THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

February 18, 2016

MEMORANDUM

To: Parties Submitting Traffic Studies

From: Russell Provost
GIS/Transportation Planner
Functional Planning & Policy Division

Subject: **Pedestrian Count Clarification for Electronic Submission of Turning Movement Counts – Procedures and File Format**

This memorandum has been updated with pertinent contact information pertaining to the electronic submission of turning movement counts. No major changes to the submission procedure are included with this update and is largely a duplicate of the memorandum disseminated by Jose Dory on May 14th, 2015. There was also a minor error found in the description of the contractor submittal format (appendix A). A missing element (time that the evening peak hour pedestrian movement begins) was found in the header section and is highlighted in yellow. The element, however, was included in the actual Excel template and therefore no changes were necessary to the template used for submitting turning movement counts. Also attached is the latest list of signalized intersections' IDs in Montgomery County.

This memorandum provides the digital format to be used when submitting turning movement counts to support traffic studies. In addition to detailing the actual file format of the traffic counts, it also outlines the procedures for submission of the digital files. The submission of bike and pedestrian counts in future traffic studies is also now required as a part of the recently adopted Local Area Transportation Review and Transportation Policy Area Review (LATR/TPAR) Guidelines. Details on how to submit bike and pedestrian data is discussed further.

The digital traffic count files are a supplement rather than a substitute for the hard copy traffic counts included with an accepted traffic study. Therefore, the digital counts must be submitted to Functional Planning & Policy in conjunction with the existing documents already required by the LATR guidelines. The digital file format has been designed to support the automated loading of count data into the Planning Department's Intersection Database. We have revamped the process of loading traffic counts to accommodate not only vehicle turning movements, but also pedestrian and bicycle movements within an intersection. This database provides the foundation for a web-based GIS application that is utilized by staff for intersection

analysis. Please visit our web-based Intersection Analysis application at: http://www.mcatlas.org/traffic/

This document is organized into sections for ease of use. The first section provides general information about the standards. This section should answer many of the more common questions about these procedures for submitting intersection traffic counts. The second section contains details for the actual digital format. The details include the overall file format, columns, domain values and width, descriptors for hard return placements, and sample data.

The intersection database will accept up to a 23-hour count for a given location, but the data must be in 15-minute time intervals. These counts will be submitted into the database as existing conditions.

1. GENERAL SUBMISSION PROCEDURES
   - Media
     - Digital Files should be submitted electronically on a CD, and/or sent to mcp-trafficcounts@mncppc-mc.org. Sending traffic counts to "mcp-trafficcounts" is preferred.
     - The CD should be labeled with the project(s) for which the counts are being submitted, and a point of contact for questions about the count data.
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     - A Microsoft Excel template is available detailing the traffic count file format. A hard copy of the template, as well as a sample count file in final format, is attached to the end of this document.
     - The template and sample file are also available on the Planning Department's website. We recommend formatting the count using the Excel template, and then periodically saving the new file as indicated below.
     - Save the completed file as type "Formatted Text (Space Delimited)" (*.prn)
     - The submitted file should be named in the following format:
       - IntersectionID_MMDDYYYY.prn
       - (e.g., int00325_12102012)
       - One file per intersection, per day
       - Multiple files can be submitted on a CD

INTERSECTION ID NUMBERS AND CARDINAL DIRECTIONS

All signalized intersections in the county have a unique ID number that must be included in the count file and as part of the file name. A list of intersections and their ID numbers is available on the Planning website and are attached to this memorandum. The list also indicates the various legs of the intersection designating north/south or east/west. This designation must be followed when submitting traffic counts. The information comes directly from the Montgomery County Department of Transportation (MCDOT) configuration files and is updated periodically.

If you have any questions, please contact our office and we can provide you with the latest list of intersection IDs.

UNSIGNALIZED INTERSECTIONS

Our database does not store information for the thousands of unsignalized intersections in the County. If your traffic study requires the submission of traffic counts at unsignalized intersections, assign those counts intersection ID numbers beginning at 990 and move forward by increments of one for each additional signalized intersection in your study area where you are submitting traffic counts. If you are submitting more than one traffic study at a time, start again at 990 for each new traffic study. We will collect the counts for future database expansion.

FIVE-LEGGED INTERSECTIONS

For each intersection, up to four legs are identified according to cardinal directions; northbound, southbound, eastbound, and westbound. The database protocol incorporates five-legged intersections by introducing a fifth leg, always termed the "other" leg. For five-legged intersections, the analyst must determine in which quadrant of the four-leg intersections the "other" leg belongs. Turns from the cardinal legs to other cardinal legs are always labeled "left (L)", "through (T)", "right (R)", and turns from the cardinal legs to the other leg are always labeled "other (O)".

Turns from the "other" are always labeled such that the first three movements from left to right (i.e., clockwise) are labeled "left", "through", and "right" and the fourth movement is labeled "other". Below is a diagram that illustrates all possible 5th leg configurations. The diagram also documents all possible values for traffic movements based on the 5th leg directionality.

INTERSECTIONS WITH MORE THAN FIVE LEGS

There are a few intersection locations with more than five legs. If you need to submit a traffic count at one of these locations, contact me to discuss the digital file format.

BIKE AND PEDESTRIAN DATA

In accordance with the adopted LATR/TPAR Guidelines, traffic studies are to be submitted with bike and pedestrian access and circulation information, as well as bike and pedestrian counts (see "Scope of an LATR Traffic Study", Provision 10, "Pedestrian and Bicycle Impact Statement"). Pedestrian counts are to be collected at each intersection leg in the pedestrian section, labeled "P", of the traffic count template. The bicycle counts are to be collected by recording each turning movement per leg in the bicycle section, labeled "B", of the traffic count template. If you need the excel file that accompanies any of the templates that have been explained in this memorandum, please contact mcp-trafficcounts@mncppc-mc.org.

The pedestrian section of the template addresses all of the legs of the intersection that a pedestrian would traverse through. These, as with the vehicle and bicycle count sections, are labeled as NB, SB, EB, WB, and, OB. For the sake of pedestrian counts, we treat the NB direction

as the northern leg of the intersection. Similarly, we treat the SB direction as the southern leg of the intersection and so on. We count the sum of pedestrians crossing on either side of the leg at an intersection for that leg within that 15-minute interval. For example, if we have an intersection that counted 4 pedestrians crossing the northern leg in the eastern direction, and 1 pedestrian crossing on the northern leg in the western direction, then we would count the northern leg as 5 during that 15-minute interval. We would place the count value 5 in the appropriate time slot in the NB designated column. The bicycle section of the template addresses north, south, east, west, and other bound turning movements in addition to the legs of the intersection. Bicycles are counted in the same manner as motorized vehicles to reflect their turning movements at intersections

2. DATA FORMAT DETAILS

The detailed format for the digital traffic counts is attached to this memorandum. Also included is a sample excerpt from the Microsoft Excel template for use with the count format, as well as a sample text file illustrating a count in its raw format. These documents are all available on our website along with the list of Intersection ID numbers and cardinal directions of each intersection leg.

Feel free to contact me at (301) 495-4638 or russell.provost@montgomeryplanning.org or mcp-trafficcounts@mncppc-mc.org if you have any questions.

Kind regards,

Russell Provost

Attachments: Updated description of contractor submittal file format (also included in appendix A)

Appendix A: Updated Contractor Format

Section	Width	Start	End	Format	Comment
Header	1	1	1	Character	"H" - Denotes header section
Header	5	2	6	Small Integer	Intersection ID - given to contractor before count
Header	8	7	14	MMDDYYYY	Date that count was taken
Header	4	15	18	Military	Start Time
Header	4	19	22	Military	End Time
Header	40	23	62	Character	Company Name
Header	5	63	67	Small Integer	Estimated Future CLV
Header	5	68	72	Small Integer	Existing Intersection CLV
Header	5	73	77	Small Integer	Morning Peak CLV Value
Header	4	78	81	Small Integer	Time that the Morning Peak Hour **begins**
Header	5	82	86	Small Integer	Evening Peak CLV Value
Header	4	87	90	Small Integer	Time that the Evening Peak Hour **begins**
Header	5	91	95	Small Integer	Morning Peak Value of Bike Mvmts
Header	4	96	99	Small Integer	Time that the Morning Peak Hour Bike Mvmts **begins**
Header	5	100	104	Small Integer	Evening Peak Value of Bike Mvmts
Header	4	105	108	Small Integer	Time that the Evening Peak Hour Bike Mvmts **begins**
Header	5	109	113	Small Integer	Morning Peak Value of Ped Mvmts
Header	4	114	117	Small Integer	Time that the Morning Peak Hour Ped Mvmts **begins**
Header	5	118	122	Small Integer	Evening Peak Value of Ped Mvmts
Header	4	123	126	Small Integer	Time that the Evening Peak Hour Ped Mvmts **begins**
Header	2	127	128	Character	M,T,W,Th,F,S,Sn
Header	1	129	129	Boolean	Holiday ? (Y/N)
Header	250	130	379	Character	Overall conclusion for intersection/comments
Place Hard Return in File					

Section	Width	Start	End	Format	Comment
Intersection Configuration	1	1	1	Character	"I" - Denotes beginning of Lane Configuration Section
Intersection Configuration	40	2	41	Character	Northbound road name
Intersection Configuration	40	42	81	Character	Southbound road name
Intersection Configuration	40	82	121	Character	Eastbound road name
Intersection Configuration	40	122	161	Character	Westbound road name
Intersection Configuration	40	162	201	Character	Otherbound road name
Intersection Configuration	1	202	202	Character	Split phasing in northbound and southbound direction of travel (Y/N)
Intersection Configuration	1	203	203	Character	Split phasing in westbound and eastbound direction of travel (Y/N)
Place Hard Return in File					
Repeat for all Directions With Hard Return After Each Full Direction					
Lane Configuration	2	1	2	Character	NB,SB,EB,WB,OB
Repeat for All Lanes & Directions					
Lane Configuration	1	3,8…	3,8…	Small Integer	1 to *n* - starting with the **left** most lane
Lane Configuration	4	4,9…	7,12…	Character	valid values - T, R, L, TR, TL, TRL, LR, O, TO, TRO, TLO, TRLO, RO, LO, LRO, FR (T= Through, R= Right, L= Left, O=Other [5th leg], FR=Free Right)
Place Hard Return in File					

Section	Width	Start	End	Format	Comment
Count	1	1	1	Character	"C" Denotes count section
Repeat for all 15- min intervals With Hard Return After Each Full Time With Counts					
Count	4	2	5	Military	Start time for 15 min interval
Repeat for each direction					
Count	2	6,28..	7,29..	Character	NB, SB, EB, WB, OB
Count	5	8,30..	12,34..	Small Integer	Number of **left** turning vehicles
Count	5	13,35..	17,39..	Small Integer	Number of **through** turning vehicles
Count	5	18,40..	22,44..	Small Integer	Number of **right** turning vehicles
Count	5	23,45..	27,49..	Small Integer	Number of **other** turning vehicles
Repeat for Bike					"B" Denotes count section
Repeat for Pedestrian					"P" Denotes count section
					One column for all movements (NB = Northern Leg, SB = Southern Leg, EB = Eastern Leg, WB = Western Leg, OB = Other Leg. See explanation in procedure memo.