emphasize pedestrian crossing location. Sometimes paint is used to create channelization or narrowing. Increases driver awareness of changed conditions (entering a neighborhood or pedestrian zone).	Limited	Limited volume reduction	$1,000 to $15,000	R = Yes C = Maybe A = No ER = Maybe
Parking On-street		By allowing parking, the traveled way is narrowed. Speeds must be slower for safe sight distance	No Data	Limited volume reduction	$0 to $1,000	R = Yes C = No A = No ER = Maybe
Part Time Restrictions (PTR)		Use signs to limit vehicle movements during key times (typically school times or peak hours). Can be turn restrictions, 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 to $5,000	R = Yes C = Yes A = Yes ER = Yes
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. Special consideration will be given for emergency response.	Speed reduction limited to site of closure.	Significant volume reduction and diversion	$2,000 to $15,000	R = Yes C = No A = No ER = Maybe

For Road Types: R = Residential, C = Collector, A = Arterial, ER = Emergency Response. Maybe = To be evaluated on a case-by-case basis.

Source for graphics:

Traffic Calming, American Planning Association, Planning Advisory Service, Report Number 456, July 1995
Handbook for Walkable Communities, Burden and Wallwork.
Civilized Street: A Guide to Traffic Calming, Environmental & Transport Planning Brighton, Great Britain, 1992.

Education and Enforcement Mitigation Measures

Measure	Graphic	Description	Contact
Enforcement (selective)		Police issuing tickets to vehicles violating speed limits. Can be effectively combined with other NTC elements such as public awareness, education, speed trailer and signs/banners.	City of Albany Police Department 917-7680
Signs		Yard signs have been typically used as part of a public awareness or education program.	City of Albany Public Works 917-7655
Neighborhood Flyers		In neighborhoods where the speeding problem is caused by neighbors, a flyer distribution can be used to educate neighbors.	City of Albany Public Works 917-7655
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 Albany Police Department 917-7683
Speed Trailer		A trailer unit with a reader board that indicates the approaching vehicle speeds. Portable and can can be moved from site to site. Can be reinforced with actual police enforcement on a selective basis.	City of Albany Police Department 917-7683
Enforcement (automated)		Use of photo or video enforcement to ticket violators in speed zones. Red light running photo enforcement is also available.	Not Currently Available

Emergency Response Routes