

*Getting Started: Implementing a Traffic Sign  
Retroreflectivity Maintenance Program*

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Ohio LTAP – April 2011

Template 1 – Calibration Signs Procedure

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# Template 1 – Calibration Signs Procedure

## *Visual Nighttime Inspection Method*

### *Traffic Sign Retroreflectivity Maintenance Program*

*April 2011* – Attached for consideration is a template that may be used, or adapted, for the purpose of implementing a traffic sign retroreflectivity maintenance program. The Ohio Manual of Uniform Traffic Control Devices (OMUTCD) sets forth the requirements for maintaining traffic sign retroreflectivity, and describes several assessment and management methods that may be used. The attached Template 1 is based on use of the **Visual Nighttime Inspection Method – Calibration Signs Procedure**. Visual nighttime inspections are conducted by a trained inspector.

**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)

As of April 2011, there are no known sources for purchasing calibration signs for this purpose. However, if your agency has access to a retroreflectometer, you can create your own using signs from the field or signs that have already been taken out of service. It may be possible to borrow a retroreflectometer from your County Engineer’s Office or another local agency in the area. *Note: Calibration signs need to be properly stored, maintained, and checked with a retroreflectometer at periodic intervals to ensure that they have appropriate retroreflectivity levels.* Please refer to the **Federal Highway Administration (FHWA) resources listed in Appendix C** of this template for detailed information and guidelines for properly using the Calibration Signs Procedure.

Ohio LTAP has prepared two other program templates that may be considered. If use of calibration signs is not feasible for your agency, consider using Template 3 (Consistent Parameters Procedure), instead of Template 1. The procedure described in Template 3 does not require calibration signs. Alternately, use of other methods may be considered per the OMUTCD.

#### **Disclaimer Statement**

The attached template for implementing a traffic sign retroreflectivity maintenance program was prepared by the Ohio Department of Transportation’s Local Technical Assistance Program (LTAP), as a resource that Ohio local agencies may voluntarily choose to use. Please note that your agency is not required to use any of the templates developed by Ohio LTAP. The responsibility for complying with the OMUTCD traffic sign retroreflectivity requirements rests with the public agency or the official having jurisdiction. Ohio LTAP/ODOT makes no representations, express or implied, as to whether or not this proposed template is applicable for a given agency, and assumes no liability for use of this resource package by any agency or individual. The user assumes full responsibility for their use of these resource materials (or portions thereof), and any of the information they contain.

## Instructions for Using Template 1 - Calibration Signs Procedure

1. Attached are two versions of this template:
  - a. A 'guide' version (including Appendices).
  - b. A 'fill-in-the-blanks' version – *please see additional comments at the end of this page.*\*
2. Review the guide version, which includes suggested information in brackets for the decision items that your agency will need to decide and fill in. For example: “Documentation from each inspection process will be kept for a period of at least [two; three; or other] years.” It is up to your agency to decide how many years the inspection documentation will be kept.
3. Access the electronic copy of the guide version. This is available from Ohio LTAP as a Microsoft Word document file. Please visit the sign retroreflectivity resources page of the Ohio LTAP website to download the file: <http://www.dot.state.oh.us/Divisions/Quality/LTAP/>
4. In the electronic copy of the template, make decisions and type in the data that is appropriate for your agency, for the decision items as described in step #2 above.
5. The electronic version of the template can be further revised, reworded, updated, or modified based on your agency's needs.
6. Be sure to also review the Appendices, and attach any other forms, maps, documents, etc. that your agency chooses to include.
7. The finalized Traffic Sign Retroreflectivity Maintenance Program document for your agency can be printed out as a hardcopy.
8. It is recommended to formally adopt the program document for implementation by your agency. Please refer to the “Authorizing Signatures” section of the template. Some agencies may also have other processes/procedures that they typically use to formally adopt a program.
9. The signed final document should be kept on file, with copies made and distributed as needed to the persons involved in this program. Please also note the recommended “Annual Program Review and Renewal” section of the template.

\* If your agency is not able to access the electronic version of this template (per step #3 above), you may consider using the 'fill-in-the-blanks' paper version. The main challenge with using the 'fill-in-the-blanks' version is that it is more difficult to customize the document to suit your agency's needs.

If you have any questions, please feel free to contact Ohio LTAP at (614) 387-7358 or (877) 800-0031.

*If you decide to use one of the program templates in any manner, it is recommended that you review the document carefully with your County Engineer, insurance provider, or legal counsel prior to formally adopting your agency's sign retroreflectivity maintenance program.*

# Traffic Sign Retroreflectivity Maintenance Program for \_\_\_\_\_ Township (in \_\_\_\_\_ County, 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/fhwasa07020/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwasa07020/)

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**

\_\_\_\_\_ Township 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 Township (see section 4 of this document), and identify any sign problems/deficiencies that require corrective action.
- Use the selected method and procedure (see section 5) to evaluate the retroreflectivity of the Township's traffic signs.
- Identify signs that do not meet the OMUTCD retroreflectivity requirements.
- Prioritize and schedule replacement of signs that do not meet the OMUTCD retroreflectivity requirements.

In light of the first compliance date (see section 1.1), the Township hereby resolves to proceed with the implementation plan by     [October 15, 2011]    , or earlier if possible.

Based on experience gained as this program is implemented, the Township 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**

Daytime inspections will be conducted to identify and document all traffic signs under the Township'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 Township will take appropriate and reasonable steps to correct any sign problems/deficiencies identified.



### 5.3 Schedule and Documentation

The Township will begin its use of the Visual Nighttime Inspection Method – Calibration Signs Procedure to evaluate traffic sign retroreflectivity no later than     [ January 15, 2012 ]    . The traffic sign retroreflectivity inspections should be completed for Zone 1 by     [April 15, 2012]    , and for Zone 2 by     [July 15, 2012]    .

The retroreflectivity inspection records will be kept in a notebook or filing system that will be accessible to the Township Trustees. Documentation from each inspection process will be kept for a period of at least     [two; three; or other]     years.

Looking ahead, the Township plans to conduct sign retroreflectivity assessments with a frequency of     [ once per year; or other ]    . 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 Township 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 Township’s various sign management and maintenance functions, including the retroreflectivity maintenance program, is hereby assigned to:

    [Name of Township Official / Employee ]    .

## **7. Documentation and Recordkeeping**

The Township 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  [two; three; five; or other]  years.

**8. Annual Program Review and Renewal**

Traffic sign retroreflectivity degrades over time. Therefore, maintaining retroreflectivity is an ongoing responsibility. The Township will review and renew this program document at least once per year. 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 Township Trustees no later than  [December 15<sup>th</sup>] .

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

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

**9. Authorizing Signatures**

The provisions set forth in this program document are hereby adopted this \_\_\_\_\_ day of  [month] , 2011, for implementation by \_\_\_\_\_ Township, under the authority of the Township Trustees:

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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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# Appendix A

## Traffic Sign Inspection Sheet (Sample Forms)

The Township 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 (see sample forms attached), 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)





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## **Appendix B**

### Map of Township Zones for Traffic Sign Inspection

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

*[ Attach Township Map(s) showing the Traffic Sign Inspection Zones ]*

# Appendix C

## Visual Nighttime Inspection Method – Calibration Signs Procedure

### Sign Retroreflectivity Inspection Form (Example)

The Township 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 Township may develop other forms or data collection processes for documenting the retroreflectivity inspections.

## **Visual Nighttime Inspection Method – Calibration Signs Procedure**

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.

For calendar year 2012, the Township has decided to use the **Visual Nighttime Inspection Method – Calibration Signs Procedure** to evaluate the retroreflectivity of traffic signs on its roads. 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.

The following FHWA resources include recommendations and instructions for proper use of the Calibration Signs Procedure to conduct nighttime visual inspections. *Note: Calibration signs need to be properly stored, maintained, and checked with a retroreflectometer at periodic intervals to ensure that they have appropriate retroreflectivity levels.*

- “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)
- “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 Township will review these resources and adopt appropriate inspection practices for properly using the Calibration Signs Procedure to comply with the OMUTCD retroreflectivity standards. The procedure steps and requirements will be listed and attached to this document.

The Township 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)



## 'Fill in the Blanks' Version

### Template 1 – Calibration Signs Procedure

*Visual Nighttime Inspection Method*

*Traffic Sign Retroreflectivity Maintenance Program*

It is recommended that agencies use the electronic version of this program template if at all possible. This allows each agency to adapt or modify the template to best suit their needs. The Microsoft Word file can be downloaded from the Ohio LTAP website, at:

<http://www.dot.state.oh.us/Divisions/Quality/LTAP/>

Some agencies might not have computer access to the electronic version of this template. These agencies could consider working with their County Engineer's Office, or another local agency in the area, in order to customize one of the electronic templates for their use.

Another possibility is to use a 'fill in the blanks' template. Attached are pages 1 through 6 of a 'fill in the blanks' version of the program template based on the Calibration Signs Procedure. Pages 7 through 16 (Appendices A, B and C) are available from the preceding 'guide' version of this template.

*Please Note: It is recommended that you carefully review the program template with your County Engineer, insurance provider, or legal counsel prior to formally adopting your agency's sign retroreflectivity maintenance program. Again, your agency is not required to use any of the templates developed by Ohio LTAP.*

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# Traffic Sign Retroreflectivity Maintenance Program for \_\_\_\_\_ Township (in \_\_\_\_\_ County, 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/fhwasa07020/](http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwasa07020/)

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**

\_\_\_\_\_ Township 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 Township (see section 4 of this document), and identify any sign problems/deficiencies that require corrective action.
- Use the selected method and procedure (see section 5) to evaluate the retroreflectivity of the Township's traffic signs.
- Identify signs that do not meet the OMUTCD retroreflectivity requirements.
- Prioritize and schedule replacement of signs that do not meet the OMUTCD retroreflectivity requirements.

In light of the first compliance date (see section 1.1), the Township hereby resolves to proceed with the implementation plan by \_\_\_\_\_, or earlier if possible.

Based on experience gained as this program is implemented, the Township 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**

Daytime inspections will be conducted to identify and document all traffic signs under the Township'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 Township 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 Township’s traffic signs. At the Township’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 Township will evaluate the available options and methods for long-term maintenance and updating of its sign inventory.

The Township has been divided into \_\_\_\_\_ Zones for conducting traffic sign inspections (see Appendix B). The inventory process and inspection documentation will correspond to the roads and traffic signs the Township is responsible for within each Zone. The sign inventory should be completed for Zone 1 by \_\_\_\_\_, and for Zone 2 by \_\_\_\_\_.

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

The OMUTCD describes several assessment and management methods that may be used to maintain traffic sign retroreflectivity. For calendar year 2012, the Township will use the **Visual Nighttime Inspection Method – Calibration Signs Procedure** to evaluate the retroreflectivity of traffic signs on its roads. 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. (“Maintaining Traffic Sign Retroreflectivity” – FHWA-SA-07-020)

5.1 Procedure

The Federal Highway Administration has published several resources that include recommendations and instructions for proper use of the Calibration Signs Procedure to conduct visual nighttime inspections (see Appendix C). The Township will review these resources and adopt appropriate inspection practices for properly using the Calibration Signs Procedure to comply with the OMUTCD retroreflectivity standards. The procedure steps and requirements will be listed and attached to this document.

5.2 Inspector(s)

The Township hereby designates the following person(s) to serve as retroreflectivity inspector(s):

\_\_\_\_\_

The Township has determined that the designated person(s) are able to competently serve as inspector(s) for evaluating traffic sign retroreflectivity. The Township 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 Township will begin its use of the Visual Nighttime Inspection Method – Calibration Signs Procedure to evaluate traffic sign retroreflectivity no later than \_\_\_\_\_. The traffic sign retroreflectivity inspections should be completed for Zone 1 by \_\_\_\_\_, and for Zone 2 by \_\_\_\_\_.

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

Looking ahead, the Township plans to conduct sign retroreflectivity assessments with a frequency of \_\_\_\_\_. 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 Township 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 Township’s various sign management and maintenance functions, including the retroreflectivity maintenance program, is hereby assigned to:

\_\_\_\_\_.

**7. Documentation and Recordkeeping**

The Township 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 \_\_\_\_\_ years.

**8. Annual Program Review and Renewal**

Traffic sign retroreflectivity degrades over time. Therefore, maintaining retroreflectivity is an ongoing responsibility. The Township will review and renew this program document at least once per year. The usual process will be to conduct the review by \_\_\_\_\_ 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 Township Trustees no later than \_\_\_\_\_.

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

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

**9. Authorizing Signatures**

The provisions set forth in this program document are hereby adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2011, for implementation by \_\_\_\_\_ Township, under the authority of the Township Trustees:

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Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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*Attach Appendices if Using the 'Fill in the Blanks' Version*

Template 1 – Calibration Signs Procedure

*Please note:*

Pages 7 through 16 (Appendices A, B and C) are available from the preceding 'guide' version of this template.

