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TecNote 1108 - Pedestrian Safety Clearance Extension Timing

Agencies may choose the optional use of running a extended Pedestrian clearance time also known as Pedestrian Safety Clearance Extension. Contact your Naztec representative for further details on acquiring this feature.



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WARNING WARNING WARNING WARNING WARNING WARNING

THE PEDESTRIAN SAFETY CLEARANCE EXTENSION FEATURE HAS BEEN DEVELOPED BASED UPON REQUESTS FROM VARIOUS AGENCIES AND IS CURRENTLY IN AN EXPERIMENTAL PHASE.

Naztec, Inc. does not provide any guidelines, warrants, or recommendations for the use of the Pedestrian Safety Clearance Extension feature. The underlying assumption is that the traffic engineer has decided that this feature will enhance the safety of the intersection using it. It is also assumed that the deploying agency has made all necessary considerations regarding this control method and has determined that it is consistent with relevant traffic engineering standards and practices. Please note that the operation of this feature is subject to change pending actions by the regulating standards organizations.

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Version 61.x Pedestrian Safety Clearance Extension

This enhancement is only available for version 61.3q or greater.

PROGRAMMING THE PEDESTRIAN SAFETY CLEARANCE TIMING

- 1) From an initialized and programmed database, navigate to MM>1>1>1 and change the “Ped Clearance” time to the Maximum Extendible Ped Clearance Time for each ped movement requiring the Safety Clear feature. For example: change 18 seconds to 30 seconds on phase 2.
- 2) Go to MM>1>1>3 (PhaseOptions+).
- 3). In the “SafeClrPedMin” row, enter the Minimum Ped Clearance Time for each ped phase that is going to utilize the Safety Clear feature. This would be the original Ped Clearance value. For example: Enter 18 seconds under phase 2.

- 4) With this setting the ped output will flash for the entire Pedestrian Clearance time, including the Extension time.
- 5) If Countdown Modules are being used, or you wish to not display the Pedestrian Extension time, then enable the “SafeClrNoFlash” for each corresponding phase. This option is also located in MM>1>1>3 (PhaseOptions+).

NOTE: When Safety Clear is used for a Pedestrian Phase, the Minimum Ped Clearance value from the timing table is moved to the Safety Clear Min “SfClrMn” value and the “Ped Clearance” value becomes the maximum extendible “Safety Clear” time.

- 6) Go to MM>2>1 (Coord>Modes +) and Turn the Stop-In-Walk value to “ON”.

MAP DETECTOR INPUTS FOR EXTENSION

- 7) Next, set the Extension Detector Input to the Pedestrian Phase. This is done in the Pedestrian Detectors setup Screen.
- 8) Safety Clear offers and additional set of detector inputs, channels 17-32. Each channel is the extension for the corresponding Call Detector on 1-16. For instance, 17 extends Ped 1, 18 extends Ped2, etc. Since Ped Det Input 2 calls Ped 2, set Ped Det Input 1 to 18 (function 18 Extends Ped 2).
- 9) For this example, land Extension Detector to cabinet’s Ped 1 input.

APPLY AND VIEW PED EXTENSION IN PROGRESS

- 10) Go to Timing Status Screen, MM>7>1. Apply Ped Call for Phase 2 ped. 8. At any point when Ped for Phase 2 is active (during Walk or Ped Clear), apply Extension Detector from Ped 1 input and hold it. After “Walk” and “PedClr” times have expired, the “PedExt” will appear and count from 12 to 0 (this is the extendible amount of time based on 30 seconds minus the 18 seconds of “SfClrMn”, which is the old Ped Clearance value).

NOTES:

1. If the Extension Detector is not “Active” by the time the Ped Clearance time has count down, the Extension will NOT occur. Extension cannot be applied after Clearance. If the extension is dropped it cannot be re-applied.
2. The Ped Extension is NOT LOCKING. While in Ped Extension, if the Extension input is remove (meaning the pedestrian has cleared the extendible zone), the Ped Extend timer will terminate and the controller will proceed based on vehicle demand and standard timing parameters.

Version 76.x Pedestrian Safety Clearance Extension

This enhancement is only available for version 76. or greater. The following is the setup as used by Sacramento County.

PROGRAM SAFETY CLEAR TIMING

1. From an initialized and programmed database, navigate to MM>1>1>1 and change the “Ped Clearance” time to the Maximum Extendible Ped Clearance Time for each ped movement requiring the Safety Clear feature. For example: change 18 to 30 on phase 3.

2. Go to MM>1>1>7 (Times+). In the “SfClrMn” row, enter the Minimum Ped Clearance Time for each ped phase that is going to utilize the Safety Clear feature. This would be the original Ped Clearance value. For example: Enter 18 seconds under phase 3.

NOTE: When Safety Clear is used for a Pedestrian Phase, the Minimum Ped Clearance value from the timing table is moved to the Safety Clear Min “SfClrMn” value and the “Ped Clearance” value becomes the maximum extendible “Safety Clear” time.

3. Go to MM>2>1 (Coord>Modes +). Turn the Stop-In-Walk value to “ON”.

MAP DETECTOR INPUTS FOR EXTENSION

Naztec has added eight (8) new function codes to the I/O function table under MM>1>8>9 for Ped Extension Input Channels 1-8. This enables the Extension detector to be landed in the cabinet to a programmable location, based on available terminals, in TS1, TS2, and type 170 modes. These function codes are:

FUNCTION	FUNCTION CODE
Ped Extension Input Phase 1	298
Ped Extension Input Phase 2	299
Ped Extension Input Phase 3	300
Ped Extension Input Phase 4	301
Ped Extension Input Phase 5	302
Ped Extension Input Phase 6	303
Ped Extension Input Phase 7	304
Ped Extension Input Phase 8	305

4. To program the function codes, go to MM>1>8>6 (I/O Parameters). Set the value for “C1-C11-A/B/C I/O Mode” to “User”. This will enable user-programmable functions to be assigned to any I/O pin on any connector.
5. Go to MM>1>8>9>3 (Initialize Map). This function populates the I/O mapping with the values so they can be viewed and/or changed. For TS1 applications, set the value for “Initialize ABC” to “Auto”. This will populate the pin assignments with the default functions and allow the values to be changed manually.
6. To manually set/change/map the function for the Ped Extension Detector Input for Ped 3 to the available Ped 1 input on the cabinet, go to MM>1>8>9>1>1 (Inputs>NEMA A). This will be pin “g” on the “A” connector. By default it will be “Ped Call 1” (function 129). Change the function code to function 300, which is Ped Ext 3. Power cycle controller or toggle the Run Timer to enable changes.
7. Turn on the pedestrian detector for the Ped 3 call input. Go to MM>5>4 and set the Ped 3 input to call Ped Phase 3. (Default is “0”).
8. Land Pedestrian Extension detector to terminal 333 of “Controller Termination Panel” on standard Type “M” cabinets. This should be “Phase 1 Ped Call” terminal, pin “A-g” to controller.
9. To view the input in real time and confirm that the controller properly gets the input, go to the I/O Viewer at MM>1>8>8>2 (Inputs 256+). Navigate to input 300. Initiate input. It should show an “Active” state each time the input is applied to the “A-g” pin, formerly the “Ped Call 1” input.

APPLY AND VIEW PED EXTENSION IN PROGRESS

- 10. Go to Timing Status Screen, MM>7>1. Apply Ped Call for Phase 3 ped.
- 11. At any point when Ped for Phase 3 is active (during Walk or Ped Clear), apply Extension Detector from Ped 1 input and hold it. After “Walk” and “PedClr” times have expired, the “PedExt” will appear and count from 12 to 0 (this is the extendible amount of time based on 30 seconds minus the 18 seconds of “SfClrMn”, which is the old Ped Clearance value).

NOTES:

- 1. If the Extension Detector is not “Active” by the time the Ped Clearance time has count down, the Extension will NOT occur. Extension cannot be applied after Clearance. If the extension is dropped it cannot be re-applied.
- 2. The Ped Extension is NOT LOCKING. While in Ped Extension, if the Extension input is remove (meaning the pedestrian has cleared the extendible zone), the Ped Extend timer will terminate and the controller will proceed based on vehicle demand and standard timing parameters.

Summary

Certain agencies has expressed interest in Pedestrian Safety Clearance Extension Timing. Please be reminded that this feature is currently being developed and is currently in an experimental phase. Our thanks to the staff of Sacramento County in testing this feature.

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