



Conducting Bicycle and Pedestrian Counts in Your Community: Count Manager Training

MnDOT and MDH Bicycle and Pedestrian
Counting Initiative
2015





Objectives

1. Understand what the Bike/Ped Count Program is.
2. Learn how to conduct manual counts.
3. Recognize the responsibility of a count manager.
4. Appreciate how the data can be used.





Overview

<https://www.youtube.com/watch?v=Yoo2NYVDxKs>





The MnDOT Bike and Ped Counting Research Project

- Initiative to encourage communities to count non-motorized traffic - bicyclists and pedestrians
- Information, training, and technical support for new local counting bike and ped programs
 - Guidance for annual field counts
 - Support for pilot automated counting projects
- Central repository for count data





MnDOT Strategic Direction

- *2050 Vision – Minnesota Go*: to support multi-modal systems
- *Complete Streets*: to understand vehicle, bicycle, and pedestrian interactions
- *Toward Zero Deaths*: to assess exposure and effectiveness of safety programs
- *Performance measures*: to assess progress towards state's transportation goals
- *Statewide Bicycle and Pedestrian System Plans*





Based on Other Successful Programs

- Aligns with MnDOT motor vehicle count program
- Builds on experience of Minnesota communities, DOT initiatives in CO & WA, and the National Bicycle and Pedestrian Demonstration Project
- Consistent with FHWA protocols in new *Traffic Monitoring Guide*





MnDOT reasons for counting ...

- Bicycling and walking are important modes of transportation
- Few bike and ped traffic counts available
- Traffic counts needed to
 - Plan complete transportation systems
 - Invest resources in facilities and maintenance operations more efficiently
 - Assess effectiveness of safety interventions





MDH interest in counting

- **Aligns with health improvement efforts**
- **Provides SHIP grantees with TA**
- **Establishes baseline for community evaluation efforts**
- **Leverages resources and partnerships**





Local Collaboration Key to Success

- Local governments and nonprofit organizations have pioneered local counting bike/ped programs
- Local governments are mostly responsible for roads with most bike and ped traffic





Conducting Bicycle and Pedestrian Counts:



Volunteer Training

Bicycle and Pedestrian Counting Initiative





Recommended Annual Dates

- September 15, 16, 17, 2015 (Tu, Wed, Th)
 - Peak hour: 4:00 p.m. – 6:00 or 7:00 p.m.
 - 12-hour day: 7:00 a.m. – 7:00 p.m.
- September 19 (Sat)
 - Peak hours: 10:00 a.m. – noon or 2:00 p.m.
 - 12 hour day: 7:00 a.m. – 7:00 p.m.
- Rain dates: Sept. 22, 23, 24, 26





How to Use MnDOT Counting Form

- Complete all of the fields on both sides of this form.
- Count all bicyclists and pedestrians crossing your screen line under the appropriate categories. ***Make only one tally mark for each person.***
- Count for two hours in 15 minute increments.
- Count bicyclists who ride on the sidewalk.
- Count the number of people on the bicycle (i.e., bicyclists), not the number of bicycles.
- Pedestrians include all people not on bicycles. Record pedestrians in wheelchairs, on skates, on scooters, etc. in “Pedestrians Assisted” columns.
- Do your best when traffic volumes are high or people talk to you; it is easy to lost count. Do your best, but note if you lose track.
- If traffic volumes are high count bicycle and pedestrian totals and disregard other attributes.



Screenline Counts

Location 21:
Central Avenue NE north of Lowry Ave



Counter location

Screen line

Screenline counts:

Imaginary line perpendicular to street

Count all persons on bike or feet who cross screenline within street right-of-way

Count both directions

Use consistent location for observation





How to Use MnDOT Counting Form

MNDOT STANDARD MANUAL SCREENLINE COUNT FORM DRAFT July 23, 2012

Time		Bicyclists				Pedestrians											
		Male		Female		Unassisted				Assisted (skaters, wheelchairs, etc.)							
		Adult	Child	Adult	Child	Male	Female	Male	Female	Male	Female	Adult	Child	Adult	Child		
Hour	Minutes																
	:00-15																
	:15-30																
	:30-45																
	:45-00																
Hour 1 Subtotal																	
	:00-15																
	:15-30																
	:30-45																
	:45-00																
Hour 2 Subtotal																	
Hour 1 + Hour 2																	
Total																	
Two Hour Total - All Attributes																	





Conducting the count

MNDOT STANDARD MANUAL SCREENLINE COUNT FORM DRAFT July 23, 2012

Time		Bicyclists				Pedestrians							
		Male		Female		Unassisted		Female		Assisted (skaters, wheelchairs, etc.)			
Hour	Minutes	Adult	Child	Adult	Child	Adult	Child	Adult	Child	Adult	Child	Adult	Child
	:00-15												
	:15-30												
	:30-45												
	:45-00												
Hour 1 Subtotal													
	:00-15												
	:15-30												
	:30-45												
	:45-00												
Hour 2 Subtotal													
Hour 1 + Hour 2 Total													
Two Hour Total - All Attributes													

Two-hour counts
(4:00 -6:00 pm)

Start on time (arrive early!)

Include name, date & Location with ID

See instructions on form

*Make a note of any unusual thing that impacted the count at the bottom of the sheet or in space on back.





Recording Bikes and Peds

Every person (bicyclist or pedestrian) is always counted.

Time		Bicyclists				Pedestrians							
						Unassisted				Assisted (skaters, wheelchairs, etc.)			
		Male		Female		Male		Female		Male		Female	
Hour	Minutes	Adult	Child	Adult	Child	Adult	Child	Adult	Child	Adult	Child	Adult	Child
	:00-:15												
	:15-:30												

Other attributes also may be tallied, including gender, direction of travel, or use of helmet, depending on purpose.



Defining bikes and walkers



Bicycles – all pedal powered vehicles: tandems, recumbents, 3 wheelers, tag-alongs, trailers



Walkers – people on foot or assisted: joggers, skaters, segways, wheel chairs, strollers, crutches, scooters, children being carried, person walking a bicycle





Example of Count Tallies



What to Take on Day of Count

- Instructions
- Location maps
- Count forms
- Clipboards
- Pens, pencils, and spares
- Watch, phone, or timepiece
- Public information sheet
- Safety vest
- Optional: hat, sunscreen, jacket, folding chair ...





How to Interact with Public

- Counter must
 - Maintain focus on counting
 - Explain politely what he or she is doing and reasons for count
 - Note if count interrupted
 - Provide person interrupting with print information about count (see example)





Public Information Sheet for Counters

Bicyclist and Pedestrian Counting Program

We are participating in a project to study bicyclist and pedestrian traffic volumes for our community. For more information, you may contact [INSERT CONTACT NAME, NUMBER AND EMAIL]. I will be happy to answer your questions if possible, but I must keep focused on counting to ensure our counts are as accurate as possible. Thank you for your interest in our program.





Work Zone Safety Considerations

- Your counting locations represents a “transportation work zone”
- Safety is your primary concern; do not take risks
- Wear safety vest or high visibility colors
- Do not interfere with traffic flow
- Contact count manager if questions arise





After your shift

Return count form and other materials to:

(FILL IN YOUR INFORMATION HERE)





Thank You

Your contact info here





Managing a Count Program

- Count Manager Role
- Selecting Count locations
- Recruit, Train and Schedule volunteers
- Conduct Counts
- Report Counts





Steps to starting a count program

Steps in Starting a Bike & Ped Counting Program	Aug	Sept	Oct
1. Consider the 5 W's and an H	X		
2. Consult stakeholders and determine purpose	X		
3. Confirm partnerships	X		
4. Select locations and create maps	X		
5. Recruit and train volunteers	X	X	
6. Conduct counts		X	
7. Report results to MnDOT		X	X
8. Evaluate experience and plan next count			X





Consider the 5 W's and an H

- A. Why count in my community?
- B. Who will do the counts?
- C. Where will the counts be taken?
- D. What information will be collected?
- E. When will the counts be taken?
- F. How will the counts be taken?





A. Why count in my community?

- Document bike and ped traffic on particular streets
- Evaluate use of bicycle lanes, sidewalks, trails, and other facilities
- Assess programs like Safe Routes to Schools
- Implement Complete Streets policies
- Evaluate State Health Improvement Plan strategies
- Other - consult stakeholders





B. Who will perform the counts?

- Local Count Manager will lead count
- Employees or volunteers will perform counts
- People and partners depend on purpose
 - Public works for traffic signaling
 - Planning department for evidence for plans
 - Parks & recreation for measuring trail use
 - Public Health for active living evaluations
 - Nonprofits and advocates for documenting need





C. Where will the counts be taken?

- Locations where you need information
 - Arterials, collector, or local streets (mid-block)
 - Sidewalks (mid-block)
 - Bicycle or pedestrian facilities such as multi-use trails (shared-use paths)
 - Intersections (more complex)
 - Downtown near businesses
 - Near schools, parks, and other important destinations





Factors in Choice of Count Locations

- Counts taken at location previously
- Existing or proposed bike or ped facilities
- Number of crashes or collisions
- Presence of transit options
- Stakeholder interest in location
- Land use mix
- Accessibility and safety for counters





Goal is to Count at Multiple Locations

- Many counts needed to understand variation in traffic over space and time
- Resource limitations prevent random or representative samples of entire community
- Strive for many locations (≥ 3 initially)
- Examples
 - Met Council counts trail users at > 500 sites
 - Minneapolis DPW count annually at > 250 locations



Trail

U of M Transitway, east of 29th Ave SE

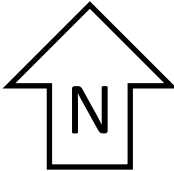


Counter location
Screen line



NOTES: Screenline revised for 2011 moved from 25th, as 29th is now the bike route from 27th Ave.
Count bicycles as riding on the transitway or on the sidepath (sidewalk riding)

Location 9: Hennepin Ave bridge

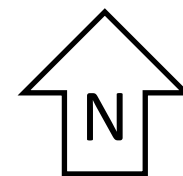
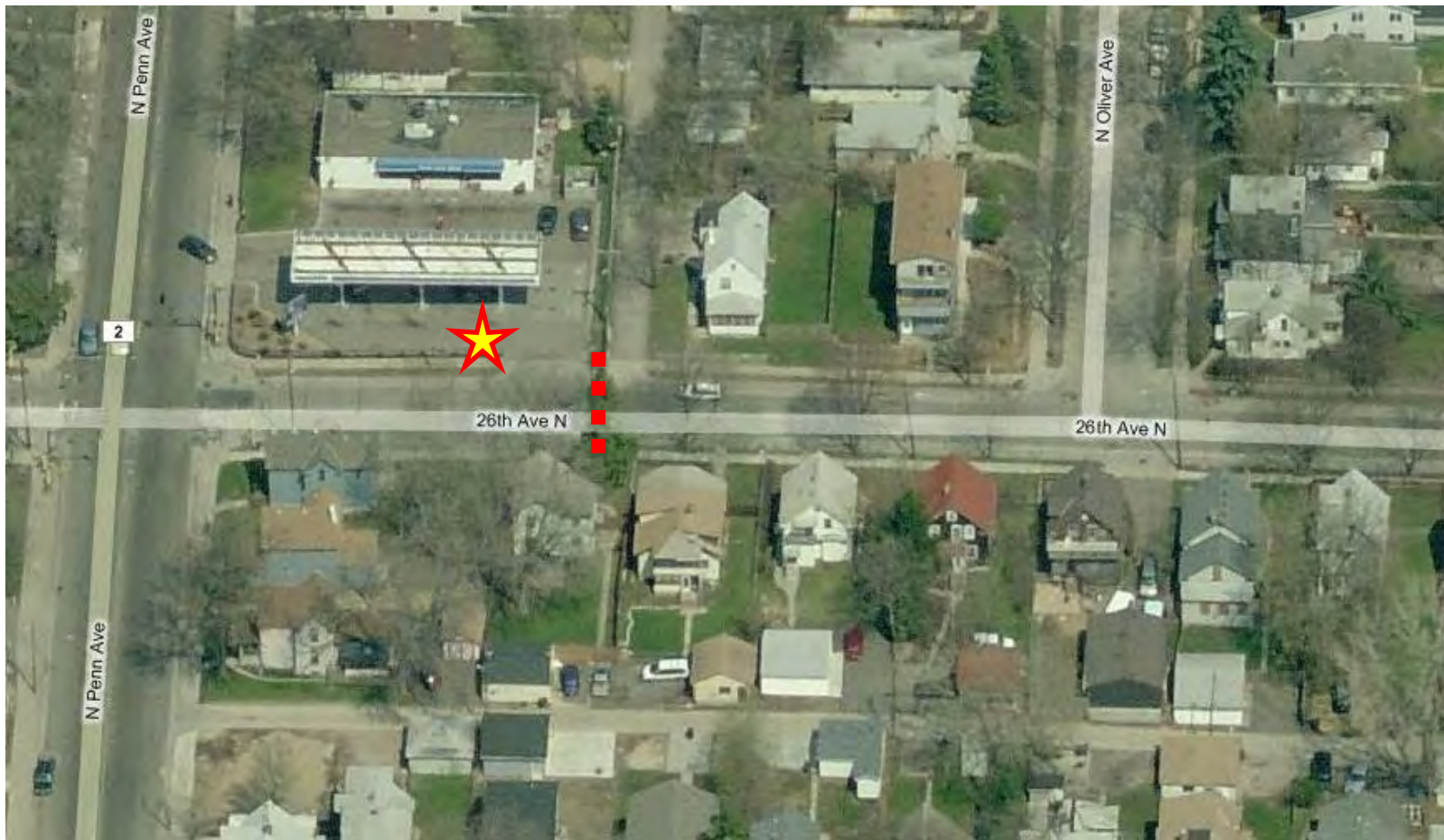


Counter location
Screen line



NOTES: Screen line is south of the stairway to W River Pkwy at the foot of the bridge

Location 15: 26th Ave N, east of Penn - Bike Boulevard

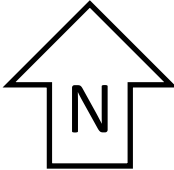


Counter location
Screen line



NOTES: Screen line has been revised to be consistent with 2009 and 2010 counts just east of gas station driveway.

Location 6: Riverside Ave, over I-94 - Bridge



Counter location
Screen line



NOTES: Observation from mound on NE side of the intersection, screen line is the bridge.
CLOSED 2011

Location 26: Franklin Ave Bridge

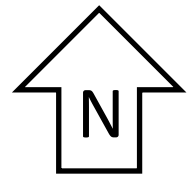


Counter location
Screen line



NOTES:

Location 39: Cedar Lake Trail, west of Kenilworth Trail (w of I-394)



Counter location
Screen line



NOTES: Observe from north of RR tracks – DO NOT COUNT KENILWORTH TRAIL Coordinate with other Cedar Lake Trail counts Loc 40, 43 and 70

Location 149:

Bryant Ave, north of Lake Street - Bike Boulevard



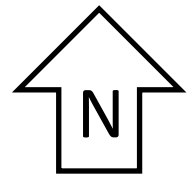
Counter location
Screen line



NOTES: Not Annual Benchmark – Monthly count location only

Location 541:

Summit Ave, east of Western Ave - Bike Lane



Counter location
Screen line



NOTES:



Count location details

- Test conducting a count
- Create map for volunteer
- Note the count location on the form
 - Consider using GPS coordinates





Get Permission

- **Property owner**
- **Law Enforcement**
- **City or county**
- **others**





D. What information will be collected?

- Required data (screenline counts)
 - Number of bicyclists past point
 - Number of pedestrians past point
- Optional data: attributes, behaviors, based on goals
 - Direction
 - Gender
 - Relative age
 - Use of helmet





E. Recommended Annual Dates

- September 15, 16, 17, 2015 (Tu, Wed, Th)
 - Peak hour: 4:00 p.m. – 6:00 or 7:00 p.m.
 - 12-hour day: 7:00 a.m. – 7:00 p.m.
- September 19 (Sat)
 - Peak hours: 10:00 a.m. – noon or 2:00 p.m.
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E. Other dates

- Peak periods and hours for biking or walking
 - Spring or fall; school in session
 - Both weekdays and weekends
- Good weather conditions
- At least annually, over many years





E. When will the counts be taken?

- Weekdays (essential)
 - Tuesdays, Wednesdays, Thursdays (consistent patterns)
 - Peak hours (varies by mode; essential)
 - Bikes: 4:00 p.m. – 6:00 p.m. or 7:00 p.m.
 - Peds: Noon – 1:00 p.m.; 4:00 p.m. – 6:00 p.m. or 7:00 p.m.
 - 12 hour days (7:00 a.m. – 7:00 p.m.)
- Weekend days
 - 10:00 a.m. – 2:00 p.m, depending on location
 - 12 hour days (7:00 a.m. – 7:00 p.m.)





F. How will the counts be taken?

- Count managers will train staff and volunteers
- Staff and volunteers will record bicycle and pedestrian traffic in field on MnDOT standard counting forms
- Count managers will collect, record, and report counts for community





What to do if bad weather or emergency

- If bad weather – hard rain, thunderstorms and lightning, or tornado warnings or watches – stop count, note time on form, and go to safe place; report to manager as soon as possible.
- If emergency, call 911 as appropriate, and contact count manager as soon as possible. Document emergency on forms.





How to Report Results

- Counter
 - Give completed forms with tallies to count manager
- Count manager
 - Collect completed forms from each counter
 - Open the PDF form and fill in all the information from the volunteers tally sheet
 - Click on the Submit button in the upper right corner or email the PDF to BikePedCounts.DOT@state.mn.us





Online MnDOT Counting Form

MNDOT STANDARD MANUAL BICYCLE AND PEDESTRIAN SCREENLINE COUNT FORM

Count Station ID:	
Date: ____/____/____	Day: (circle) Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Location: Street or intersection (nearest address if relevant)	Count duration, in hours:
City or Town	Type of count: (circle) Bicycle Pedestrian Both
County Minnesota	Count start time: (circle) am / pm
Count recorder name(s):	Name of agency / organization managing count:
Counter Telephone and Email	Agency Telephone and Email
Weather: (circle and complete) http://climate.umn.edu/doc/historical.htm Precipitation: yes / no High (F°): _____ Low (F°): _____ Are temperature estimates from UMN climate website? yes / no	Latitude / Longitude (if available) or GPS coordinates / notes:

Guidelines for using this count form:

- Please complete all of the fields on both sides of this form.
- Count all bicyclists and pedestrians crossing your screen line under the appropriate categories. **Make only one tally mark for each person.**
- Count for two hours in 15 minute increments. Record the hour you begin counting in the hour column. Change rows every 15 minutes.
- Count bicyclists who ride on the sidewalk. Ignore the attribute column if no extra details about bicyclists or pedestrian are being collected.
- Count the number of people on the bicycle (i.e., bicyclists), not the number of bicycles.
- Pedestrians include all people not on bicycles. Record pedestrians in wheelchairs, on skates, on scooters, etc. in "Pedestrians Assisted" columns.
- Do your best when traffic volumes are high or people talk to you; it is easy to lost count. Do your best, but note if you lose track.
- If bicycle and pedestrian traffic is too heavy to track attributes, revert to counting just the total bicyclists and pedestrians.

Notes:





Check list of Count Manager Tasks

- Coordinate with local partners
- Choose and inspect counting locations
- Determine where counter will be located
- Determine number of volunteer counters needed
- Determine counting schedule
- Create packet of information for counters
- Train counters
- Provide and collect essential forms
- Notify public safety officials and responsible agencies
- Check weather and traffic conditions
- Ensure counts done correctly
- Share data with local partners





Example Counting Schedule

	Wed	Wed	Wed	Wed	Sat
	Site 1 (reference)	Site 2	Site 3	Site 4	Site 5 (reference)
7:00 a.m.	X				X
8:00 a.m.	X				X
9:00 a.m.	X				X
10:00 a.m.	X				X
11:00 a.m.	X				X
12:00 noon	X				X
1:00 p.m.	X				X
2:00 p.m.	X				X
3:00 p.m.	X				X
4:00 p.m.	X				X
5:00 p.m.	X	X	X	X	X
6:00 p.m.	X	X	X	X	X





Packing list for day of counts

- Instructions
- Location maps
- Count forms
- Clipboards
- Pens, pencils, and spares
- Watch, phone, or timepiece
- Public information sheet
- Safety vest
- Optional: hat, sunscreen, jacket, folding chair ...





Additional Resources

MnDOT Bicycle and Pedestrian Data Collection Manual and additional information can be found at:

<http://www.dot.state.mn.us/bike/research/research.html>





Community Programs

The Fargo-Moorhead Metro,

Bike Walk Twin Cities (a program of Transit for Livable Communities),

The City of Minneapolis,

The City of St. Paul,

The City of Calgary in Alberta Canada, and

Portland, Oregon





Questions?

- For more information contact:

Lisa Austin 651-366-4193 or lisa.austin@state.mn.us

- Acknowledgements: Transit for Livable Communities; Bike Walk Twin Cities

