

RESOLUTION NO. 2012-3

A RESOLUTION TO ADOPT THE TRAFFIC SIGN RETROREFLECTIVITY  
MAINTENANCE PROGRAM FOR THE VILLAGE OF Chauncey  
FOR CALENDAR YEAR 2012

WHEREAS Section 4511.11 of the Ohio Revised Code requires local authorities place and maintain traffic control devices in accordance with the Ohio Manual of Uniform Traffic Control Devices (OMUTCD); and

WHEREAS Revision 1 of the OMUTCD 2005 Edition, effective January 2010, introduced a new section (2A.09) that sets forth the traffic sign retroreflectivity requirements of Ohio; and

WHEREAS the OMUTCD is required to be in substantial conformance with the national Manual of Uniform Traffic Control Devices (MUTCD); and

WHEREAS in January 2008, the Federal highway Administration (FHWA) enacted new requirements for maintaining minimum levels of retroreflectivity for traffic signs through the national Manual of Uniform Traffic Control Devices; and

WHEREAS the MUTCD implementation resulted from a final rule published in the Federal Register on December 21, 2007; and

WHEREAS the December 2007 final rule from FHWA established by January 22, 2012, all agencies will have to establish and implement a sign maintenance program that can regularly address the new minimum sign retroreflectivity requirements.

NOW, THEREFORE, BE IT ORDAINED by the Village Council of the Village of Chauncey, Ohio that the Traffic Sign Retroreflectivity Maintenance Program for The Village of Chauncey, Athens County, Ohio Calendar Year 2012 is adopted and will be implemented by the Village.

Passed: Jan 3, 2012

Attest:

Mayor

Council President

Clerk

approved as to form  
Solicitor

**Traffic Sign Retroreflectivity Maintenance Program**  
**for**  
**The Village of Chauncey, Athens, Ohio**  
**Calendar Year 2012**

**1. Introduction**

“Retroreflectivity” refers to the property of a traffic sign to reflect light back to the driver. Retroreflective traffic signs are used to increase sign visibility at night. Maintaining sign retroreflectivity is important to promote nighttime traffic safety.

In January 2008, the Federal Highway Administration (FHWA) enacted new requirements for maintaining minimum levels of retroreflectivity for traffic signs. These requirements were established through the national Manual on Uniform Traffic Control Devices (MUTCD), and apply to all agencies that maintain roadways open to public travel. The MUTCD implementation resulted from a final rule published in the Federal Register on December 21, 2007.

The Ohio Manual of Uniform Traffic Control Devices (OMUTCD) is required to be in substantial conformance with the national MUTCD, and must incorporate new requirements within two years. Revision 1 of the OMUTCD 2005 Edition, effective January 2010, introduced a new section (2A.09) that sets forth the traffic sign retroreflectivity requirements for Ohio. Revision 2 of the 2005 Edition became effective in April 2011; and a new 2011 Edition is expected to be issued by December 2011.

The responsibility for the design, placement, operation, maintenance, and uniformity of traffic control devices rests with the public agency or the official having jurisdiction. Per Section 4511.11 of the Ohio Revised Code, local authorities shall place and maintain traffic control devices in accordance with the OMUTCD.

**1.1 Implementation Requirements**

The December 2007 final rule from FHWA established compliance dates as follows:

- By January 22, 2012, all agencies will have to establish and implement a sign maintenance program that can regularly address the new minimum sign retroreflectivity requirements.
- By January 22, 2015, all agencies must comply with the retroreflectivity requirements for most of their traffic signs, including: white on red and black on white regulatory signs (such as STOP signs and Speed Limit signs); black on yellow warning signs; and post-mounted white on green guide signs (except street name signs).
- By January 22, 2018, all agencies must comply with the retroreflectivity requirements for overhead guide signs and all street name signs.

## **1.2 References**

References and resources for this work include, but are not limited to:

Ohio Manual of Uniform Traffic Control Devices (OMUTCD) – current version –

<http://www.dot.state.oh.us/Divisions/HighwayOps/Traffic/publications2/OhioMUTCD/Pages/>

Section 2A.08 – Retroreflectivity and Illumination

Section 2A.09 – Maintaining Minimum Retroreflectivity

Section 2A.22 – Maintenance

Additional parts/sections of the OMUTCD should be referred to as needed with regard to traffic sign management and maintenance functions.

Ohio Revised Code – Sections 4511.09 and 4511.11

Federal Highway Administration (FHWA) – Sign Retroreflectivity Resources

Toolkit – [http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/)

Guide – [http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/policy\\_guide/fhwas07020/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwas07020/)

Additional Information – [http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/sign\\_visib/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/sign_visib/)

## **2. Policy Statement**

The Village will use the plan, method(s) and procedure(s) described herein to evaluate and maintain retroreflectivity of traffic signs under its jurisdiction, in accordance with the most current version of the Ohio Manual of Uniform Traffic Control Devices.

## **3. Implementation Plan**

The anticipated steps in this plan for calendar year 2012 are as follows.

- Create a traffic sign inventory for the Village (see section 4 of this document), and identify any sign problems/deficiencies that require corrective action.
- Inspect designated control signs for conformance to OMUTCD retroreflectivity requirements per a set schedule.

In light of the first compliance date (see section 1.1), the Village hereby resolves to proceed with the implementation plan by January 22, 2012, or earlier if possible.

Based on experience gained as this program is implemented, the Village may review and modify its approach to this work as needed in order to:

- comply with the traffic sign retroreflectivity requirements per the OMUTCD; and
- provide for the safety of sign inspection/maintenance personnel, motorists, and other road users.

Any significant changes made to the plan, method(s) or procedure(s) will be documented.

## **4. Traffic Sign Inventory**

Inspections will be conducted to identify and document all traffic signs under the Village's jurisdiction.

At a minimum, the documentation from these inspections will include the sign type, location, and condition (see Appendix A). The inspections will also identify:

- Any damaged, deteriorated, or obscured signs, or other sign problems, that require immediate corrective action in the interest of traffic safety.

- Any signs or sign installations that do not meet the standards and requirements set forth in the OMUTCD .

The Village will take appropriate and reasonable steps to correct any sign problems/deficiencies identified.

The data collected during the inspections will be used to create an inventory of the Village's traffic signs. At the Village's discretion, the sign inspection sheets may be organized in a notebook or filing system; or, data from the inspection sheets may be transferred to a separate spreadsheet or computer database. The Village will evaluate the available options and methods for long-term maintenance and updating of its sign inventory.

### **5. Method for Maintaining Traffic Sign Retroreflectivity**

The OMUTCD describes several assessment and management methods that may be used to maintain traffic sign retroreflectivity. By January 22, 2015, the Village will use the **Blanket Replacement Procedure** to replace all traffic signs on its roads. All existing traffic signs, including: white on red and black on white regulatory signs (such as STOP signs and Speed Limit signs); black on yellow warning signs; and post-mounted white on green guide signs; and street name signs in the Village will be replaced with signs meeting the OMUTCD retroreflectivity requirements.

The Village will inspect designated control signs every 5 years to verify compliance with the retroreflectivity standards. The signs will be replaced when the control signs no longer meet the OMUTCD retroreflectivity standards. For the inspections the Village will use one of the retroreflectivity inspection procedures approved by ODOT at the time of the inspection.

#### **5.1 Procedure**

The Federal Highway Administration has published several resources that include recommendations and instructions for proper use of several procedures to conduct inspections (see Appendix C) for sign retroreflectivity. The Village will review these resources and adopt appropriate inspection practices for properly using the selected procedure to comply with the OMUTCD retroreflectivity standards. The procedure steps and requirements will be listed and attached to the inspection documentation.

Procedures may include one of the followings:

- a. Calibration Signs Procedure – An inspector views “calibration signs” prior to conducting the nighttime inspections. Calibration signs have known retroreflectivity levels at or above minimum levels. These signs are set up where the inspector can view them in a manner similar to the nighttime field inspections. The inspector uses the visual appearance of the calibration signs to establish the evaluation thresholds for that night's inspection activities. (“Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020)
- b. Comparison Panels Procedure – Comparison panels are used to assess signs that have marginal retroreflectivity. The comparison panels are fabricated at retroreflectivity levels at or above the minimum levels. When the visual [nighttime] inspection identifies the retroreflectivity of a sign as marginal, a comparison panel is attached to the sign and the sign/panel combination is viewed and compared by the inspector. (“Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020)
- c. Consistent Parameters Procedure – Nighttime inspections are conducted under similar factors that were used in the research to develop the minimum retroreflectivity levels. These factors include: using a model year 2000 or newer sport utility vehicle (SUV) or pick-

up truck to conduct the inspection; and using an inspector who is at least 60 years old.  
("Maintaining Traffic Sign Retroreflectivity" – FHWA-SA-07-020)

- d. Measured Sign Retroreflectivity – Contact or non-contact hand-held retroreflectometers directly measure the retroreflectivity of the sign per ASTM Standard Test Method E1709-00e1, which requires a minimum of four retroreflectivity measurements to be taken of the sign background and legend. The four measurements for each color are averaged to obtain an overall measurement of the retroreflectivity for each color on the sign. These values are compared to the minimum retroreflectivity values to determine whether or not the signs should be replaced.

### 5.2 Inspector(s)

At the time of sign inspection the Village will verify that the designated person(s) are able to competently serve as inspector(s) for evaluating traffic sign retroreflectivity. The Village will review applicable FHWA guidelines and resources with regard to inspector training, and will determine the type(s) or extent of training their inspector(s) will need in order to perform this function in accordance with the OMUTCD requirements.

### 5.3 Schedule and Documentation

The Village will replace all existing traffic signs, including: white on red and black on white regulatory signs (such as STOP signs and Speed Limit signs); black on yellow warning signs; and post-mounted white on green guide signs; and street name signs with signs meeting the OMUTCD retroreflectivity requirements no later than January 22, 2015. The traffic sign retroreflectivity inspections commence five years from completion of the sign replacement.

The retroreflectivity inspection records will be kept in a notebook or filing system that will be accessible to the Village Officials. Documentation from each inspection process will be kept for a period of at least five years.

Looking ahead, the Village plans to conduct sign retroreflectivity assessments with a frequency of once every five years. Future renewals or revisions of this program document will describe the timeframe or frequency for conducting retroreflectivity assessments.

## 6. Additional Responsibilities for Traffic Sign Management and Maintenance

Retroreflectivity is just one of several factors associated with proper functioning of traffic signs. The Village continues to be responsible for the overall management and regular maintenance of signs under its jurisdiction, in the interest of traffic safety.

The following text is included in OMUTCD Section 2A.22 – Maintenance:

"Maintenance activities should consider proper position, cleanliness, legibility, and daytime and Nighttime visibility (see Section 2A.09). Damaged or deteriorated signs should be replaced.

To assure adequate maintenance, a schedule for inspecting (both day and night), cleaning, and replacing signs should be established. Employees of highway, law enforcement, and other public agencies whose duties require that they travel on the roadways should be encouraged to report any damaged, deteriorated, or obscured signs at the first opportunity.

Steps should be taken to see that weeds, trees, shrubbery, and construction, maintenance, and utility materials and equipment do not obscure the face of any sign."

Responsibility and authority for directing the Village's various sign management and maintenance functions, including the retroreflectivity maintenance program, is hereby assigned to:  
Village Manager

## **7. Documentation and Recordkeeping**

The Village will establish a recordkeeping system to organize the documentation relating to its traffic sign management and maintenance functions, including:

- Creating and maintaining the sign inventory.
- Conducting routine, periodic condition inspections of signs.
- Conducting retroreflectivity inspections of signs.
- Maintenance-related activities / corrective actions / emergency measures, including those done in response to notification or discovery of knocked down, missing, damaged, deteriorated, or obscured signs.

Documentation from each inspection cycle and maintenance-related activity will be kept on file for a period of at least five years.

## **8. Program Review and Renewal**

Traffic sign retroreflectivity degrades over time. Therefore, maintaining retroreflectivity is an ongoing responsibility. The Village will review and renew this program document at least once every five years. The usual process will be to conduct the review by September 15<sup>th</sup> for the next calendar year. Any needed changes will be made to the document, and the updated version for the next year will be adopted under the authority of the Village Council no later than December 15<sup>th</sup>.

Looking ahead, this process will satisfy the January 2015 and January 2018 compliance dates (see section 1.1) for replacing signs that fail to meet the minimum retroreflectivity levels.

The Village is responsible for identifying any applicable future updates or revisions to the Ohio MUTCD standards or Federal regulations relating to traffic control devices, and updating this program document (including appendices/attachments) as needed to assure compliance.

Over time, the Village may consider using other sign retroreflectivity assessment or management methods. Future renewals or revisions of this program document will describe the method(s), procedure(s), and the timeframe or frequency with which they will be used. The Village may also consider expanding this program document to more fully describe its other traffic sign maintenance and management functions (see sections 6 and 7).

The Village may consult with the County Engineer's Office for general guidance and further information regarding traffic sign maintenance and management issues.

**9. Authorizing Resolution**

The provisions set forth in this program document are hereby adopted under the authority of the Village Council by Resolution No. \_\_\_\_\_, passed on the \_\_\_\_\_ day of \_\_\_\_\_, 2011.

# Appendix A

The Village will establish the documentation process to be used when conducting general condition inspections of traffic signs under its jurisdiction. Possible options include use of a Traffic Sign Inspection Sheet below or development of other forms or data collection processes for this purpose.

*Source: Federal Highway Administration – 'Sign Retroreflectivity Toolkit' website / Sample Forms.*  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/forms/index.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/forms/index.htm)





# Appendix B

## Map of Village Zones for Traffic Sign Inspection

The Village has been divided into One Zones for conducting traffic sign inspections. The inventory process and inspection documentation will correspond to the roads and traffic signs the Village is responsible for within each Zone. The attached Village map shows the Zones and their boundaries.



# Appendix C

## Traffic Sign Inspection Methods

The Village will establish the documentation process to be used when conducting retroreflectivity inspections of traffic signs under its jurisdiction. Possible options include:

- The Traffic Sign Inspection Sheet or other form (see Appendix A) that is used for general condition inspections may also be used for retroreflectivity inspections, provided that the form is designed to accommodate data from both inspections.
- A separate Sign Retroreflectivity Inspection Form (see example attached) may be used. In order to use this type of form, it may be helpful to prepare the list of signs for each roadway in advance of the nighttime inspections. This list may be prepared from the traffic sign inventory.
- The Village may develop other forms or data collection processes for documenting the retroreflectivity inspections.

The OMUTCD describes several assessment and management methods that may be used to maintain traffic sign retroreflectivity. The Federal Highway Administration has also published resource materials that describe procedures for using these methods. Three of these methods are as follows:

### Visual Nighttime Inspection Method – Calibration Signs Procedure

The OMUTCD describes Visual Nighttime Inspection as follows:

“The retroreflectivity of an existing sign is assessed by a trained sign inspector conducting a visual inspection from a moving vehicle during nighttime conditions. Signs that are visually identified by the inspector to have retroreflectivity below the minimum levels should be replaced.”

**Calibration Signs Procedure** – An inspector views “calibration signs” prior to conducting the nighttime inspections. Calibration signs have known retroreflectivity levels at or above minimum levels. These signs are set up where the inspector can view them in a manner similar to the nighttime field inspections. The inspector uses the visual appearance of the calibration signs to establish the evaluation thresholds for that night’s inspection activities.

### Visual Nighttime Inspection Method – Comparison Panels Procedure

The OMUTCD describes Visual Nighttime Inspection as follows:

“The retroreflectivity of an existing sign is assessed by a trained sign inspector conducting a visual inspection from a moving vehicle during nighttime conditions. Signs that are visually

identified by the inspector to have retroreflectivity below the minimum levels should be replaced.”

**Comparison Panels Procedure** – Comparison panels are used to assess signs that have marginal retroreflectivity. The comparison panels are fabricated at retroreflectivity levels at or above the minimum levels. When the visual [nighttime] inspection identifies the retroreflectivity of a sign as marginal, a comparison panel is attached to the sign and the sign/panel combination is viewed and compared by the inspector. (“Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020)

### **Visual Nighttime Inspection Method – Consistent Parameters Procedure**

The OMUTCD describes Visual Nighttime Inspection as follows:

“The retroreflectivity of an existing sign is assessed by a trained sign inspector conducting a visual inspection from a moving vehicle during nighttime conditions. Signs that are visually identified by the inspector to have retroreflectivity below the minimum levels should be replaced.”

**Consistent Parameters Procedure** – Nighttime inspections are conducted under similar factors that were used in the research to develop the minimum retroreflectivity levels. These factors include: using a model year 2000 or newer sport utility vehicle (SUV) or pick-up truck to conduct the inspection; and using an inspector who is at least 60 years old. (“Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020)

The following FHWA resources include recommendations and instructions for proper use of the Inspection Procedures described above.

- “Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020. (2007)  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/policy\\_guide/fhwasa07020/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwasa07020/)
- “Inspector Training for Sign Retroreflectivity” (PowerPoint presentation with instructor notes, October 2008) – FHWA ‘Sign Retroreflectivity Toolkit’ website / Educational Resources.  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/education/powerpoint.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/education/powerpoint.htm)
- “Calibration Signs Procedure (with checklist)” – FHWA ‘Sign Retroreflectivity Toolkit’ website.  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/moreinfo/maint/assessment.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/moreinfo/maint/assessment.htm)
- “Comparison Panels Procedure (with checklist)” – FHWA ‘Sign Retroreflectivity Toolkit’ website.  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/moreinfo/maint/assessment.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/moreinfo/maint/assessment.htm)
- “Consistent Parameters Procedure (with checklist)” – FHWA ‘Sign Retroreflectivity Toolkit’ website.  
[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/moreinfo/maint/assessment.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/moreinfo/maint/assessment.htm)
- “Methods for Maintaining Traffic Sign Retroreflectivity” – FHWA-HRT-08-026. (2007)

[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/policy\\_guide/fhwahrt08026/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwahrt08026/)

The Village will review these resources and adopt appropriate inspection practices for properly using the chosen inspection procedure to comply with the OMUTCD retroreflectivity standards. The procedure steps and requirements will be listed and attached to this document.

The Village will also determine the type(s) or extent of training their inspector(s) will need in order to perform this function in accordance with the OMUTCD requirements.

# Sign List Example

## Sign Retroreflectivity Inspection Form

Date: \_\_\_\_\_

Route start point: \_\_\_\_\_

Inspector: \_\_\_\_\_

Route end point: \_\_\_\_\_

Sign Description	Sign Color	Odom. Reading	RETROREFLECTIVITY		
			Good	Marginal	Replace
Stop	Red	0.1		✓	
Route Mkr	Wht	0.2			✓
Spd Lmt	Wht	0.5	✓		

Shown above is one example of an inspection form that could be used for conducting visual nighttime inspections. Source: Federal Highway Administration – “Inspector Training for Sign Retroreflectivity” (PowerPoint presentation with instructor notes, October 2008).

[http://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/retrotoolkit/education/powerpoint.htm](http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/education/powerpoint.htm)

**CERTIFICATION OF VILLAGE CLERK**  
**AS TO POSTING OF RESOLUTIONS**

The foregoing is a true copy of the original Resolution No. 2012-3

Publication of this Resolution was made by posting a copy of the same in the following five locations within the Village, beginning on January 5, 2012, and concluding on January 20, 2012 (at least 15 days later):

<b>Location</b>	<b>Date Posted</b>
<u>Town Hall</u>	<u>1-5-12</u>
<u>Post Office</u>	<u>1-5-12</u>
<u>Cee Dee's Mart</u>	<u>1-5-12</u>
<u>Library</u>	<u>1-5-12</u>
<u>T's Quik Stop</u>	<u>1-5-12</u>

Attest:

Date: 1/5/12

Maria J. Meigs  
Village Fiscal Officer