



## TURNING MOVEMENT COUNT TRAINING

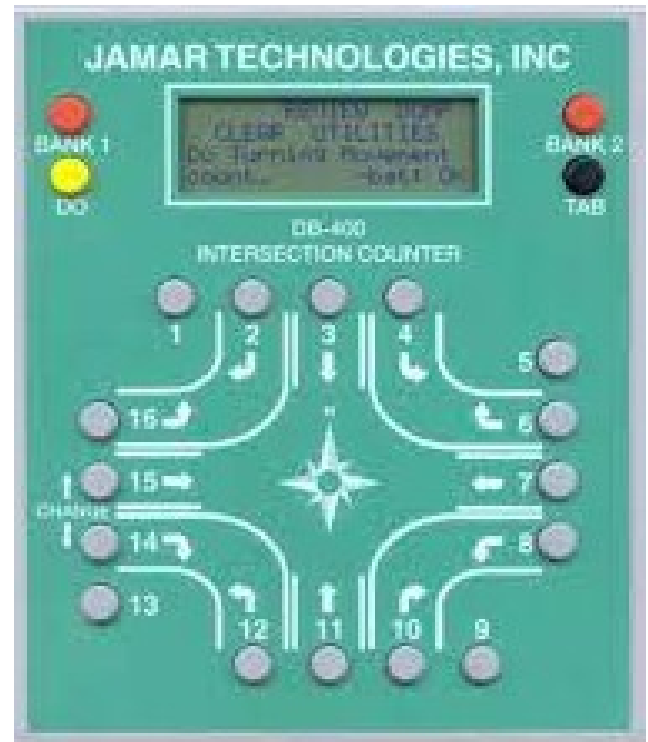
### WHAT ARE WE GOING TO DO TODAY?

Today we are going to perform one of the most common data collection procedures used in traffic studies: a manual Turning Movement Count.

- A Turning Movement Count consists of tracking and recording the turning movements of every vehicle traversing an intersection from each approach.
- Simultaneously to the vehicle count we will conduct a pedestrian count and a binary vehicle classification count.
- To do this work, we use an Electronic Handheld Traffic Data Collector and a Field Worksheet.
- Traffic volume data will be collected at the study intersections with one or two person(s) assigned at each location.
- Data will be collected during the time periods assigned to you by the count supervisor. The board and your watch should be synchronized with the official U.S. Time ([www.time.gov](http://www.time.gov)).

### DATA COLLECTION PROCEDURE

- The electronic handheld traffic data collectors are simple and intuitive to use. They are designed to make turning movement counts simple and accurate. The buttons are arranged to simulate a standard four-legged intersection.
- There are a total of 16 gray buttons (see figure), of these, 12 are used to track the left, through, and right traffic movements from each of the four approaches. The additional four buttons (numbered 1, 5, 9 and 13, see figure) are used to count pedestrians and/or bicycles.
- If for example a vehicle makes a left-turn from an approach, you simply push the button once showing the left-turn from that direction. The data collector keeps track of everything else for you.
- One of the red buttons (i.e., BANK 1) will be used to count heavy/large vehicles.
- The remaining red button (i.e., BANK 2) will be used to count bicycles.



## HEAVY/LARGE VEHICLES

- Any vehicle with three or more axles, six or more tires, or as a general rule-of-thumb, equal to or larger in size than a FedEx/UPS truck shall be counted as a heavy/large vehicle.
- Commercial, school, and city buses shall be counted as heavy/large vehicles.
- A vehicle pulling a trailer should be counted as a heavy/large vehicle.
- Vans, pick-up trucks, motorcycles should be counted as cars.
- If for example there is a heavy/large vehicle making a left-turn from an approach, then press and hold down the "BANK 1" red button, and simultaneously push the button showing the left-turn from that direction.

## PEDESTRIANS

- The gray buttons numbered 1, 5, 9 and 13 (see figure) are used to count pedestrians.
- Counting pedestrians is a straightforward procedure; each of the four pedestrian buttons is assigned to the approach being crossed.
- For example, if a pedestrian is crossing the north approach, you simply push the pedestrian button that matches the approach being crossed; in this case Button #01. The handheld data collector keeps track of everything else for you.
- Pedestrians may cross an approach from the left or from the right, however, for the purposes of this count we are not concerned with the walking direction, but rather with the total number of pedestrians crossing every approach.

## BICYCLES

- Bicycles are counted in the same manner as heavy/large vehicles; however, the "BANK 2" red button is used in this case.

## COUNTBOARD SETUP

- The ON/OFF switch is on the top of the board.
- The "TAB" button moves you between options.
- The "DO" button is what you press to choose an option (like "enter" on a computer).
- To start the count perform the following steps:
  1. Turn the unit ON and wait a few seconds,
  2. "COUNT" will be flashing (press DO),
  3. Tab over to "NEW" (press DO),
  4. "8-DIGIT" will be flashing (press DO),
  5. Enter the "SITE CODE" assigned to you by the person-in-charge. Use the gray buttons from 1 to 10 for this purpose (press DO). Please remember to write down your site code on your data collection form.
  6. The "15" minute interval will be flashing (press DO).
  7. Now you are all setup, wait and leave the board untouched until it is time to start.
  8. If by accident you started the count before the specified time, turn the unit off and perform steps 1 through 7 again.

9. As soon as your start time begins, start counting.
10. Every 15 minutes you will hear beeps telling you that interval is over. Continue counting.
11. When you are approaching the end of your counting period, keep counting until the interval ends which will be signaled by a double or triple beep. Once you hear this, turn the unit OFF but not before. If you turn the unit off before the end of the interval, the last interval will not be saved.

## **COUNT BOARD ORIENTATION**

Many counts have gone wrong because the traffic surveyor did not consistently orient the board through the duration of the count, or failed to note the orientation of the board in his/her data collection form.

- Please note that it does not matter which way the electronic board is being oriented during the count, that is, the north arrow printed on the board can be upside down, or pointing to your left or your right.
- Also note that the north arrow shown on the board's front panel does not need to match the true north direction.
- We recommend that you orient the board in a way that will make it easy for you to read the display and in a manner that is comfortable to you. Some prefer to align the board's north arrow with the true north direction, others prefer to keep the data display straight.
- However, what is truly important is that you provide a complete and accurate sketch of the orientation of your board and your count location in the attached Field Worksheet, in this manner, we will be able to process the data correctly, no matter which way the board is oriented.

## **RECOMMENDATIONS**

- (a) Make sure to be at your intersection 15 minutes before the specified start time, so that you can start the count on time.
- (b) Find a good and safe observation point of your study intersection. Your location has to allow for good visibility of all intersection approaches and should not interfere in any way with the normal circulation of traffic. Your count location should preferably be concealed from the view of passing motorists.
- (c) Once you have decided on an observation point, please keep it consistently for the rest of the count.
- (d) \*\* Keep the board consistently oriented during the whole duration of the study \*\*
- (e) \*\* Perform a count as accurate as possible \*\*. Avoid over-counting and/or under-counting. Do not falsify any data. If you push a wrong button, or push a button too many times, try to keep a mental track of the error(s) and use the next movement to balance the error out.
- (f) If there is rain, the traffic count will not stop. If you are outdoors find a refuge (perhaps your car) and continue the count.
- (g) Avoid any distractions. Cell phone use during the count is not allowed.
- (h) Maintain a professional image, be alert and courteous at all times.
- (i) Make sure to use the restroom before the count starts. During the count you will not be allowed to leave your location.
- (j) Please place the "COUNT IN PROGRESS" sign behind your windshield.
- (k) \*\* At the end of your count, be sure to hear the double or triple beep before you turn the unit off. \*\*
- (l) Please make sure to fill out completely and accurately all the data requested in the data collection forms.
- (m) Return the electronic boards to your supervisor at the end of the traffic count.

**THANK YOU VERY MUCH FOR YOUR HELP!**  
**SAFETY FIRST, SAFETY ALWAYS!**

