

SAFE ROUTES PHILLY
STEP UP | RIDE ALONG



TRAFFIC GARDEN GUIDE

POP-UP + TEMPORARY
INSTALLATIONS



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INTRODUCTION

WHAT IS A TRAFFIC GARDEN?



A traffic garden is a set of small-sized streets with scaled-down traffic features and urban elements where children and their families learn about and practice using streets in a fun and safe manner.

Traffic gardens vary depending on what skills are being taught, the space available, or the resources to construct one. Regardless of the type, all traffic gardens have one thing in common - **they create a world for kids to safely walk, roll, and ride bicycles.**

Different types of traffic gardens have different typical life spans:

Temporary (pop-up) traffic garden in place from a few hours to several days

Semi-permanent traffic garden in place for 2- 6 months (or longer depending on conditions)

Permanent traffic garden installed with materials intended to last for 7-10 years



Thomas Elementary School Semi-Permanent Traffic Garden, Washington, DC (Source: Discover Traffic Gardens)

A temporary or semi-permanent traffic garden can be planned over a number of weeks or several months and can likely be installed in less than a day. In contrast, a **permanent traffic garden** typically has a much lengthier planning and installation timeline of 6-12 months and is a more involved project than described in this guide.

TRAFFIC PLAYGROUND TOOLKIT



Metro DISCOVER TRAFFIC GARDENS

August 2020

This project was made possible with support from the Federal Transit Administration

[Click here](#) to check out the Metro Portland guide to building a new permanent traffic garden. The document goes into the details about planning and installing a permanent installation and also contains case studies, design information and additional template layouts from several current facilities.

PURPOSE OF TRAFFIC GARDENS

Traffic gardens provide a unique educational opportunity where young people can see how the built world is put together and learn how to navigate it. Children love and remember these miniature worlds where they can play independently or with their friends. More than that, traffic gardens:

- Open children's eyes at an early age to how the transportation system world works so they can see the ways in which infrastructure can be made safer and more inclusive through design.
- Provide a low-cost community resource and family-friendly gathering place for events, volunteering, and celebrations.

HOW TO USE THIS GUIDE

This guide is intended to help you through each step of creating a temporary or semi-permanent traffic garden. A traffic garden is the type of project that can be taken on by an individual or a group of community volunteers. If you want to start small, you can create a small-sized temporary installation on an existing area of open pavement. This can be a manageable project that will likely demonstrate the value of creating this type of place for children. A more ambitious approach is to plan and install a permanent traffic garden in a spot where it can serve many children for years to come. This is a more involved project that is beyond the scope of this do-it-yourself guide.

Safe Routes Philly helps create safe, healthy environments for students to walk, bike, and roll.

Traffic gardens directly align with the Safe Routes Philly's mission: they provide an environment to help children and their families practice their skills and build confidence to safely walk, bike, and roll to and from school as well as around their communities.



Permanent Traffic Garden Installation Located Next to Preschool and Playground

Site Before: Neglected and under-used basketball courts
Site After: Surface received sealcoat layer and painted traffic garden installed

WE'LL START WITH THE BASICS SO YOU CAN GET GOING AS QUICKLY AND INEXPENSIVELY AS POSSIBLE.

As you go, keep notes, questions, and ideas to help form the plan.
The guide includes:

SECTION 1. HOW TO MAKE A TRAFFIC GARDEN.

This section outlines how to pick a site, how to organize volunteers and build the traffic garden. It also includes design templates for laying out your traffic garden.

SECTION 2. MAINTENANCE.

This section talks about what to do after the traffic garden is built to keep it in good order and extend the useful life.

SECTION 3: HOW TO USE THE TRAFFIC GARDEN.

This section discusses different options of how to make use of your traffic garden with kids and families.

SECTION 4. DOCUMENTING SUCCESS.

This section talks about how to document the traffic garden use and (hopefully) success. Showing the benefits of a traffic garden can help support future, similar efforts.

SECTION 5. RESOURCES.

While this guide provides detailed instructions, we encourage you to check out traffic gardens from all over the county (and world!) to learn more. This section provides additional resources to broaden your knowledge base and skillset around traffic gardens.

To accompany this guide, Safe Routes Philly has created a workbook to help you through the process of building your traffic garden. You can access this workbook at phila.gov/safe-routes-philly. To request a paper copy, please email SafeRoutesPhilly@phila.gov.

SECTION 1. HOW TO MAKE A TRAFFIC GARDEN

TRAFFIC GARDENS ARE THE KIND OF PLACES WHERE KIDS CREATE MEMORIES THAT LAST A LIFETIME.



Aiton Elementary School Traffic Garden
District of Columbia
(Source: Discover Traffic Gardens)

Careful planning, installation, and coordination can help create a traffic garden that meets the needs of your community. This section of the guide covers the following topics to help you get your traffic garden on the ground:

- Deciding on a temporary or semi-permanent installation
- Choosing the layout for your traffic garden
- Finding the right site
- Securing the site
- Designing the layout for the site
- Supplies and equipment for installation
- Useful tips

As you work through this guide, you will have ideas, questions, and comments specific to your community. Keep track of these in this document, the Safe Routes Philly traffic garden workbook, or separately in a notebook. This will ensure that you can build a traffic garden that works best for your community. If inspired to take on a full-scale permanent traffic garden, this may be the place to start making notes about your dream team and long-term vision.



Montbello Bicycle Course, Denver, Colorado
(Source: Denver DOT)

Montbello Bicycle Course instructional videos are available on-line in both English and Spanish and provide lessons on different aspects of using the traffic garden facility.

DECIDING ON WHETHER TRAFFIC GARDEN WILL BE TEMPORARY OR SEMI-PERMANENT

It's essential to decide on what type of traffic garden you are planning and how long you want the traffic garden to remain in place before moving ahead on the project. While temporary (pop-up) and semi-permanent traffic gardens may look similar when they are newly installed outdoors, they are put together from different materials and meet different needs. A primary difference between temporary and semi-permanent traffic gardens is whether the materials selected to create the striping lines and pavement markings on the surface are removable and washable or whether they are intended to stay on the ground and weather away over time. **(See later in this section for further details on materials and installation.)**

TEMPORARY TRAFFIC GARDEN

A **temporary or pop-up traffic garden** is a relatively quick and easy project that can be accomplished with just a few volunteers. A temporary traffic garden will be easier to install, (probably) easier to get approval for, and require less volunteer assistance than a semi-permanent garden. Temporary traffic gardens:

- Can go from conception to installation in several weeks to a few months.
- Are installed for a short amount of time (e.g., a day, a weekend or a few weeks) in a space that is closed off to motor vehicles for the duration.
- Use removable materials like vinyl tape, duct tape, spray chalk and artificial grass.
- May also include washable paint products such as tempera paint.
- Total material costs can be kept under \$250.
- Are intended to be readily removed or washed off.
- Can be installed in an indoor gym or multi-purpose rooms with movable and removable materials like cones and tape.
- Work great as part of a larger community event or celebration.



George Mason University Pop-up Traffic Garden
Research Testing Site
(Source: Discover Traffic Gardens)

SEMI-PERMANENT TRAFFIC GARDENS

If you are interested in a longer-term traffic garden with more potential regular use by students, a **semi-permanent garden** might be the best choice. With the right tools and materials, you could paint your own semi-permanent traffic garden and the materials cost for each of this type of traffic garden and a temporary installation would be fairly similar. That said, the longer-term nature of semi-permanent gardens make them, in general, harder to install, more difficult to get approval for, and needing more volunteer commitment and skills. Semi-permanent traffic gardens:

- Can go from conception to installation in 1-2 months.
- Are installed for a longer period of time (e.g., 2-6 months) in a space that is closed off to motor vehicles for the duration.
- Use semi-permanent materials like spray marking paint, long-lasting spray chalk (artist grade), supplemented with materials that need touch up like tempera paint or spray chalk.
- Are not impacted by day-to-day use, but they will weather over time and eventually disappear.
- Could be installed in a spot where it could be used by students throughout.

George Mason University Pop-up Traffic Garden
Research Testing Site
(Source: Discover Traffic Gardens)



Pat Pfiefer Temporary Traffic Garden, Portland, Oregon
(Source: Portland Bureau of Transportation)

Check out the Traffic Playground video created by the Portland Bureau of Transportation where a 7- year-old child explains how to safely use a traffic garden. The short video covers a lot of tips and is in English and Spanish.

CHOOSING YOUR MATERIALS:

Decide whether you plan to create the traffic garden striping lines from some kind of tape or using a temporary paint. The decision may depend on available funds or how long the traffic garden is to be in place.

VINYL AND DUCT TAPE:

- Tapes create vibrant and even striping lines.
- Tapes are easily applied to surface and readily removed.
- Any remaining adhesive can be power-washed or removed with solvent.
- Tapes may become loose after heavy rains especially when applied to surface low points.

MARKING SPRAY PAINT:

- Marking spray paint is cheaper than the tapes.
- Marking paint lasts for 2–6 month.
- Marking paint cannot be easily removed before it wears away.
- It's harder to fix errors during installation.
- Double check that paint is labelled 'marking' for any non-permanent applications.

SPRAY CHALK:

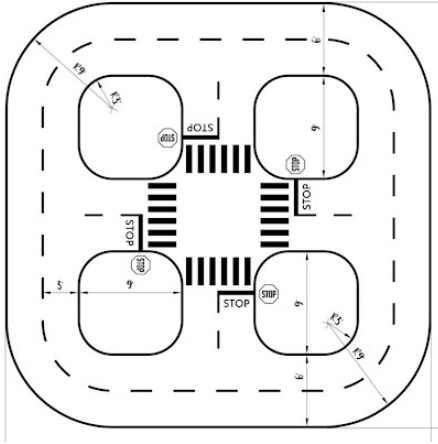
- Spray chalk is costly compared to sidewalk chalk but has a far superior appearance.
- It works better for temporary traffic gardens as it is removable with a power-washer.
- It will wash away after a couple of rain events but can last longer depending on conditions.
- The life can be extended by spraying touch ups or using artist-grade spray chalk.

NOTE: If you are looking at adding a semi-permanent traffic garden and there are funds available through a grant or sponsorship, it can be well worth the extra cost to have a skilled parking lot striping contractor team install it with the correct materials and tools. These professionals are experienced in painting straight and consistent lines and markings that look great in a traffic garden.

CHOOSING THE LAYOUT FOR YOUR TRAFFIC GARDEN

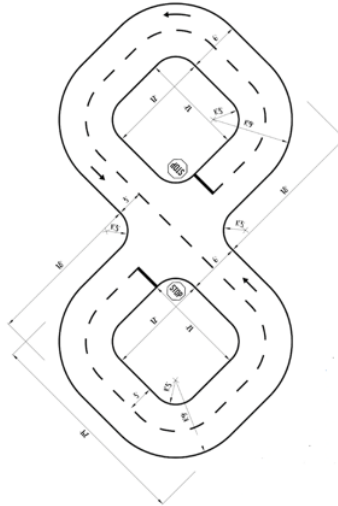
This section offers three different layouts for your traffic garden. They vary in size, complexity, learning objectives, and the amount of work to install but they have each been selected so that can be accomplished by a team of volunteers with no previous experience. **Choosing which of these layouts works best for you will be based on your available site, community needs, and your goals for the traffic garden. Confirm also whether you plan to create the layout from some kind of tape or a marking paint.**

TOWN SQUARE



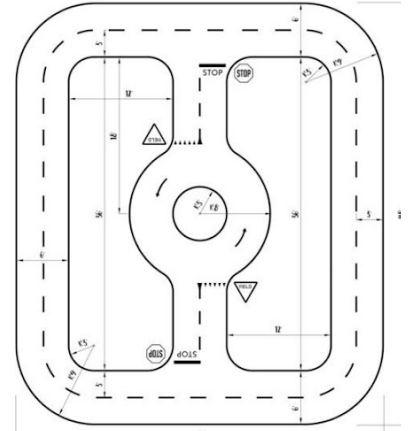
- Minimum site size = 52' x 52'
- Includes opportunities for pedestrian interactions and role playing
- Good project for small team to install
- Plenty of space for fun, active, and imaginative playWorks well for younger children and smaller groups
- Suitable for ages 3-9
- Requires at least 510 LF of paint (2" wide lines or tape)
- Extra paint or tape for additional features

DOUBLE DIAMOND



- Minimum site size = 70' x 45'
- Layout suitable for longer and narrower sites
- Faster installation due to geometric nature of layout
- More space for fun riding activities
- Lengthier biking routes
- Suitable for ages 5-10
- Requires at least 400 LF of paint (2" wide lines) or tape
- Extra paint or tape for additional features such as crosswalks

ROUNDAABOUT WORLD

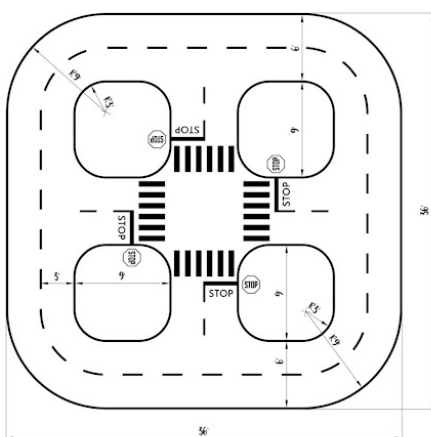


- Minimum site size = 64' x 58'
- Features lengthier biking routes plus fun skills development
- More involved installation project suitable for larger team
- Includes navigating roundabout
- Suitable for ages 4-10
- 410 LF of paint (2" wide lines) or tape
- Extra paint or tape for additional features such as crosswalks

Each of these options is suitable to be expanded to make use of larger sites by extending the length of the streets or by widening the street lanes.

TOWN SQUARE LAYOUT

The Town Square layout includes many route choices within a small space making it a fun learning space for kids. The central 4-way stop intersection and painted crossings give users many ways to interact and practice traffic skills. The exterior loop means that riders can practice continuous riding without having to stop and start. Riders can practice making left or right-hand turns as well as practice roadway intersection and merging skills. This layout also has corners for pedestrians and crosswalks, which makes this layout a multi-modal experience.



INSTALLATION:

Easy

EDGE STRIPING AND PAVEMENT MARKINGS:

White Tape or Paint

CENTER STRIPING LINES:

Yellow Tape or Paint

OVERALL LINE LENGTH (2" WIDE TAPE OR LINES):

510 LF

Installation Steps:

- Find approximate center point and then establish the first pair of parallel lines
- Establish second pair of parallel lines at a right angle to the first
- Measure street lengths in each direction to mark location of the exterior streets
- Establish outside streets by drawing pairs of parallel lines at right angles
- Add rounded corners throughout before filling in the straight segments with tape or paint
- Split streets evenly to find centerlines
- Start at adding centerline tape or paint at one point and keep working continuously in a single direction until centerline markings meet on outside street
- Finish by adding details such as yield and stop signs as well as arrows.

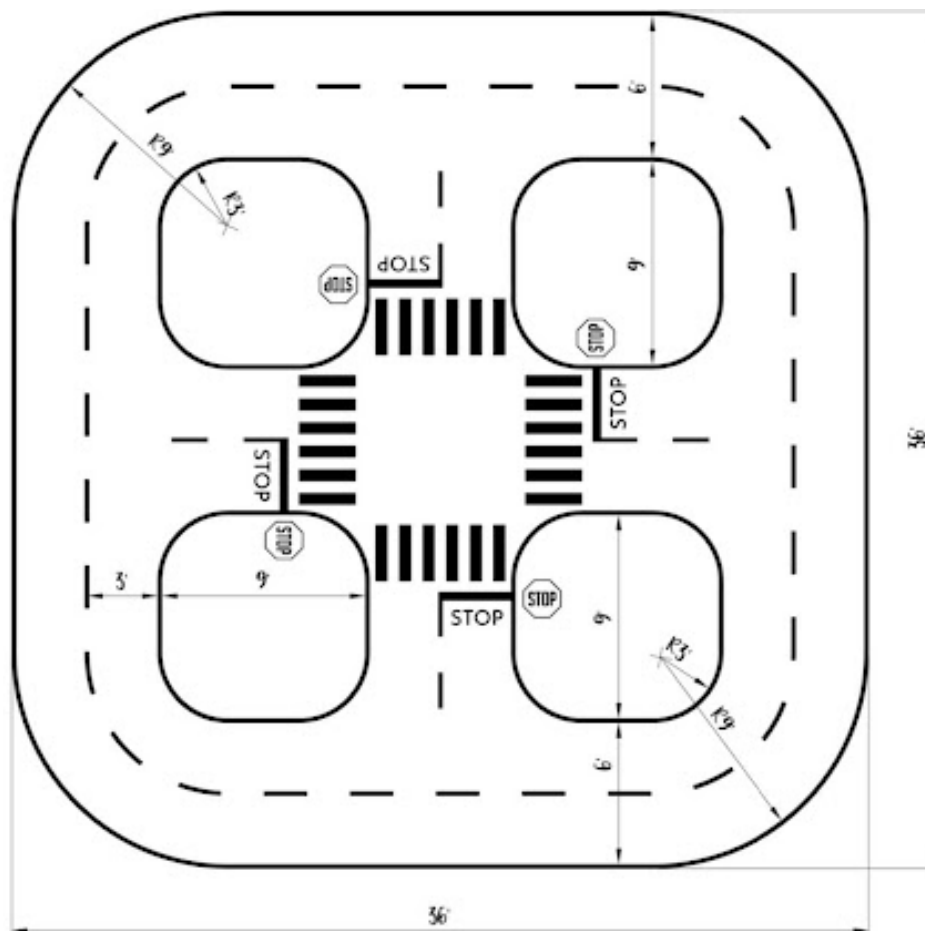


— — — — TOWN SQUARE TRAFFIC GARDEN TOPICS AND USE — — — —

The following table details the skills that users can practice using the Town Square traffic garden.

| | |
|----------------------------------|---|
| Roadway Education | Riding on the right side of the street |
| | Following arrows and travel direction indicators |
| | Learning the meanings of traffic signs and putting them into action |
| | Learning how to ride and interact with other roadway-users |
| Pedestrian Skills | Learning to be aware of your surroundings |
| | Practicing looking both ways for other roadway users |
| | Practicing crossing at an intersection |
| Bicycling Skills | Learning to bike ride or gain confidence |
| | Practicing coming to a stop and starting again |
| | Looking and scanning at intersections |
| | Using hand signals and communicating next movement |
| | Biking predictability and interacting with other riders |
| | Choosing bicycling speed for the street situation and interaction |
| | Watching for other users |
| | Practicing challenge circuits |
| | One-on-one lessons and practice by families or local biking instructors |
| Fun and Physical Activity | Active play on foot and bikes |
| | Location for a neighborhood bike club (maintenance lessons, rides) |
| | Hands-on example for STEM lessons and events (e.g., math measuring, Build-a-Box-City) |

TOWN SQUARE DESIGN TEMPLATE



INSTALLATION:

Easy

LINES:

Edge striping and other markings in white; center striping in yellow

WAYS TO EXPAND:

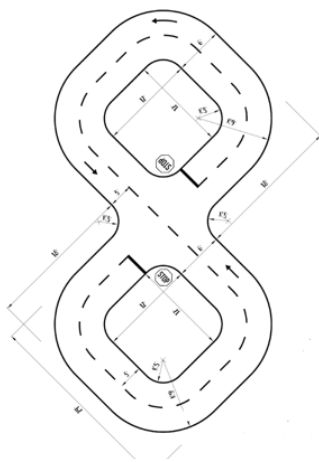
Extend street length in either direction or widen streets to 8'

CAUTIONS:

Do not shorten cross streets

DOUBLE DIAMOND LAYOUT

The Double Diamond layout is an easy-to-install traffic garden as it involves measuring and laying out two overlapping squares. The layout includes many route choices, and the central intersection gives users chances to interact and practice traffic skills. The exterior loop lets riders practice without having to stop and start. Riders can also make left or right-hand turns and practice roadway intersection and merging skills. This layout is focused on bicycle skills and does not include as many opportunities to teach about pedestrian skills or behaviors.



INSTALLATION:

Easy

EDGE STRIPING AND PAVEMENT MARKINGS:

White Tape or Paint

CENTER STRIPING LINES:

Yellow Tape or Paint

OVERALL LINE LENGTH (2" WIDE TAPE OR LINES):

510 LF

Installation Steps:

- Confirm approximate center point
- Measure first large square with outside corner approximately. 4' from center point
- Add small square inside large square, 6' from edges
- Locate second large square by overlapping two edges of the first large square (6' overlap)
- Add second interior small square, 6' from edges
- Add rounded corners throughout before finishing lines with tape or paint
- Split streets evenly to find and mark centerlines
- Start adding centerline tape or paint at one stop bar and keep working continuously in a single direction until centerline markings meet the other stop bar
- Finish by adding details such as stop signs as well as arrows.



DOUBLE DIAMOND TRAFFIC GARDEN TOPICS AND USE

The following table details the skills that users can practice using the Double Diamond traffic garden.

Roadway Education

- Riding on the right side of the street
- Following arrows and travel direction indicators
- Learning the meanings of stop signs and putting them into action
- Learning how to ride and interact with other roadway-users

Pedestrian Skills

- Learning to be aware of your surroundings
- Practicing looking both ways for other roadway users
- Practicing crossing at an intersection

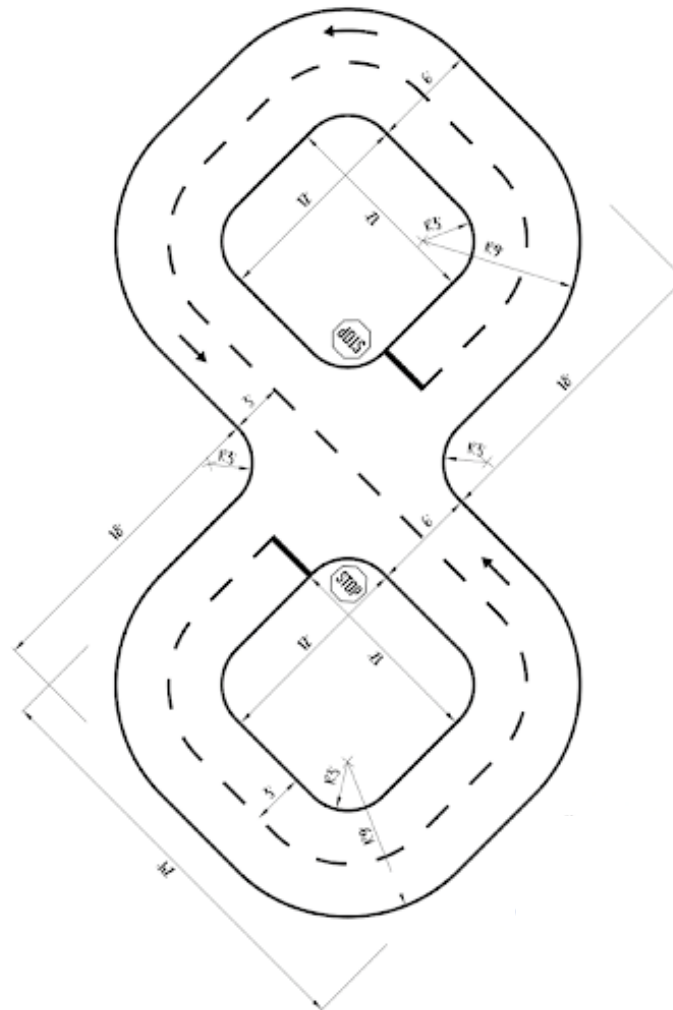
Bicycling Skills

- Learning to bike ride or gain confidence
- Practicing coming to a stop and starting again
- Looking and scanning at intersections
- Using hand signals and communicating next movement
- Biking predictability
- Interacting with other riders
- Choosing bicycling speed for the street situation and interaction
- Watching for other users
- Practicing challenge circuits
- One-on-one biking lessons and practice by families or local biking instructors

Fun and Physical Activity

- Active play on bikes
- Location for a neighborhood bike club (maintenance lessons, rides)
- Hands-on example for STEM lessons and events (e.g., math measuring, Build-a-Box-City)

DOUBLE DIAMOND DESIGN TEMPLATE



INSTALLATION:

Easy

LINES:

Edge striping and other markings in white; center striping in yellow

LENGTH OF LINES:

400LF (approx.)

WAYS TO EXPAND:

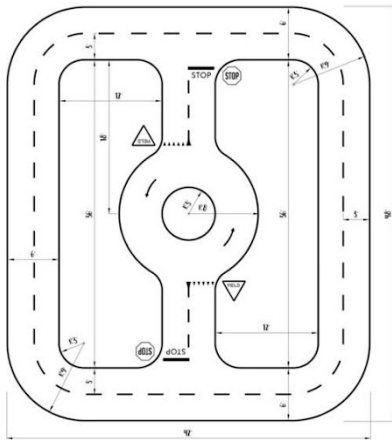
Extend street length in either direction or widen streets to 8'

CAUTIONS:

Confirm site can accommodate full length before starting

ROUNABOUT WORLD LAYOUT

The Roundabout World is a more-advanced traffic garden installation that includes many route choices in a small space. The highlight of the traffic garden is the central roundabout intersection which helps students master a number of riding and traffic skills while also having fun. The exterior street loop allows a young rider to practice riding without having to stop and start. This layout does not include as many opportunities to teach about pedestrian skills or behaviors.



INSTALLATION:

Easy/Medium

EDGE STRIPING AND PAVEMENT MARKINGS:

White Tape or Paint

CENTER STRIPING LINES:

Yellow Tape or Paint

OVERALL LINE LENGTH (2" WIDE TAPE OR LINES):

410 LF

Installation Steps:

- Find center point and mark two central circles.
- Mark pair of rectangles measured from the same center point (larger rectangle 6' from edges of smaller rectangle).
- Add internal cross streets connecting the outside circle to the inside rectangle.
- Add rounded corners throughout before filling in the straight tape or paint line segments.
- Split streets evenly to find and mark centerlines.
- For outside streets, start by adding centerline tape or paint at one point and keep working continuously in a single direction until centerline markings meet.
- Finish by adding details such as yield and stop signs as well as arrows.

Note: do not shorten internal cross streets or they will be too short for biking interactions.

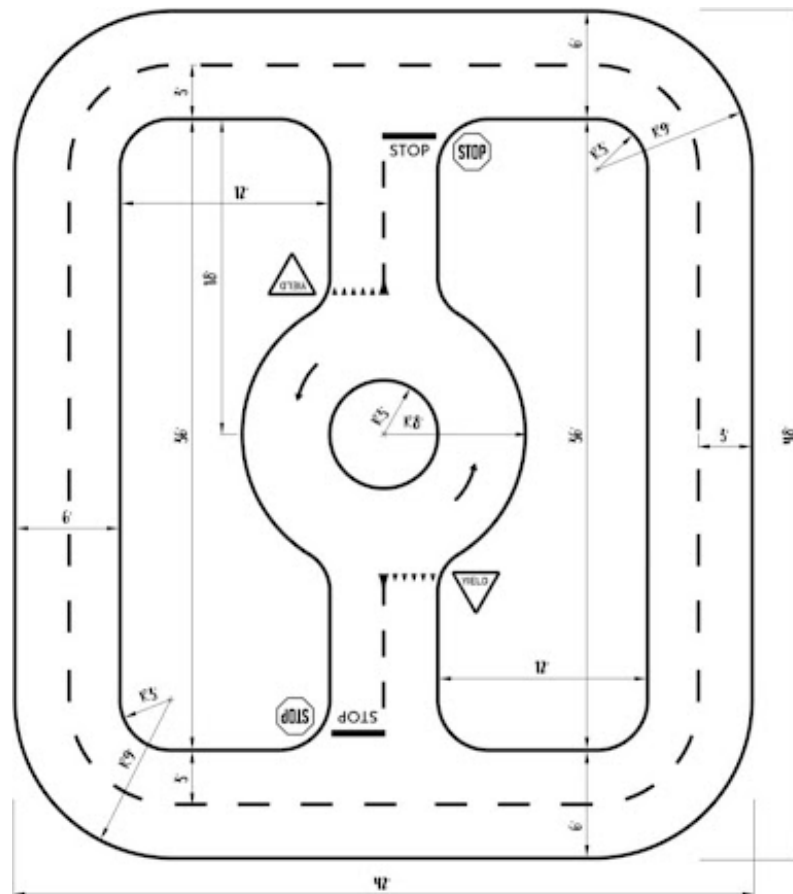


— — — **ROUNABOUT WORLD TRAFFIC GARDEN LESSONS AND USE** — — —

The following table details the skills that users can practice using the Roundabout World traffic garden.

| | |
|----------------------------------|---|
| Roadway Education | Riding on the right side of the street |
| | Following arrows and travel direction indicators |
| | Learning the meanings of traffic signs and putting them into action |
| | Practicing intersection positioning and taking turns |
| | Navigating a roundabout |
| | Learning about safety and how to keep everyone safe |
| Bicycling Skills | Learning to bike ride or gain confidence |
| | Practicing coming to a stop and starting again |
| | Looking and scanning at intersections |
| | Using hand signals and communicating next movement |
| | Biking predictability |
| | Interacting with other riders |
| | Choosing bicycling speed for the street situation and interaction |
| | Watching for other users |
| | Practicing challenge circuits |
| Fun and Physical Activity | One-on-one biking lessons and practice by families or local biking instructors |
| | Active play on foot and bikes |
| | Location for a neighborhood bike club (maintenance lessons, rides) |
| | Hands-on example for STEM lessons and events (e.g., math measuring, Build-a-Box-City) |

ROUNABOUT WORLD DESIGN TEMPLATE



INSTALLATION:
Easy/Medium

LINES:
Edge striping and other markings in white; center striping in yellow

LENGTH OF LINES:
41OLF at 2" width

WAYS TO EXPAND:
Extend street length in either direction or widen streets to 8'

CAUTIONS:
Do not shorten central cross streets.

FINDING THE RIGHT SITE

Traffic gardens work best when they are installed on a hard surface like asphalt pavement that is **free from vehicle use**. While an infrequently used parking lot may be suitable, it is key that the site is physically closed off to vehicles while it is in use as a traffic garden. The closure should be readily visible and understood by drivers to prevent accidental intrusions and should also block any reversing of vehicles or driver shortcutting through the space.

Any traffic garden site should be fairly flat, and should have no wide cracks to catch bike tires or building corners to run into. The pavement does not have to be perfect, but it should be free from fixed objects like poles and concrete or metal drainage structures. You also want to avoid steep drop offs or close-by water that would require adult supervision. The site should be separated from road traffic and driveways by something like a fence or a strip of grass.

Easy access is also important. Children and families need to be able to easily find and access the site. Once you start looking around the community, you may be surprised how many easily accessible, small pieces of blacktop are sitting neglected and overlooked just waiting for this transformation. It could be a patch of pavement next to a playground, an abandoned tennis or basketball court, or an unused parking lot. You may well find that a perfect site could be available at your school, church, library, or community center.

Planning a traffic garden is a great way of including community members in the project, letting them know what's in the works, soliciting and incorporating their input and then inviting them to share in the fun and success. There are lots of creative ways for the full community to participate including inviting people for a walking tour of the planned site and having them sketch their ideas. Best of all is having the community come up with ways to incorporate and recognize aspects of the community in the design and features.

SECURING A SITE

Once you have a suitable site or a few possible candidates in mind, it's time to get permission to use the site. This is the time when you should start putting together a group of "champions" – people who see the need for the traffic garden, support the vision, and will help you make the project happen. Champions can include parents, caregivers, teachers, community leaders, advocates, or any other individuals that support children's health and wellness.

When making the initial approach to the property owner, it's good to be ready with photos, articles, or videos about other successful traffic gardens (check out Section 4 for some resources). Many people are unfamiliar with traffic gardens, so you may be introducing them to the concept as well as asking for use of their site. You should also think about doing one (or more) of the following to help secure the location:

Offer to meet at the site.

Invite the owner to meet at the potential traffic garden location and explain the ideas in the field. Bring along chalk and, if possible, sketch something out so they can start envisioning the traffic garden.

Organize a field trip.

Invite the property owner and a small group of champions to visit existing traffic gardens elsewhere and meet with the people involved in the projects.

Make a sketch and add photos of other locations.

Draw the site on paper or, even better, have someone with computer graphic skills put together a color concept on an aerial photo of the site. These both can help the vision come to life.



Many school administration, church, library, or park officials may be willing to grant permission right away, but others may need additional information so they learn more about traffic gardens and their value:

Finding space to play.

Traffic gardens are a great place for families to play and teach kids to ride. Kids need places where they can be active and play, and traffic gardens provide what we're looking for in a safe, accessible, and welcoming space.

Bringing communities together.

Traffic gardens bring the community together in a positive way. Kids of all ages can be involved in the process and will learn about transportation, collaboration, and teamwork as we build and use the traffic garden. The community can work together to turn a neglected space into something useful, attractive, and vibrant.

Teaching for the future.

When kids learn traffic rules when they are young, they will likely become better, safer users of the transportation system when they get older. Currently, there are not many good ways to introduce them to critical transportation behavior information that they need to know.



Once you've received the go-ahead from the property owner, make sure to document the agreement in writing or in an email. The agreement should include the date(s) that the traffic garden will be installed and used, the types of materials that will be used, and any liability documentation that may be necessary.

And if you don't get permission from the first property owner that you ask, don't get discouraged. There's another space waiting in your community for you to find!

DESIGNING THE LAYOUT FOR THE SITE

Once the site has been decided upon, the following steps will help you prepare what the traffic garden will look like and assist in planning the installation:

STEP 1. PLANNING PREPARATIONS

- Using the site address, find the site on Google Maps.
- Take a screen shot of the satellite view of the site, and street view screen shots from as many sides as you can. The aerial photo will be the base for the following planning steps.
- Print several copies of this document (black and white is fine).
- Print copies of the Town Square, Double Diamond, and Roundabout World layout.

STEP 2. CONDUCT A FIELD VISIT

- Arrange a field visit to the site with other key team members and the property owner (if they want to join/participate).
- Bring along measuring tapes, chalk, clipboards, and copies of the aerial photo document and template layouts.
- Walk the site with the team and discuss layout possibilities.
- Select first choice layout from template selection.
- Measure the space, take photos, and make notes of features on the aerial photo (i.e., buildings, walls, fences, walkways, driveways, fences, doors, gates, steps, manholes and drains, any poles or fixed objects in ground)..
- Check site for possible hazards.
- Note low points on surface (i.e., look for silt build up indicating where water sits after rain)
- Prepare follow-up questions for the property owner.

Remember to use the Traffic Garden Workbook checklist to help you layout the site!

STEP 3. CREATE SKETCH OF EXISTING SITE CONDITIONS

- Your site sketch will be a bird's eye view (i.e., as if you are looking down on it from above) of the existing site.
- Use available on-line information if possible:
 - Locate site on Google Earth or similar aerial image beforehand.
 - Take screenshot of site including a portion of surrounding area to create an aerial image.
 - Using an aerial image assists in taking measurements and creating a scale for the drawing (A good scale to use is 1" = 10 feet).
 - Including surrounding information helps locate features and orients people looking at the site drawing).
 - Print copies of aerial image and use as a basis for preparing the sketch of existing site conditions or make use the aerals as the base for a digital drawing.
- Collect more information for sketch at site:
 - Locate all significant features (i.e., buildings, walls, fences, walkways, driveways, fences, doors, gates, steps, manholes and drains, any poles or fixed objects in ground) on the sketch.
 - Locate trees (and the area they cover), shrubs, and plant beds on the sketch.
- Finalize your site sketch with the known information and add a name and date
- This site sketch will now act as the base where you add the draft layout design

STEP 4. PREPARE A DRAFT LAYOUT DESIGN

- Add the selected layout template to site sketch
- See how well it fits in the space. Feel free to adjust so the layout fits better.
- If there is room around the edges of the layout, see if you can make the outside streets longer in one or both directions.
- Check for whether the layout is too close to any edges or impediments (e.g., a building corner, poles, the gate, doorway, walls, storm drain). Shift the layout if needed.
- Once you are satisfied with the layout on the site, finish by adding the details – signage, buildings, etc.
- Add a date to your draft sketch (this is important later if changes are made).



STEP 5. PREPARE THE FINAL DESIGN

- Make copies of the draft sketch to circulate to team members. Hold a meeting to get feedback from the participants.
- Prepare an updated version of the traffic garden for approval from the group – this is now the final sketch. Remember to remind everybody that it may be impossible to incorporate everybody's suggestions and be prepared to talk about why design changes were made.
- Once everyone is satisfied that this is the plan, proceed to installation planning.

STEP 6. PLAN FOR INSTALLATION

- Note on the drawings what materials are being used to create the lines and pavement markings and label material colors.
- Figure out how quantities for each material you need – include extra for additions or errors.
- List tools and supplies needed based on materials selected.
- Make a plan for acquiring materials, tools, and supplies.
- Consult with the property owner and pick an installation day plus back-up day (as installation is weather sensitive).



Roundabout World Installation,
Bristol, Virginia
(Source: Discover Traffic Gardens)

TEMPORARY AND SEMI-PERMANENT TRAFFIC GARDEN SUPPLIES AND EQUIPMENT

As previously mentioned, the materials that you choose should be directly related to how temporary or permanent you want your traffic garden to be. Many of the supplies are more expensive as they are higher grade or commercial grade materials. The following table lists various products you may need for your traffic garden. More information about the different materials is in the attached workbook.

| SUPPLIES | SOURCES & NOTES | COST RANGE |
|--|---|---|
| Vinyl Tape | <ul style="list-style-type: none"> • Sources and Notes • Test products on surfaces before use | Approximately \$10/roll. Lengths and prices vary. |
| Duct tape (industrial grade, 2" width) | <ul style="list-style-type: none"> • Available hardware stores and from on-line commercial suppliers • Available in many vibrant colors. Recommend industrial grade tape, 2" width, 60-yard rolls | Approx. \$10/60-yard roll. Cost varies and bulk purchase costs available. |
| Marking spray paint | <ul style="list-style-type: none"> • Available from hardware stores and online • Available in wide range of colors • Use products labelled for use on asphalt. • Double-check that paint is labelled 'marking' and intended for temporary applications. | Approx. \$5-\$6/spray can. Cost varies and bulk purchase costs available. |
| Longer-lasting spray chalk | <ul style="list-style-type: none"> • Available from commercial art supply sources online or from art stores | \$12/14 oz can. Varies. |
| Sidewalk chalk | <ul style="list-style-type: none"> • Widely available in stores and on-line. | Starts at \$5/10-stick box, varies widely. |
| Railroad chalk | <ul style="list-style-type: none"> • Available in white, yellow and red sticks from online commercial suppliers. | Sold by the case. 144 sticks/\$52. Varies. |

COLORS

Once you've selected the type of materials that you're using, you need to select the right colors. Part of creating the illusion of a real-world traffic appearance is based on the choice of colors for the lines and markings used. The following lists the colors that are most realistic for various traffic garden features:

TRAFFIC GARDEN COLOR GUIDELINES

| | |
|--------------|--|
| White | Lane striping, between lanes going same direction, roadway arrows, crosswalk markings, bike lanes, railroad markings, STOP (word), YIELD (word), yield triangles |
| Yellow | Center lines, islands or medians in roadways, roundabout entrance |
| Green | Bike box. Can also be used in the center of roundabouts |
| Red | Curb ramp, as element of stenciled stop and yield signs |
| Gray | Sidewalk. Also used to cover over existing markings on asphalt |
| Blue | Bodies of water and streams |
| Other Colors | Railroad markings could also be marked in brown or other shades. |

Mt. Jefferson Playground Traffic Garden,
Alexandria, Virginia
(Source: Discover Traffic Gardens)

The Traffic Garden webpage for the
City of Alexandria, Virginia provides
information about two existing traffic
gardens as well as about the additional
facility that is to be installed soon.



PLANNING FOR INSTALLATION

As previously mentioned, the materials that you choose should be directly related to how temporary or permanent you want your traffic garden to be. Many of the supplies are more expensive as they are higher grade or commercial grade materials. The following table lists various products you may need for your traffic garden. More information about the different materials is in the attached workbook.

USEFUL TIPS

Setting up a traffic garden should be a fun community event, but there will also be times when it's challenging. Here are a few useful tips that will hopefully make the experience easier, efficient, and more fun:

Site preparation and equipment:

Silt and loose debris need to be swept from the surface so that newly applied materials can adhere properly. It may be possible to prepare the site the day before and just do a quick additional sweep on the day of the installation.

Equipment and tools:

Create an organizational system so items are easy to find and share during installation. Keep everything clean and wiped during installation to prevent drips, smearing and mixing of materials and colors.

Marking and measuring:

Measure out where street outlines by lightly pre-marking the entire site with chalk lines and X's. The surface needs to be completely marked up with exactly where the lines are going before starting to put them on the ground. Once the site is fully marked up, give it a final look over to make sure that everything seems to line up correctly and is properly positioned before giving the go ahead to start adding the actual street lines. Note: If pre-marking the day before, make sure that no rain is expected before installation. It is also advisable to use heavier marks as chalk blows away over time and marks may disappear.

(Alternative marking and measuring method) Use a grid to markup site

This is an different method of marking a site where you draw a grid of parallel lines on top of your layout drawing (space the lines 4' to 6' apart). Then lightly measure and draw these grid lines on the site using a chalk snap line tool (about \$10). Features can be filled in within the grid squares as indicated on the drawing.

Professional installation:

If you have the resources to engage professional line strippers, go for it! That said, it's always best to stay closely involved and onsite during the line striping day to both prevent errors and resolve the small issues of fit that will likely arise.

Drawing long, straight chalk lines:

Find one to two helpers and use long measuring tape with chalk or a chalk snap line. If there are no helpers, use a rigid retractable tape and yard sticks to keep lines straight and maintain widths between lines.

Adding a centerline:

Lightly mark the centerline between two street edge lines. Yard sticks or drywall T-square are useful for this task. Add dashed center using yard stick as spacer: 1-foot dash plus 2-foot space and repeat. Start at one point on layout and keep marking dashed lines in the same direction until centerlines meet. At bends, pivot yard stick along center line after each dash.

Tape tip:

Rather than cutting long segments of tape to create street lines, cut the tape into shorter segments (10'-15') when applying on the ground. If a corner of the tape lifts from the surface, it can be pulled off by strong winds. By having shorter lengths of tape, the damage is reduced.

Reducing spray paint overspray with a spray box:

A spray box is a cardboard box with the top and bottom pushed out to form walls around the stencil. The lightest of breezes can cause spray chalk or marking paint to spray beyond the intended stencil area. With a spray box, you spray the chalk or paint through the box with the nozzle below the top of the cardboard to prevent overspray. Then move the box to the next overlapping area that needs to be stenciled.



Photos and videos: (See Section 4 for details on project documentation)

Take pictures at the very start of installation day with the pavement in the before condition and plan on taking the exact same shot throughout the day as the traffic garden is installed. Take group shots at the start or end of a busy day of volunteer work. Find someone with a drone camera, if possible, to take before and after photos of the site (you'll get a great aerial view!). When all the hard work is done, and you look back at how it all happened, you are going to want to be able to tell the story and inspire others.

Putting together your volunteer team:

People may be willing to donate their time on a one-time or on-going basis. Put out requests through social media, local organizations, elected official's newsletters, and personal connections.

Get the kids involved:

Involve kids as much as possible during the planning, designing, and installing. They can make it uniquely their own with local street signs and chalked landmarks.

Celebrate success:

Installing a traffic garden is a great opportunity to hold a celebration. Hold a ribbon-cutting and make sure to invite everyone who played a role. Name streets or the traffic garden after someone in the community.

HOW TO DRAW CIRCLES OR ROUNDED INTERSECTION CORNERS

- Tie a piece of string around sidewalk chalk and other end to rock (or similar heavy object).
- Wrap string around rock until it is the size of the circle radius and place rock at center of the desired circle.
- Have somebody hold onto the rock while the other person stretches the string firmly simultaneously holding chalk stick upright on the surface.
- Draw full circle for roundabout or quarter circle for intersection corner around the rock.

SECTION 2. MAINTENANCE

It is a good idea to visit the site periodically to check on the installation and see how the materials are holding up, especially if the traffic garden is intended to be semi-permanent. The more removable the materials, the more frequently the site will need to be visited. Make sure to check on the site after heavy rains, especially if the lines are created from tape. Check also on breezy days as tape can be lifted off the surface by wind.

The following table offers guidance on when you should check on your traffic garden based on materials. It may be helpful to create a maintenance calendar (or put reminders in your personal calendar) to keep track of what needs to be checked on and when.

| MATERIAL | MAINTENANCE REMINDERS | WEATHERING | EXPECTED LIFESPAN |
|-------------|--|--|--|
| Vinyl Tape | <ul style="list-style-type: none"> • Check on condition weekly and after heavy rains or strong winds • Bring tape plus scissors to replace any loose segments | <ul style="list-style-type: none"> • Higher quality vinyl tapes can stay on an outdoor surface for weeks to months if applied firmly and the surface is dry | <ul style="list-style-type: none"> • Up to 2 months in optimal conditions and with touchup |
| Duct Tape | <ul style="list-style-type: none"> • Check on tape condition weekly and after heavy rains or strong winds • Bring tape plus scissors to replace any loose segments | <ul style="list-style-type: none"> • Higher quality industrial-grade duct tapes can stay on an outdoor surface for weeks to months if applied firmly and the surface is dry • Thicker tapes (10 mm and up) will weather better over time | <ul style="list-style-type: none"> • 1-4 months in optimal conditions and with touchup • Lifespan will be shortened if site experiences soaking rains or by wind storms picking up unsecured edges |
| Spray Chalk | <ul style="list-style-type: none"> • Check on spray chalk weekly. • Bring along stencils and spray chalk after rain to respray (an impression of chalk will remain) • Colors may need periodic touch up | <ul style="list-style-type: none"> • Spray chalk will remain visible through several rain events • All spray chalk fades to white due to weathering • Heavy-duty spray chalk is longer lasting | <ul style="list-style-type: none"> • Good quality spray chalk lasts until the next rainstorm • Artist-grade spray chalk can stay in place for 1-12 months |

| MATERIAL | MAINTENANCE REMINDERS | WEATHERING | EXPECTED LIFESPAN |
|------------|--|--|--|
| Vinyl Tape | <ul style="list-style-type: none"> • Check on condition weekly and after heavy rains or strong winds • Bring tape plus scissors to replace any loose segments | <ul style="list-style-type: none"> • Higher quality vinyl tapes can stay on an outdoor surface for weeks to months if applied firmly and the surface is dry | <ul style="list-style-type: none"> • Up to 2 months in optimal conditions and with touchup |
| Duct Tape | <ul style="list-style-type: none"> • Check on tape condition weekly and after heavy rains or strong winds • Bring tape plus scissors to replace any loose segments | <ul style="list-style-type: none"> • Higher quality industrial-grade duct tapes can stay on an outdoor surface for weeks to months if applied firmly and the surface is dry • Thicker tapes (10 mm and up) will weather better over time | <ul style="list-style-type: none"> • 1-4 months in optimal conditions and with touchup • Lifespan will be shortened if site experiences soaking rains or by wind storms picking up unsecured edges |



SECTION 3: HOW TO USE THE TRAFFIC GARDEN

SO, YOU'VE SUCCESSFULLY BUILT A TRAFFIC GARDEN! NOW WHAT?

Traffic gardens provide safe, community spaces for kids to learn and parents to feel safe allowing kids to practice street safety skills like crossing the street, learning to ride a bike, and learning how to signal and maneuver their bike. Traffic gardens are also used for instruction and promoting play by physical education teachers, preschool teachers, and educators alike to encourage active play and safe riding and walking. In addition, traffic gardens can help bring families and communities together to talk about the importance of traffic safety and how everyone can do their part in keeping kids safe.

Marking and measuring:

- A place to teach and practice biking skills and interactions
- An interactive course teaching walking and biking roadway safety
- A place for children to experience independence and fun on wheels
- A community amenity for family-friendly outdoor physical activity



Aiton Elementary School Traffic Garden
District of Columbia
(Source: Discover Traffic Gardens)

Participants can include a range of age and skill levels, including:

- Preschool students riding balance bikes
- Elementary school students practicing biking and roadway skills
- Children with a range of balance and mobility needs
- New and adult beginner bike riders

HOW YOU USE THE TRAFFIC GARDEN IS UP TO YOU! SOME POSSIBILITIES INCLUDE:

- Hold a ribbon cutting to celebrate the opening of your traffic garden. Invite special guests to join!
- Host a “Safe Streets Day” for the community with traffic safety-themed events.
- Designate specific times for parents, caregivers, and kids to practice together.
- If the traffic garden is at or near a school, have older students work with younger students to help them practice.
- Invite your local crossing guards to practice with students.
- For educators, integrate the use of the traffic garden into bicycle and pedestrian safety.
- Invite local elected officials to the traffic garden to help build support about traffic safety in your community.

NEED HELP BRAINSTORMING IDEAS? REACH OUT TO THE SAFE
ROUTES PHILLY TEAM AT SAFEROUTESPHILLY@PHILA.GOV!

Thomas Elementary School Traffic Garden
District of Columbia
(Source: Discover Traffic Gardens)

This National Highway Traffic Safety Administration (NHTSA) Traffic Garden video shows young students learning road safety education learning as part of their in-school curriculum at the Thomas Elementary School Traffic Garden



SECTION 4. DOCUMENTING SUCCESS

The best way to document the success of the traffic garden is to create a record – both visually and with data. Often this can be accomplished through partnerships with high school teachers or local universities. By collecting this information and then broadcasting it to the wider world, you can tell the bigger story about the importance of traffic gardens and the impacts it can have on a community.

The information from the table can be used to create a report or informational video documenting the use and success of the traffic garden. By documenting the achievements, you have a place to publish the collected information, tell success stories, let people know how the project came about and how the community was engaged. Such reports are essential in generating support for future traffic gardens and in ensuring that the community remains aware of a great project in their own neighborhood.

DOCUMENT SUCCESS

WHAT INFORMATION IS GOOD TO GATHER?

Photos and Videos

- Take photos of children using the site
- Take before and after drone photos of the traffic garden site
- Make a stop motion video of installation
- Make short videos of children kids using the site
- Make biking safety videos with the site as the backdrop

Counts and Data

- Volunteers can count number of attendees (kids + adults)
- Keep track of events and lessons
- Conduct observations and collect anecdotal reports
- Observe and record information about site users and the equipment they use

Surveys and Interviews

- Online community survey online
- In-person clipboard survey or feedback drop box at the site
- School student survey. Ask questions about:
 - Experience, value, perception of safety before and after
 - How far they came and how they got to the site.
 - How often they have come and whether they will return
 - How they heard about the traffic garden

SECTION 5: RESOURCES

TRAFFIC GARDEN RESOURCES FROM AROUND THE COUNTRY

GUIDES

RESOURCE

[Metro Portland Traffic Playground Toolkit](#)

This is a comprehensive guide to building a new permanent traffic garden. It contains case studies, design information and template layouts.

[Designing Streets for Kids](#)

While not specifically about traffic gardens, this is a child-focused design guide that looks at streets and cities from the perspective of children and their caregivers. It includes many graphic images of how to redesign streets with the needs of children and their families in mind.

ONLINE LINKS

RESOURCE

[NHTSA Traffic Garden video](#)

This one-minute video is a great snapshot of young children learning road safety education in a school traffic garden as part of their in-school curriculum.

Montbello Bicycle Course instructional videos, Colorado

These videos are available in both English and Spanish and provide six lessons on different aspects of using a traffic garden facility.

[Traffic Playground information page, Portland, Oregon](#)

Portland Bureau of Transportation's Safe Routes to School program installed temporary traffic gardens starting summer 2020. This page lists the 14 installations to date as well as tips and activities.

[Traffic Playground Tips Video, Portland, Oregon](#)

Created by the Portland Bureau of Transportation, a 7- year-old child explains how to safely use a traffic garden. The video packs a lot of content in a couple of minutes and is in English and Spanish.

[Portland Temporary Traffic Garden map](#)

Map with links to traffic gardens in the Portland region (by PBOT and others).

ONLINE LINKS

Boulder Valley School
District temporary Traffic Gardens

[Traffic Gardens webpage,
City of Alexandria, Virginia](#)

['Kid-Sized 'Traffic Parks' Are
D.C.'s New Playgrounds With A
Purpose', WAMU](#)

[The Evolution of Miniature
'Safety Towns' for Kids, CitiLab](#)

[Discover Traffic Gardens](#)

RESOURCE

Webpage and interview video about the eleven temporary traffic gardens installed by Boulder Valley School District crews of school bus drivers.

Webpage describing the two existing traffic gardens in Alexandria and the additional facility that is currently in design.

Public radio story about traffic gardens in Washington DC public schools.

Comprehensive article about the history and background of traffic gardens and how they are being used today to teach roadway safety education to children.

Website with general information about traffic gardens. Site includes free downloadable information for children to design their own traffic gardens.



TRAFFIC GARDEN TALKING POINTS

Traffic gardens are play and learning places based on a simplified version of real-world streets and traffic conventions! However, they are unfamiliar to many and it may take some introducing of the idea to the potential community supporters. These extra points may help them get behind the effort and realize how traffic gardens are an asset to the local community.

- **Finding space to play.** Traffic gardens are a great place for families to play and teach kids to ride. Kids need places where they can be active and play, and traffic gardens provide what we're looking for in a safe, accessible, and welcoming space.
- **Teaching for the future.** When kids learn traffic rules when they are young, they will likely become better, safer users of the transportation system when they get older. Currently, there are not many good ways to introduce them to critical transportation behavior information that they need to know.
- **Bringing the community together.** Traffic gardens bring the community together in a positive way. Kids of all ages can be involved in the process and will learn about transportation, collaboration, and teamwork as we build and use the traffic garden.

Traffic gardens can be set up to serve a range of purposes including:

- A place to teach and practice biking skills and interactions
- An interactive course teaching walking and biking roadway safety
- A place for children to experience independence and fun on wheels
- A community amenity for family-friendly outdoor physical activity

Traffic gardens are used for instruction and promoting play by:

- Physical Education (PE) teachers for instructional programs
- Preschool teachers for outdoor active play and roadway lessons
- Local biking instructors to teach beginning learners and adaptive riding
- Families for outdoor fun and biking instruction

Participants get to:

- Develop confidence by navigating the mini-streets, intersections and crossings
- Practice skills while learning about safety
- Develop understanding of how street interactions work
- Engage in healthy outdoor activities that are fun and develop social skills

Participants include a range of age and skill levels:

- Preschool students riding balance bikes
- Elementary school students practicing biking and roadway skills
- Children with a range of balance and mobility needs
- New and adult beginner bike riders

TRAFFIC GARDENS IN THE REGION



TRAFFIC GARDEN IN PHILADELPHIA

Lil' Philly Safety Village is the first of its kind in Philadelphia. A project led by the Bicycle Coalition of Greater Philadelphia, it is 4600 square foot "traffic park" where children can learn and grow through interactive play. The park is a child-sized representation of a Philadelphia streetscape that includes traffic signs, intersections, pedestrian crossings, and bike lanes.

TRAFFIC GARDEN FIELD TRIP (CLOSE TO PHILADELPHIA)

The following permanent traffic gardens are located within a short driving distance north of the City of Philadelphia:

Hamilton PAL Safety Town, Hamilton, New Jersey

Contact hamiltonpalsafetytown@gmail.com

Warminster Safety Town, Warminster, Pennsylvania

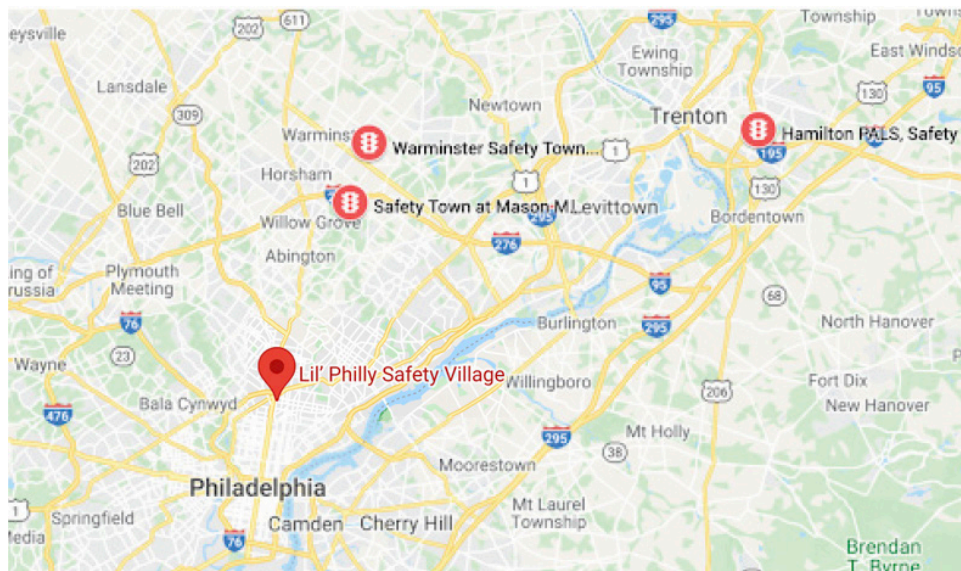
Phone Parks & Recreation: (215) 443-5428

Safety Town at Mason Mills, Mason Mills, Pennsylvania

Phone: (215) 659-3100



Lil' Philly Safety is located in the Hunting Park Neighborhood, at the corner of West Cayuga Street and West Hunting Park Drive near Old York Road.



TRAFFIC GARDEN FIELD TRIPS (FURTHER AFIELD)

There are several traffic gardens in the Maryland/Northern Virginia/District of Columbia area, a 2-3-hour drive south of Philadelphia. Visiting the following sites would provide a wide array of examples:

BALTIMORE, MARYLAND + NORTHERN VIRGINIA

- **Baltimore Safety City, Baltimore, Maryland:**
This small-scale city can be viewed by appointment only.
- **Mt. Jefferson Playground Traffic Garden, Alexandria, Virginia:**
This site is a good example of a colorful and small facility that was added to an existing court.
- **Alexandria Bike Campus, Alexandria, Virginia:**
This layout follows real-world traffic design and is scaled so that it serves adult learners also.
- **Hollins Meadows Elementary School, Fairfax, Virginia:**
This is integrated into a Fairfax County elementary school outdoor area and is similar in general concept to the DC school traffic gardens.

WASHINGTON, DC

- **Aiton Elementary School Traffic Garden, Washington DC:**
This large-scale facility occupies the entire pavement area behind the school buildings. It is kept locked so arrangements have to be made in advance to visit.
- **Thomas Elementary School Traffic Garden, Washington, DC:**
This large-scale facility surrounds the entire playground/turf field on the school property. It is behind the main building and kept open for local community use.
- **Tyler Elementary School Traffic Garden, Washington DC:**
This recently installed traffic garden surrounds the outdoor classroom and connects to the playground. It is next to the school building and kept open for local community use.

SAFE ROUTES PHILLY

STEP UP | RIDE ALONG

**VISION
ZERO**
CITY OF PHILADELPHIA

