TRAFFIC PLAYGROUND TOOLKIT

Metro

Discover Traffic Gardens

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INTRODUCTION

Metro's Safe Routes to School (SRTS) program covers 17 school districts and 330 public schools in a region that is home to 1.5 million people. Metro envisions a place where kids and teenagers are able to safely, affordably, and efficiently access school and their community by walking, rolling and transit. Metro established the SRTS program to create more opportunities for these kids and teenagers to utilize transportation options, and to make the most of regional transportation investments. One approach in assisting young people to access transportation choices is creating traffic playgrounds where they can learn about roadway safety and practice biking skills from an early age.

Metro Portland kicked off the *Traffic Playground Strategy Project* in March of 2020 to assist in the process of adding new traffic playgrounds to the region. This toolkit, produced as part of this project, provides guidance to help communities get started on a traffic playground project. The toolkit is divided into the following parts:

- Introduction
- Part 1 - Facilities
- Part 2 - Planning Process
- Part 3 - Layouts and Installation
- Part 4 - Community Engagement
- Part 5 – Programmatic Practices
- Part 6 - Tables + Figures
- Part 7 - Worksheets
- Part 8 - Appendices

The toolkit is a resource intended for use by local officials, school staff, SRTS practitioners, physical education (PE) teachers, parent groups, and community-based organizations to jumpstart new traffic playground projects and programming and provide a set of integrated tools and resources. These new traffic playgrounds will enhance existing Metro SRTS programming by offering a new type of community learning venue for kids. This future network of traffic playground facilities will be coordinated to facilitate programmatic activities and ensure equitable inclusion in their use and impacts.

WHAT IS A TRAFFIC PLAYGROUND?

A traffic playground, also known as a traffic garden, is a network of connected streets with traffic features that is free of motorized vehicles. Young people and adult learners get to develop confidence by navigating the streets, intersections and crossings. While learning on-street skills and about safety, they are also developing understanding of how street interactions work. Traffic playgrounds can be put together in many different ways and there is lots of scope for creative design and new ideas. This toolkit outlines planning and design considerations for new traffic playgrounds.

TRAFFIC PLAYGROUNDS TYPES AND PROGRAMS

Traffic playgrounds differ in a few fundamental ways largely based on how they are constructed and operated. **Table 6.1 Traffic Playground Categories by Design and Operational Type** separates traffic playgrounds into the following main types:

- Type 1: Traffic Playground Courts
- Type 2: Traffic Playground Parks
- Type 3: Temporary Traffic Playgrounds
- Miscellaneous Other: Various Other Traffic Playgrounds

For each facility type, the common distinguishing physical features are listed as well as the related programming and overall cost range.

GLOSSARY

There are a number of terms used within this document that may be less familiar or used in a particular way related to traffic playground projects:

Adobe InDesign or Illustrator – Graphic software for preparing layouts

Access or accessibility – the degree to which a space can be entered by all people, including with wheelchairs, walkers and strollers

Autodesk AutoCAD – Graphic design software for preparing layouts

Design – a system for the implementation of a process, usually satisfying certain goals and constraints

Erosion – the process by which the surface gets worn down

Facility – a place provided for a particular purpose

Grade – a measure of how much the ground or road surface inclines

Intersection (road) – a location in the network where two or more roads or streets meet or cross at the same grade

Network (land) – a system of elements connected together to allow people to move around on foot or using wheeled devices.

Operation – the act of how something functions

Safe Routes to School (SRTS) – an approach that promotes walking and bicycling to school through infrastructure improvements, safety education, incentives, resources and enforcement

Sealcoat – applying a protective coating to asphalt-based pavements to provide a layer of protection from the elements

Streets Network (land) – system of elements connected together to allow people to move around on foot or using wheeled devices

Survey (topographical) – a gathering of information about the shape and features of the land surface

Topographical Information – data about the shape and features of the land surface

PART 1 - FACILITIES OVERVIEW

CHOOSING A TRAFFIC PLAYGROUND TYPE

When planning a new traffic playground for the community, the first decision is selecting the type of facility based on available budget and resources. The following table outlines differences between the two most common choices, Type 1: Traffic Playground Courts and Type 2: Traffic Playground Parks. **Table 6.2 Traffic Playground Differences Based on Available Budget** outlines these possible traffic playground projects based on available funds. This toolkit mostly focuses on facilities best practices for Type 1: Traffic Playground Courts because such projects can be more readily accomplished in a shorter timeframe and with smaller budgets.

PROJECT VISION + DESIGN CRITERIA + CORE TEAM

Traffic playgrounds must be safe, connected, accessible, comfortable and enabling. A winning traffic playground project has many elements, some designed, some operational, and some creative. How they all work together will be key to its use and longevity.

Once underway, take time to prepare the **project vision**. Creating a strong vision and clarifying what the project could look like, will provide top-level inspiration and guidance to keep the

project on track. The traffic playground vision should be aligned with the overall vision for how children live in their communities and neighborhoods[1].

Before launching into the details of the traffic playground project, a set of **design criteria** should be firmly established. When it becomes necessary to make trade-offs in the project later, looking to the design criteria can help the project remain true to its intended purpose and equitable access.

Building a new traffic playground is a team effort. A group of interested people working together and sharing their specific skills, time and efforts can take on this project and see it to success. When putting together the **core team**, make sure the group looks like and represents the entire community. Refer to Worksheets A, B and C in Part 7 for assistance in preparing the project vision, assembling the team and determining the design criteria.

The project team should ensure that people and groups across the community are consulted. A big component in the project is the engagement of local **stakeholders** from different backgrounds with different perspective and ideas. These stakeholders should be brought into the conversation early and their diversity of ideas can help with finding solutions to challenges. The end result will be a project with many people invested in the success as well as proud of the results of the hard work as well as a better project.

GETTING THE WORK DONE

The planning and installation of a traffic playground involves many steps and decisions and there are different ways to accomplish such a project. **Table 6.3 Traffic Playground Planning and Installations** outlines different ways to conduct the project depending on the size of the available budget. If funds are available, it may be beneficial to hire a professional planning and design firm. However, if funds are limited, is still equally possible to install a traffic playground with mostly volunteer assistance.

LOCAL RESOURCES

Early in project, it is well worthwhile taking stock of available resources and putting out requests on behalf of the project. These may lead to assistance, leads or donations and can also serve to build early support. The assistance received will lead to a strengthening of connections and relationships within the community. Make sure to recognize all assistance received both at the time and later when the site is being launched. Refer to **Worksheet D: Traffic Playground Community Resources** for a listing of possible community resources to explore locally.

[1] Refer to *Designing Streets for Kids*, Global Designing Streets Initiative, 2020. Free download at https://globaldesigningcities.org/publication/designing-streets-for-kids/

PART 2 - PLANNING PROCESS

TRAFFIC PLAYGROUND FACILITY PLANNING PROCESS

The **planning process** is the crucial behind-the-scenes early phase of the project. It involves information gathering, meetings, email discussions, stakeholder input and site visits. The overall project outcome will be better for time taken to clarify options and make decisions that will serve everyone well. The planning process will move through the following steps sequentially or concurrently:

- Inventory of community assets
- Prepare a work plan and schedule
- Gather input and stakeholder outreach
- Identify site(s) and field visits
- Conduct site selection process

Hold a kickoff meeting for the team to gather and put a system of communication in place. Create a work plan and schedule that spells out the tasks and steps to get the project to completion. This work plan does not have to be overly detailed and there are many online tools available to assist in scheduling. These can be revisited over the course of the project as unknowns become clearer and decisions are finalized.

IDENTIFYING THE SITE

Traffic playground sites do not need to be large and layouts are flexible. Schools, parks, recreation centers and churches may have under-utilized courts or little-used parking areas that could provide a flat hard surface. Agencies and organizations may be willing to enter into agreements to allow use of sites located on established properties. Such sites may come with the bonus of amenities and services already in place. Keep an eye out for vacant plots that only serve for occasional overflow use or annual events. In communities where new recreational facilities have been built, older basketball or tennis courts may no longer be in use and a traffic playground could make a great replacement amenity. Refer to **Table 6.4 Aspects of Site Selection** for further suggestions. Refer to **Worksheet E: Traffic Playground Site Identification** for additional site identification considerations.

FIELD VISITS

Visiting the site and gathering information is essential at several stages and should continue throughout the project. Documenting conditions informs site selection, the design process, and review steps. It will be also be useful to illustrate site transformation after completion. The following tips apply for any field visit:

- Print aerial view of site (Google Earth or Google Maps)
- Wear suitable outdoor clothing
- Wear shoes suitable for muddy or rough surfaces
- Let appropriate people know you will be entering the site
- If necessary, pre-arrange for gate unlocking
- Bring:
    - Clip board and pencil/marker
    - Aerial view of site
    - Long measuring tape, yard stick, short ruler, chalk
    - Phone camera (plus optional measuring apps)
    - Drone camera (optional, if available/permitted)

Early in the project, make a point of visiting the site during or soon after a rain storm to see how well drainage is working and to observe whether water pools on the surface. Take photos of pooling. Continue to stop by in different seasons to see if seasonal conditions alter the site (e.g. excessive weed growth, leafed out trees, wind exposure) or if anything has been changed. Refer to **Worksheet F: Traffic Playground Field Visit Worksheet** for more detailed field visit checklist.

PART 3 – LAYOUTS AND INSTALLATION

TRAFFIC PLAYGROUND FACILITY DESIGN PROCESS

This phase is where the vision is expressed in a practical way so that it can implemented in the real world. The collective input, choices made, and creative ideas meld together into the many ways to create a traffic playground for a given site. The **design process** is about deciding what to include and how the elements are put together.

Traffic playground courts are assembled by outlining miniature streets on the site surface and adding traffic features. The process to put together this layout goes through the following iterative steps:

- Draw the existing site where the traffic playground is to be located
- Draw proposed traffic playground on the existing site
- Solicit and incorporate comments
- Finish up detailed traffic playground drawings
- Prepare additional directions so traffic playground can be installed from drawings

DRAWING LAYOUTS

Drawings are key to the design process. They are the means by which the layout is resolved and communicated. Digital drawings are the practical way for the traffic playground layout to be prepared. While it is possible to hand-draw the layout and use this drawing for installation, this is a less desirable method that is error prone and does not readily allow for changes. Many people have access to graphic design programs and a community volunteer may be willing to provide access and donate their skills to create what is needed for the project. Digital drawings can be prepared using either Adobe InDesign or Illustrator on a Google Earth aerial image. However, it is preferable to prepare the drawings using Autodesk AutoCAD as it is better at showing details.

The following types of drawings are typically prepared over the course of the project:

- Base drawing
- Conceptual layout drawing
- Final layout drawing

The base drawing represents the current site. The conceptual layout drawing shows how the traffic playground could be laid out on that base and is used to solicit comments. The final layout drawing communicates exactly what is planned to all interested parties and also provides instructions for the installers. **Worksheet G: Traffic Playground Drawing Preparation** lists drawing information that is needed.

The final layout drawings should show details as clearly and accurately as possible. These drawings need to provide sufficient information so that the proposed layout and traffic features can be transferred from the drawings to the hard surface without errors. The final layout drawings may also include notes about what materials to use during installation.

An optional supplemental page that can be added to the final layout drawings is a painting grid sheet. This involves drawing a grid of horizontal and vertical lines spaced the same distance apart across the entire layout on an additional drawing sheet. All of the horizontal and vertical lines are labeled with a unique identifier with lines spaced 2’ – 5’ or more apart. The smaller the site or the denser the painting details, the closer together these grid lines are placed. This gridded drawing can then be used during installation to help transfer the information from the drawing to the site.

REVIEW AND COMMENT ON DRAWINGS

Once installation is in progress or complete is not a good time for people to notice problems with the plans. Instead, reviewing and commenting on drawings as they are being developed is part of the process of checking whether the design vision has been expressed as well as spotting practical issues. What is being reviewed differs as the project advances. The base drawing is reviewed to double check accuracy and that nothing has been overlooked. The conceptual layout drawing is reviewed to comment on the initial layout ideas. The final layout drawing is reviewed to double check that all layout details are correct and ready for installation.

Key points for each review stage include:

- Inviting stakeholders as well as project team members to conduct reviews
- Soliciting comments early to allow time for changes
- Allowing sufficient time for reviewers to consider what is being proposed

When reviewing, it is a good idea to take drawings to the proposed site. With the drawing in hand, it is possible to check that they accurately represent conditions as well as to visualize the proposed layout on the surface. Refer to **Worksheet H: Drawing Review Checklists** for sample drawing review checklists.

TRAFFIC PLAYGROUND STREET ELEMENTS

Traffic playgrounds generally deploy a reduced-size version of public street networks. The essential elements from the real-world system that are assembled to form traffic playgrounds include:

- Streets and roadway striping
- Intersections
- Painted crossings
- Other pavement markings
- Sidewalks
- Signs

There are many traffic playgrounds already in place around the U.S. Design guidance for public streets is not applicable in most cases and instead guidance is drawn from these operating sites and facilities. Further details for street elements are included in **Table 6.5 Street Network Element Criteria and Information.**

STREETS AND ROADWAY STRIPING

Streets are the fundamental building blocks of any traffic playground. The basic street types commonly assembled to build the street network include:

- Two-way two-lane streets
- One-way one-lane streets
- Two-way three-lane streets
- Two-way four-lane streets

For Type 1: Traffic Playground Courts, streets are usually created by striping lines against an asphalt or concrete surface background. The lines mimic real-world traffic striping and convey the information needed for those walking and bicycling around the traffic playground. Striping lines typically have the following painted appearance:

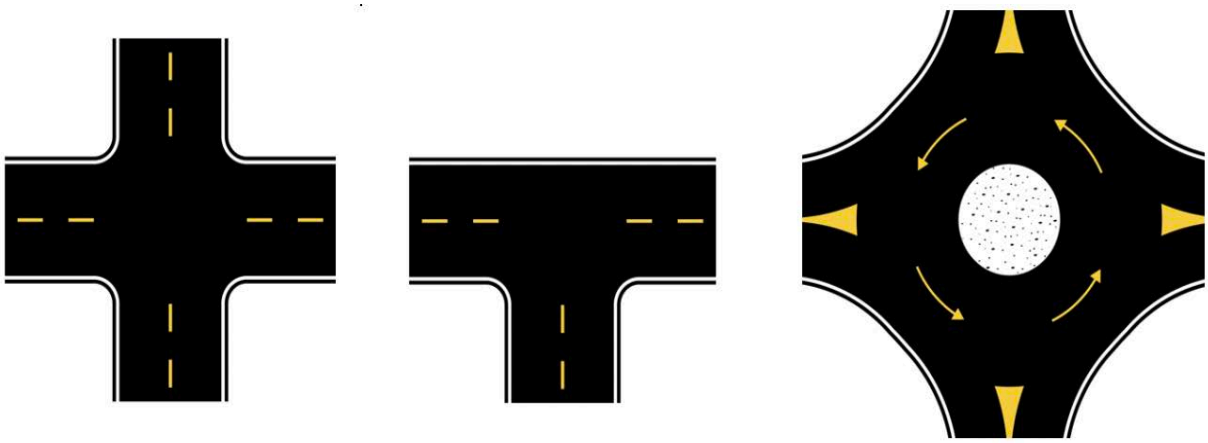
- Centerlines are single or double yellow lines (solid or dashed)
- Traffic lane lines are usually single dashed white lines
- Outside street edges are single solid white lines

Another method used to create the appearance of streets is to apply a contrasting band of color, the full width of the desired street, on the hard surface. The wide color band defines the street against the hard surface. This method can eliminate the need for some lane and edge striping lines and may improve street width consistency during installation.

Warrenton Safety Town, Virginia during striping process

INTERSECTIONS

Intersections add interactions and dramatic play to the traffic playground. The intersections that are commonly used to connect streets and create a network layout are:



4-way Intersection 3-way Intersection Roundabout

On public streets, such intersections are controlled through signs, signals or markings that communicate who goes first and when people take their turn. Traffic playground intersections work a little differently due to the simpler operation where typically they only have two types of control: stop or yield. Few sites feature traffic signals although there are notable exceptions[2].

In the traffic playground world, some intersections are installed without any form of control because signs being used are portable or for other practical reasons. For example, close together 'stop' intersections make it difficult to ride a bicycle because of the stopping and restarting. Sometimes traffic playgrounds are set up so that the stop or yield control can be changed around for lessons and in these cases, care has to be taken that surface markings are not in conflict with the switching signs. Additional traffic playground elements that may include signs as a form of control are railroad crossings and mid-block trail crossings. Refer to **Table 6.6 Traffic Playground Intersection Controls** for information about how intersections are typically managed.

[2] For example, Brookhaven Safety Town, New York: https://www.youtube.com/watch?time_continue=12&v=yNp3UewiTcg&feature=emb_logo

An important aspect of traffic playground intersections is where street segments meet. Unlike public streets, traffic playground streets usually meet at 90 degrees. The actual point where two streets meet is rounded to assist with bicycle turns and is called the corner radius. The size of the corner radius varies widely at traffic playground sites. Although there are locations with radii below 3', the 3' radius minimum is found at a number of operating traffic playgrounds and seems to create a comfortable turning movement for elementary age bicyclists. As the corner radii size increases, bicyclists may take the corner slightly faster. However, overall biking speeds are usually low and curb radii are generally small on traffic playgrounds, in part because of the limited space available.

SIGNS

Signs are a key traffic playground learning element and turn the street network into a real operating system. They also make the space more fun and allow kids to feel more grown-up as they play and use the site. Traffic playground learning is primarily associated with intersection interactions and signs are a key part of clarifying how an intersection is controlled (i.e. supposed to work). Learning to recognize and read the signs themselves is a part of the educational process.

The following reduced-scale signs are typical of those used to complete a traffic playground:

Traffic signs can be permanently installed into the ground, portable on a base that can be moved, or applied permanently to the surface. Traffic signals are much less commonly found for practical reasons including cost and the need to power and maintain them. Sometimes retired traffic signals are donated by the local department of transportation who will then maintain their operation at the traffic playground. Although a popular and useful donation, such re-purposed signals can be over-scaled for the small sized streets. Other types of signs found at traffic playgrounds may include those with facility name, facility rules, sponsor recognition or roadway safety/biking instructions. Refer to **Table 6.7 Signs and Signals Criteria and Considerations** for further details about sign installation.

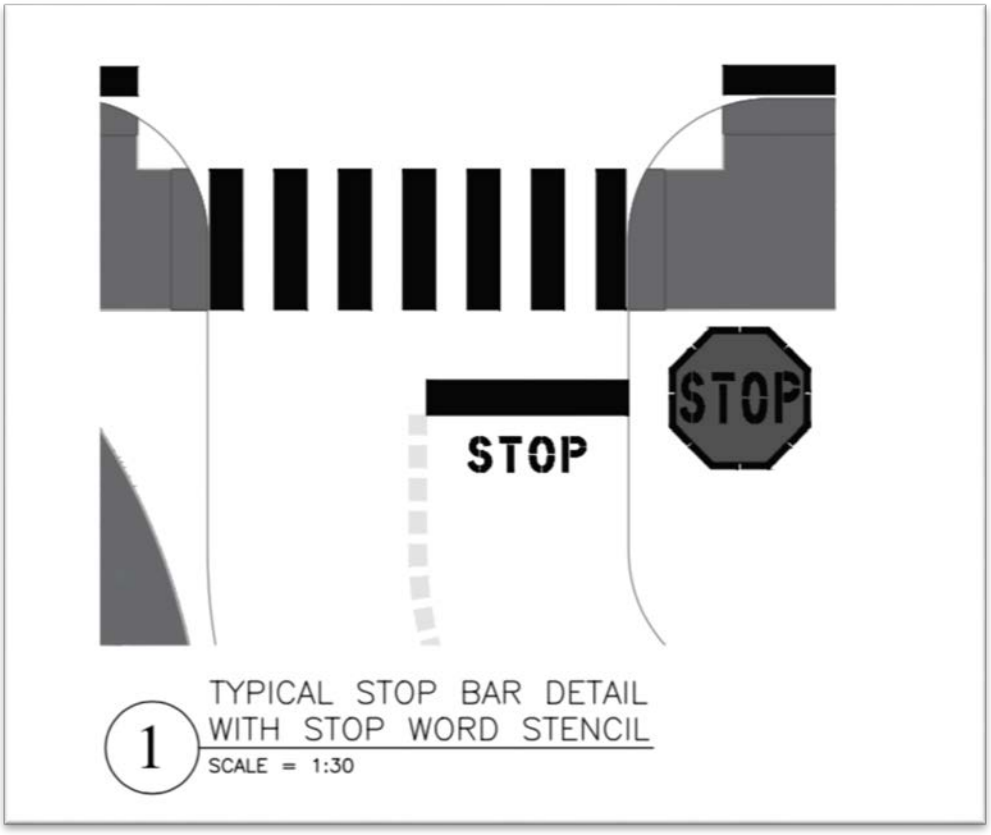
PAINTED CROSSINGS

Painted crossings add interactions between those walking and biking. Crossings can be readily added to the streets and intersections with surface-applied products. They are typically sized so they fit the street and look proportional. Some elements such as pedestrian crossings are simplified versions of real-world crosswalks while others such as curb ramps are painted representations of the real infrastructure.

The basic painted elements that are frequently used to build traffic playground crossings are:

- Pedestrian crosswalk
- Curb ramp
- Stenciled signs
- Railroad tracks and crossing symbols
- Associated on-street markings (e.g. ‘STOP’, ‘YIELD’, stop bar, yield line)

Refer to **Table 6.8 Traffic Playground Street Crossings** for criteria and further information.



Typical detail, Mt. Jefferson Playground Traffic Garden

Alexandria, Virginia

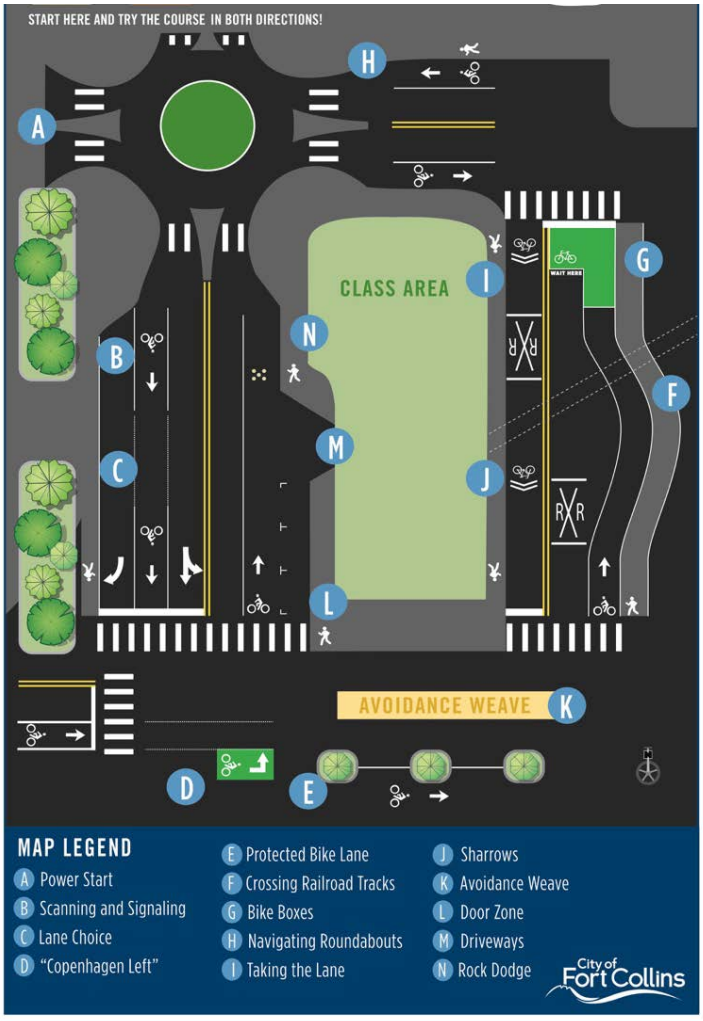
OTHER PAVEMENT MARKINGS

Pavement markings convey the messages about how the street works. Markings instruct on which side of the street to travel, what direction to ride on a roundabout and who goes first when meeting someone at an intersection or crossing. Children may not be familiar with these markings or fully understand their meaning in an interaction so traffic playgrounds are a safe and comfortable way to learn and practice. Traditional roadway pavement markings are easily scaled down to fit within traffic playground streets and help create the street appearance. The goal is to use them enough that they communicate about interactions, to get proportions right for the small streets, and to size them so they remain legible. Because traffic playground speeds are slow, it is not necessary to add markings too close together so this saves on costs and keeps the look less cluttered.

As well as the markings associated with crossings, additional pavement markings that may be added to the site include:

- Arrows
- Bike lane symbols
- Parking spaces
- Bike boxes
- Roundabout markings
- Gathering spots

Pavement markings may be added using paint with scaled-down traffic stencils or by adding preformed thermoplastic symbols to the surface. Refer to **Table 6.9 Traffic Playground Pavement Markings** for additional information.



Course map showing markings

Site: Walk & Wheels Skills Hub, Fort Collins, Colorado

SIDEWALKS

Sidewalks add complexity to the network and allow modeling of the key aspects of how different modes interact when they cross paths. For surface-painted traffic playground courts, denoting pedestrian facilities is accomplished through different methods including by adding a white or gray line parallel to the street edge or by using wide gray-color contrast paint for the entire sidewalk. Refer to **Table 6.10 Traffic Playground Sidewalks** for additional information.

Sidewalk Style 1: Created by striping gray line parallel to white edge striping line

Site: Neval Thomas Traffic Garden, Washington DC

Sidewalk Style 2: Created through combination of white line parallel to edge striping line plus adjacent green contrasting background

Site: Solon Safety Town, Solon, Ohio

Sidewalk Style 3: Created through use of wide gray-color contrast paint for entire width on asphalt plus contrasting green background

Site: Westlake Safety Town, Westlake, Ohio

Sidewalk Style 4: Created through use of wide white-color contrast paint for entire width on concrete

Site: Brecksville Safety Town, Brecksville, Ohio

TRAFFIC PLAYGROUND LAYOUTS

Assembling each of these street elements into a coherent network and installing them on a hard surface forms the traffic playground. However, there is no one typical layout when these street elements are put together even on small sites. Instead there are many variations and adjustments to fit the available space and serve local programs. Refer to **Figure 6.1: Traffic Playground Layout Notes** and **Figure 6.2: Traffic Playground Pavement Markings** for additional layout and pavement marking tips.

While this memo focuses on Type 1: Traffic Playground Courts, there are several differing layout styles for this type of facility to consider:

- Style 1: Rectangular Courts
- Style 2: Flexible Shape Courts
- Style 3: Road Safety Skills Courts

Figure 6.3: Style 2 - Rectangular Court Layout, **Figure 6.4: Style 2 – Flexible Shape Court Layouts** and **Figure 6.5: Style 3: Road Safety Skills Courts** show a total of nine examples of traffic playground court layouts, three of each style.

Table 6.11 Traffic Playground Court Style Examples provides background information for each of the examples illustrated in these figures. Even within these nine examples, it becomes clear that there is tremendous range in street and intersection configurations as well as tailored details to serve local program needs. It is also apparent how much creativity can be used to fit within the available space and work around site constraints. Refer to **Appendix A** for larger scale graphical images of each of the nine examples.

SURFACE MATERIALS

There are several basic types of products available for traffic playground striping and other pavement markings**.** Whatever product is selected for the traffic playground, it should be formulated as traffic paint, specifically designed for asphalt or concrete paint striping. Regular acrylic and latex paints will not adhere to pavement and will peel away.

While we often refer to these surface-applied materials as 'paint', they are specially-formulated technical products with specific installation requirements. There are many brands of these products and they are widely available in different formulations. These materials can be purchased in large buckets from the local hardware store or from traffic supply stores that serve the construction industry. Refer to **Table 6.12 Surface-Application Products** for information about different surface products.

Most products rely on being applied to relatively intact asphalt or concrete. However, the existing surface can be improved at prior to their installation. Applying sealcoat (i.e. a black tar coating) to the entire surface beforehand improves the appearance and protects the asphalt. Where the site is not being coated or resurfaced, there may be existing line and pavement markings. Removing these is costly and can damage the surface. A simpler approach that is widely used is to paint over them to mask them. The paint used is mixed to match the existing surface color. If the existing asphalt has aged, this may mean mixing a gray color to effectively provide the masking.

There is generally no need to use the reflective formulations as they are for line identification by vehicle lights at night, which reduces costs. Although the fast-drying attributes are useful, they have been developed to reduce impacts of closures on public roadways. If there are plans to apply colored surface products, double check whether they can be applied over the sealcoat layer.

Traffic playground users will be walking and bicycling on these painted surfaces, which can become slippery from rain or melted snow. Users go from the rough asphalt surface which provides some traction to the painted areas so traction should be added here too. Silica sand or other gritty material can be added at a low cost to the product to create a textured surface in the painted areas.

INSTALLATION

The final layout drawings should provide sufficient information to the contractor or volunteers so that they can transfer the information from the drawings to the hard surface. The following installation information should be included in the drawings:

- Full dimensional information for site and new features
- Larger-scale typical details with additional dimensions (e.g. crosswalks)
- Materials information (or options)
- Painting grid overlaid on site layout (optional)
- Any information that those doing installation should know about the site

Installing traffic playground layouts is generally unfamiliar to contractors. When close to final drawing completion, it is a good idea to send drawings to a potential contractor(s) to have them provide input. Contractors with experience of road striping, parking lot striping or sports court striping will have the most expertise and will be a good source of advice.

When planning for installation, consider how the crew will access the site. Work with the contractor to set up staging areas for trucks and equipment. Determine needs for water and power in advance of installation. Consider also whether there is lighting that will allow for work past sun down. It may be useful to discuss how much flexibility is permitted during installation so that the layout can accommodate actual conditions and any site imperfections.

Laying out of the traffic playground lines and markings is considerable work, even for professional contractors. Most installers use striping equipment to add the painted lines to the site so the surface needs to be completely marked up in advance for them to follow. Measurements are made and the site is pre-marked with chalk lines and paint spots which provide the guide lines for the striping equipment operators. One method that can be employed to help determine where to pre-mark the chalk lines and paint spots is to transfer a painting grid onto the site surface, using line labelling to keep track of locations. Care must be taken with this method as any underlying inaccuracies in the drawing may lead to a difference between the grid line locations and the actual site measurements. Errors are difficult to fix once surface products have been applied so professional installers take a lot of care regarding accuracy and legibility of the markings. Whatever measuring and marking method is used, it is important to wait until all marking is complete before adding permanent lines.

Non-professional installation is possible ranging from using wheeled striping devices to hand-painting the lines using masking tape and paint brushes. Such projects have been successfully completed in a number of communities using large groups of volunteers. This method of installations needs to be well-managed to prevent painting errors and ensure a professional appearance.

Installation of traffic playgrounds has some particular issues:

- Inaccuracies due to quality of the base information may lead to cumulative measuring errors
- Temporary pre-marking is more difficult because marks are closer together than professional installers usually work
- Closer together pre-marks are more difficult for the operator to read when walking behind or riding line installer equipment
- Line striping is made tricky because of short runs and proximity of striping lines
- The most difficult elements are curves, bends, radii and dense intersections
- Any deviation in double centerlines and narrow travel lanes will show up as wavy lanes.

Refer to **Appendix B** for an installation information toolbox covering measuring tools, striping devices, surface marking supplies and other useful tools for a traffic playground installation.

TRAFFIC PLAYGROUND SERVICES AND SUPPLIERS

There are only a handful of U.S. companies that specifically focus on serving traffic playgrounds with products developed to suit the needs and scale of such facilities. The businesses are all small and each of the companies offer a high degree of customization of their particular product. Beyond these specialty companies, many existing products targeted at other commercial markets are suitable for use in traffic playground applications. These include products and services intended for:

- Preschool playground sites
- Roadway traffic and construction safety sites
- Commercial parking lot contractors
- Roadway striping contractors
- Road safety educators

Table 6.13 Traffic Playground Products & Services lists suppliers for different aspects of installing and equipping a traffic playground.

ADDITIONAL CONSIDERATIONS

The following cost-saving ideas may assist the project:

- Simplify the layout and reduce the pavement markings to lower installation costs
- Select low-maintenance materials and equipment options
- Seek installation assistance from local agencies such as the department of public works or transportation department

- Seek donations of supplies such as surface marking materials and equipment
- Tap into local maker community for assistance creating signs and other features
- Create an event where community volunteers assist with the installation
- Seek donations and sponsorships from local service organizations

Refer to **Worksheet I: Traffic Playground Additional Questions Worksheet** for additional consideration in completing a traffic playground.

PART 4 – COMMUNITY ENGAGEMENT

WHAT IS COMMUNITY ENGAGEMENT?

Community engagement is about proactively including local people in the project, letting them know what's planned, soliciting and incorporating their input and then inviting them to share in the success. Community engagement works best where it is an ongoing intentional process that builds and strengthens relationships and trust over the course of the project development. Successful engagement finds creative ways for the full community to participate and for people to see themselves reflected in the plans and decisions that affect them.

Individual or group community engagement can happen at many different levels simultaneously, everything from keeping people informed as the project progresses to making them part of the core team that makes key decisions. Engagement takes many forms so that it can reach different corners of the community and include people of different backgrounds.

COMMUNITY ENGAGEMENT + TRAFFIC PLAYGROUNDS

At the start of the project, it is worth asking why **community engagement** is necessary to the project. A successful traffic playground takes more than a love of biking and whatever is installed must work well for participant and community needs. A winning traffic playground project has many elements, some designed, some operational, some creative. How these elements work together will be key to its successful use and community ideas and support are the magic glue. The plan for engagement should be fundamental to the project and valued as key to its development.

The project team should ensure that people across the community are consulted about the traffic playground for their neighborhood. They should be brought into the conversation early by providing them with information about the vision and goals and letting them know how they can help out. Questions to consider include:

- Who are the people from the community to reach?
- Who are you missing?
- What does successful engagement look like?
- How can the traffic playground project reflect the community?

STAKEHOLDERS

Who are potential traffic playground **stakeholders**? They can be generally defined as people, groups, organizations or businesses that have interest in the planned traffic playground or the well-being of the community. Stakeholders include the following:

- Local children
- Future facility users and family members
- Those interested in biking skills and road safety education
- Neighbors who may be impacted by the presence of a new facility
- Community-based groups or organizations
- Those in official public and private community roles
- Schools, educational groups, or other entities who work with children
- Those with an academic interest in transportation issues

Stakeholders can affect or be affected in many different ways and every community is made up of a range of stakeholder interests. Interests can range from wanting to have safe places for education and skills development to making sure that the facility itself works for the site and the location. Stakeholders may have multiple overlapping interests and should not have to explain or justify their reasons for being interested in the project. All should feel welcome to contribute.

Local community networks and organizations can help identify stakeholders and how best to engage with them. The overall goal is meaningful stakeholder participation in the decision-making process and it necessary to deploy a range of mechanisms and avenues to facilitate participation. Questions to consider in planning stakeholder engagement include:

- What impact will traffic playground will have on members of broader community?
- How can those who could use the facility contribute to shaping it?
- Who represents these community stakeholders?
- Are there existing local forms of communication or communication networks?
- What aspects of traffic playground could be enhanced through local knowledge?

BEING INCLUSIVE + EQUITY

Stakeholders from different backgrounds add perspective and ideas which will strengthen the project. By sticking to the 'usual suspects', the project will tend to focus on the dominant culture of a community, or a standardized program model. This leaves out important perspectives and does not readily lead to new ways of doing things. This is a loss to the community and another missed opportunity to expand horizons and build more inclusive projects and programming. Diversity of stakeholders also helps build relationships, understandings and appreciation for decisions. The end result will be a project with more people invested in the success as well as proud of the results of the hard work.

Unless a specific outreach effort is made, those who typically get involved in new community-based projects are generally not representative of the community at large, socially, demographically or gender-wise. Look for the organizations and people to work with who understand equity in the community. Refer to **Table 6.14 Potential Stakeholder Suggestion List** for a range of community ideas.

WHAT'S AT STAKE?

For community members, opportunities to submit feedback about what is proposed or planned really matters. Showing up and making constructive suggestions can influence what gets built and how it works for years to come. The traffic playground project can help the community to think creatively about new transportation issues and use of local space while also helping elevate issues that have been there all along.

Positive Factors	Negative Factors
Creates interest and local support	Lack of interest or opposition
Builds relationships	Criticism and bad relations
Creates amenity that serves local needs	Under-used or unloved facility

UNDERSTANDING COMMUNITY CONTEXT

A new project should build upon existing community efforts and expertise and recognize work that has taken place in the past. As well doing homework to understand the community better – or better yet, co-create the project with local leaders - it is good to become familiar with the land use background and local history.

It's important not to sweep in to the community with great new ideas without acknowledging past efforts or times community was left out or negatively impacted by a local project. While we are facing significant societal change, a new project is a chance to establish a new way or to recognize the community and how it has been shaped to date. Questions to consider in planning include:

- What is the socioeconomic and demographic data for the surrounding area?
- What are social challenges within the community?
- What is known about 20th century land use and housing history of the site and surrounding neighborhood?

PUTTING THE WORD OUT

Some people will hear about the traffic playground because they are already community insiders but it's even better to publicize plans to a wider group and build up excitement. Simple reasons that community members don't get involved in new projects are because they are unaware that something is happening and they haven't been invited to join in. It generally takes some legwork and on-going engagement to find people and get the word out. The good news is that we have many more communication tools to connect with people within the community.

Many people will be unfamiliar with a traffic playground looks like and how it is used so having a flyer or handout is most useful for jumpstarting the conversation. Photos showing other facilities in use are particularly useful in conveying the concept.

While social media platforms are useful ways to document and broadcast ongoing progress, these mediums don't serve all sectors of the community so they should not be the exclusive mechanisms of communication. Questions to consider in developing communications include:

- What communication channel do people in the community use?
- Who have large community communication networks?
- What newsletters have wide local reach?
- What other languages should be added to communications?
- How can a range of stakeholders be reached?

GOING TO THE COMMUNITY

Many community members can be found at places where they are already gathered such as church events, health fairs, local libraries, food distributions, back-to-school nights, school STEM or science fairs, local festivals and farmer markets. An easy way to let community members know what is planned is to have an information table with flyers and photos. Have free giveaways for those who stop by and signups for anyone who is interested in being kept informed. Let them know about future planned events and encourage them to invite others along.

Another way to engage other residents and partner groups is to plan or host a community event. Engagement often happens spontaneously when community members are having fun or walking or drawing. These types of events can also be much more appealing to those who may be willing to join a walking tour but would not be inclined to attend an evening meeting. By working with the church or library or school, it may be possible to put together more in-depth types of engagement and discussion. Refer to **Table 6.15 Traffic Playground Engagement Events** for sample events that can be set up so that community members can learn about the project and provide their input.

With creative partnering and co-hosting, the community activities and events can be a hub for active living, empowerment and joyful engagement. Refer to **Table 6.16 Teaming with Events and Organizations to Conduct Outreach** for a list of local outreach suggestions.

BARRIERS TO PARTICIPATION

When conducting engagement, ask who is missing? It is important to recognize the many potential barriers and create a process of engagement that minimizes those barriers or takes a different approach. When putting together engagement, it best to ask for assistance so as to use culturally appropriate ways of communicating the importance of their participation, and creating the conditions for accessible interactions. Many events are set up in a way that can be intimidating for the under-represented or marginalized public so when possible, the public face should look like the community being asked to engage.

When hosting meetings or events that reach past the traditional barriers, make sure that community members feel welcome and that their input is appropriately captured and acknowledged. If people are being invited to come along to an event to contribute their ideas then provisions should be made for childcare and supplying free transit passes. When holding an event or walking tour at the site, it may be more worthwhile for many if it also includes a free breakfast or a bike giveaway. For a design contest, students may need to be provided with crafting supplies and materials so that they can readily participate. **Table 6.17 Barriers Impacting Community Engagement** highlights hurdles to engagement.

CAPTURING IDEAS

Meet people where they are comfortable and allow for different forms of input. Have a plan to capture ideas whether it's through a note, a drawing comment, a model, or spoken suggestion. Suggestions and ideas can be captured visually by drawing or sketching on an aerial map, verbally by talking to a team member, or through models by manipulating pieces. When people are helping out on the project by providing thoughts, it is a real loss not to properly capture their

input or record it in a form where it can be used by the project team later. Have tape on hand to secure sticky notes to drawings at the end of the session and take photographs of work.

As well as collecting the ideas, make sure people receive feedback that their contribution is valuable, no matter the size or nature of input. Having free giveaway items to hand out when people make or submit and idea can be helpful and recognizes their action.

Listen carefully to any issues that others bring up and take the suggestion seriously, even when it's unexpected or off the wall. This is especially important when reaching past traditional community barriers. Recognize that many people are not comfortable expressing their opinions in front of others and that some people don't want others to see their input. Other people may not want to provide personal identifying information or to be put a position where that is required.

INCLUDING CHILDREN

Traffic playground projects are a great means of involving children in the civic process. Once explained, the traffic playground concept is readily understood by children and it is easy for them to get behind the idea of installing a new facility. They are creative thinkers so they will have plenty of ideas for the project. Because time between project planning and installation is short relative to other types of physical projects, it is also a great type of project for them to be involved in as they get to see the final results soon afterwards. They can go from providing input to being invited to the ribbon cutting celebration to seeing other children using the facility in what is record time compared to most other things that we build. They also get the empowering experience of having their ideas about something new in the community valued and listened to by adults. There are great opportunities to include children from backgrounds that may be traditionally overlooked or excluded. They get to experience engaging in the process for creating community change and learn about the different roles that they could play in their future adult life.

The traffic playground layout concepts are better demonstrated to children via models and drawings as many understand when they see and touch things. Children are used to hands-on crafting and manipulating models so these are excellent methods for communicating what is planned and asking children how they would do it. **Table 6.18 Involving Children in Engagement Activities** lists tips for involving children in activities or events. **Appendix C** includes sample materials from past engagement events.

Similar to ideas from any community member, it is important to capture and value children's assistance. Kid's ideas can be presented to the project team for inspiration or for incorporation into the layout. Where possible, the children should receive recognition for their participation and when any of their ideas used in the final layout.

City staff review 3rd grade student layout ideas to come up with final layout for Cora Kelly STEM Elementary School traffic playground

CONNECTING WITH THE MEDIA

Local media can play a valuable role in letting community know about the project and what is happening. However, it is an active process that includes educating them about the project, explaining how traffic playgrounds work and providing them with story ideas. To prepare for working with media:

- Write up background information and press releases
- Develop interesting local stories related to the project
- Have photos and renderings on hand
- Ensure local people are included in the stories

COMMUNITY ENGAGEMENT ORGANIZING

There are practical aspects to organizing any community engagement event and it is always important everything goes well on the day. Even better if the event is a hit and the project gains lots of valuable input and new support. Planning for an event involves legwork beforehand to secure the venue or space, organizing the people involved, planning out details of the

engagement aspects and then ensuring the day goes to plan. Once the event has passed, follow up with any newly interested people. Refer to **Worksheet J: Community Engagement Event Checklist.**

Volunteers who are willing to donate their time and help out with the project are invaluable to helping organize and run community engagement events. They are also key to getting projects accomplished on a low budget. Having willing volunteers on hand allows the project team to take on more ambitious community engagement and outreach. Even helping out with the smallest tasks can make a real difference to the progress on the project. **Table 6.19: Aspects of Volunteer Assistance** covers organizing and utilizing volunteer assistance.

A key part of deepening engagement in the community is maintaining and growing the relationships. One way to do this is through recognition and appreciation. This can be in small ways such as thank you messages and news updates or in bigger ways such as inviting volunteers and stakeholders to ribbon-cutting events or launches. It's always important to pause and celebrate so that the effort to accomplish the project can be communally recognized. Refer to **Table 6.20 Ways to Celebrate Traffic Playground** for suggestions.

Neval Thomas Elementary School Traffic Garden ribbon cutting

COMMUNITY ENGAGEMENT PROFILES

As there have been relatively few traffic playgrounds installed to date, there are not very many specific examples of traffic playground-specific community engagement. However, similar street-based improvement projects have direct applicability to traffic playground projects. Seven projects that have been selected for a closer look at elements of the associated community engagement include a mix of traffic playground and street-based improvement projects. Some

involve children directly in giving layout input while others engage the wider community in such processes as voting on options or submitting ideas on how work should be completed. The examples selected are:

- Case Example 1: Reed Placemaking, Portland, Oregon
- Case Example 2: Cora Kelly Elementary School Traffic Garden, Alexandria, Virginia
- Case Example 3: Little Street Traffic Safety Pop-Up Installation, Los Angeles, California
- Case Example 4: Margaret Brent Elementary/Middle School Crosswalk, Baltimore, Maryland
- Case Example 5: Mt. Jefferson Park Traffic Garden, Alexandria, Virginia
- Case Example 6: Aiton and Thomas Elementary School Traffic Gardens, District of Columbia
- Case Example 7: Orfus Road Improvement Project Phase 3, Toronto, Canada

Refer to **Appendix D** for a summary of each project. In each case, the engagement described is an element of a much larger effort that resulted in a successful community project. These examples are intended to spark ideas about creative ways to set up events for a traffic playground project.

COMMUNITY ENGAGEMENT RECOMMENDATIONS

Engaging a broad and diverse range of representatives of the local community in the traffic playground project will lead to a better project and deeper support for its use. The success is not painting of the lines on the hard surface but all the thinking and relationships that go into shaping them. Most especially, including local young people from all backgrounds is a lesson for life about how we shape our community. Traffic playground projects, by their scale and nature, nurture the best of community engagement. The benefits of the work in making sure that the engagement process is broad and inclusive will live on through the years of use of the traffic playground. There are many excellent guides to assist further with community engagement and **Table 6.21 Community Engagement Guides and Online Resources** lists some available documents.


DIY Traffic Garden

PART 5 – PROGRAMMATIC PRACTICES

TRAFFIC PLAYGROUND PROGRAMMING

A traffic playground provides a home for walking and biking related programs. The unique nature of a traffic playground facilitates lessons, activities and events that are planned and designed around the streets and traffic features. The traffic playground facility itself changes the relationship to walking and biking programming as it is a space that is clearly dedicated to these topics. Being in a miniature world heightens the experience and ensures that programs are more memorable. Having a permanent base for these programs also works to institutionalize them within the community and increase their visibility. Anecdotal reports from adults who attended such facilities when they were young can be found extensively online and they report 'fond memories' and have extensive recall of the experience[3][4][5]. This memory imprinting appears to relate directly to attending programs in a miniature world where participants get around independently while having fun. It is likely that the comfort of having a vehicle-free

[3] 'Generations of Children Recall Safety Town Fondly', The Herald-Dispatch, 3.26.17

[4] 'Hamilton's Safety Town Program Teaches Children Valuable Lessons', NJ.com, 3.13.19

[5] 'Napier Safety Town goes virtual', Chicago Tribune, 12.27.15

environment contributes to the positive memory making also. These positive experiences create an opportunity for programming that will engage and make a significant impression on participants.

The addition of a traffic playground is an opportunity to create brand-new programming or to become a new home or partner for existing programming. Having a permanent place for effective programs contributes towards the traffic playground 'reason for being'. Putting together new programs will involve many behind-the scenes steps including partnering, planning, training, management, flexibility and creativity. Program design and the execution are fundamental to building a strong traffic playground learning experience. There is no set way that such programs must look but they should provide positive and worthwhile experience for participants, their families and those delivering the program. The traffic playground layout itself has flexibility and can be assembled to address the specifics of the program needs.

The Metro region is already home to many best practice walking and biking programs and plans. These programs are delivered through a range of different organizations and partnerships including SRTS, physical education (PE), school health, and after school activities. These programs are typically hosted in local school gyms, auditoriums and playgrounds but there are also numerous community partnership events held at other venues including parking lots and on public streets. Refer to **Table 6.22 Roadway Safety and Bike Education Programs in Region** for a listing of local programs.

The establishment of new traffic playgrounds in the community is an opportunity to match and link these existing programs with new traffic playgrounds around the region. With the new permanence of having programs at a physical facility, a framework can be put in place that aims to ensure much higher rates of providing programming to particular communities or cohorts of children.

Programs work best where they are part of an ongoing intentional process that builds and strengthens relationships and trust over the life of the operation. Successful programs find creative ways for the full community to participate and for people to see themselves reflected in the programming. The well-planned traffic playground program should provide the conditions for positive learning experiences and take into account:

- Ages and ability levels
- Missions and goals
- Community needs
- Community wishes
- Available resources

A traffic playground project has many elements, some designed, some programmatic, some creative. How these elements work together will be key to its successful use and integration into the walking and biking programmatic framework. At the start of the any traffic playground

project, it is necessary to plan for the future programs and whatever is installed must work well for community needs and participants. The programs should be fundamental to the traffic playground project itself. Programming may need some modification over time as the community responds to the operation and resources. Traffic playgrounds have in-built flexibly that make it possible to readily alter programming. Questions to consider early in the project include:

- Who should the programs reach?
- How do you determine what programs are needed?
- What does successful programming look like?
- What would best practices look like?
- How would programs be measured and their impact assessed?
- How can the traffic playground programming reflect the community?
- How can programs meet children's daily activity requirements?

EXAMPLES FROM TRAFFIC PLAYGROUNDS ELSEWHERE

While there are long-running traffic playgrounds in various communities, there is little information compiled about their companion programming. The programming offered varies considerably with curriculum and lessons not standardized nor widely published. The nature of the programming seems to be locally developed and largely based on how the traffic playground is operated, and staffed.

Some playground-type facilities with regular programming around the U.S. are operated as 'safety towns'. Typically, safety towns have developed lessons around the facility layout and deliver this to local students through school field trips or summer camps program. Scheduling for participants varies widely but in general, most serve younger students, often rising kindergarteners. Many summer camp programs are set up in association with these 'safety towns' and they serve local students on a first come, first serve basis and may charge a fee. Many of the school-year field trip programs are open to all the teachers in the district, also usually on a first come, first serve basis. Portland Safety Town in the City of Portland, Virginia is one of a handful of facilities that serves all the students in the school district and that has a graduated program where students receive lessons at three different stages in their school career. Safety City Baltimore is another facility that serves large numbers of students in the city and supplements field visits with roadway safety school assemblies and an annual 'Safety City Day'. Facilities that are based at a school property such as the Oceano Bicycle Track in California and the traffic gardens in District of Columbia schools each make use the traffic playgrounds as part of school PE units. This ensures that all students are including in the programming and that a new full cohort of students receives the instruction each year.

WHAT COULD NEW TRAFFIC PLAYGROUND PROGRAMMING LOOK LIKE?

Traffic playgrounds are a new local tool that can help meet and enhance the goals of existing programs. Having a permanently set-up layout eases the burden on those setting up programs and may allow them to increase how much programming they can provide. The streets and layout act both as a great experiential learning tool but also serve to organize and manage the students also.

The facility itself provides a base for a potentially broad range of programming that engages and focuses on all aspects of using the roadway. Programming can be skills and practice based or involve lessons and challenges. Such potential programming includes healthy activity, bike and roadway safety education, active transportation encouragement and independent travel.

Lessons and curriculum programming can be developed for the following topics:

- Biking instruction and skills development
- Walking and biking roadway safety education
- Daily physical activity encouragement and health benefits
- Community walking and biking encouragement and awareness
- Outdoor STEM including map reading and measuring
- Independent active travel
- Personal security skills
- Other life lessons including:
    - How to report bullying/harassment
    - How to interact with strangers/adults while using active transportation

Such programming can be tailored for different ages and skills levels. For younger students, the focus can be fun and games while learning and practicing skills and learning vocabulary and basic street operations (e.g. stop vs. yield). For older students, allowing choice in the program structure and giving them creative roles makes room for them to use judgment and develop awareness. Refer to **Table 6.23 Traffic Playground Programs Around U.S**. for examples of established programs.

The traffic playground adds activities and programming in different ways including:

- Color blocks on the layout assist instructors as they create defined and readily identifiable spaces for program participants to gather (e.g. ‘Team A wait at the purple circle’)
- Street network options (e.g. roundabouts, lengthy routes, etc.) add choices and can be used to allow students some independence during lessons

- Features can be added or tailored for a particular program through the use of temporary signs and by chalking or taping on the surface
- The memorable aspects of learning in a small world and the ability to add fun elements such as traffic playground membership cards can be used to enhance engagement
- The family-friendly space makes it especially suitable for holding community events

Refer to **Table 6.24 Traffic Playground Potential Programs and Activities Ideas.**

MEETING & ENHANCING LOCAL GOALS THROUGH TRAFFIC PLAYGROUNDS

Local programming goals can only be achieved through coordinated and focused efforts by both local agencies and community partners. With the addition of traffic playgrounds to school grounds, adding educational or skills goal for all students in a district becomes more feasible. What could sample traffic playground policy with program elements look like for a school district?

Traffic Playground School District Information	**Sample Policy Element**
Cohorts of Students	School district or school policy requires all kindergarten, 2nd grade and 5th grade students to receive traffic safety education at a local traffic playground annually.
Instruction Amount	Elementary school schedule shows traffic playground instruction periods totaling 100 minutes/year for all grades.
Physical Education Integration	School district policy specifies annual instruction time requirements for traffic playground physical education by grade.
Goal for Participation	By 2030, all elementary school students within the district will receive experiential walking and biking education at a traffic playground facility.

Such policy goals could be developed by working with the school system and region-wide community partners to integrate into the instructional programs. Having a policy that specifies and prioritizes student traffic playground learning would elevate the need for funding to create curriculum and sustainable programs. Policy could be aligned with and support other policy goals including those relate to health, physical activity, climate action, active transportation and SRTS. Such new policy can be framed as a critical piece of road safety and active transportation, especially for those who have been disadvantaged or impacted by lack of investment and past community planning impacts.

TRAFFIC PLAYGROUND MEASURING AND REPORTING

It important to have an understanding of the impact of the traffic playground and to track the effort and value over time. This allows those involved to assess progress and helps them understand better how to adjust and evolve the programming. With the potential for many future traffic playgrounds and associated programs, the groundwork will also be put in place for demonstrating the value to the community. The principal aspects of any program include data, evaluation, reporting, standardization and benchmarking.

Data collection	This is fundamental to helping form an understanding of what is taking place.
Evaluation	Examining and interpreting the collected information is part of determining impacts and effectiveness.
Reporting	Documenting the facility operation allows agencies and the public to follow progress and understand impacts.
Standardization	Having consistent information and collection methods enables broader regional reporting and more complex understanding of impacts.
Benchmarking	Tracking values and performance metrics enables progress towards goals.

Information collection is an ongoing process that should take place throughout the life of the traffic playground. Information can be captured descriptively or measured:

- Qualitative data captures what can be observed but not measured
- Quantitative data is information about quantities and numbers.

Examples of ways of measuring the traffic playground include pre- and post-skills assessment reports by PE teachers or counts of participants receiving lessons or attendance at community events. Other means of generating data is by conducting in-person or online surveys, volunteers conducting counts and observations and participation in reward programs. Data can be also collected by surveying caregiver's perception of safety before and after instruction, or people's likeliness to return. While there may be limited resources initially to add measuring and reporting, even low-cost qualitative methods in place from the start provide information that can be built upon. Other valuable means of gathering data could be through research partnerships with local universities. Refer to **Table 6.25 Traffic Playground Measuring and Reporting** for further suggestions on information collection.

By having a specified time period and creating some metrics and performance measures to record the facility use and success, the data will provide valuable information and insights into the value of the effort. By further standardizing the information and methods of reporting, the information can be examined and compared year over year. Standardization and collecting similar data from traffic playgrounds around the region will also allow comparisons with other facilities. It further adds the potential for learning lessons from different operations or testing different programming methods. It will also help in identifying where populations remain underserved or communities that may warrant additional programming.

Benchmark reports are a valuable way to report on the collected information, data and analysis as well as show photos of the facility in use. Such reports can be annual or biannual and assist in maintaining funding support and in ensuring that the community remains aware of the important programming work taking place.

The pop-up traffic garden at the Child Development Center on Mason's Fairfax Campus was a dry run for Mason research that will begin in late August at two Washington, D.C., public elementary schools. Photo by Evan Cantwell.

George Mason University researchers testing wearable microphones on students to record their responses and reactions while using the traffic garden

RECOMMENDATIONS FOR NEW TRAFFIC PLAYGROUND PROGRAMMING

Across the region, SRTS coordinators, physical education teachers, school district officials, transportation department staff and service organizations are already providing a broad range of roadway skills practice and safety education programs for people of different ages and skill levels. Traffic playground facilities can become a means of further linking and leveraging the programmatic structure that is already in place around the region. Programs providers will need support in various ways to build on this framework.

To realize the traffic playground potential, it is recommended to focus on the following eight program-related categories.

Partnerships	Partner with organizations providing wide-ranging services to children, youth and families as well as with schools to meet instructional goals
Equity and Inclusion	Actively work to ensure students of color and students with disabilities are prioritized in the development of traffic playground programming
Physical Education and Activity	Integrate use of facilities with school PE units, physical activity opportunities and everyday activities
Roadway Safety Education	Create consistent information and collection methods enabling broader regional reporting and more complex understanding of impacts
Training and Information	Provide centralized information as well as training and guidance for program educators and partners
Data and Reporting	Put data and reporting program in place and tie it to new policy and benchmarking
Funding	Dedicate and qualify local, regional and state funding for traffic playground programming
Facility	Ensure facilities are open, available and welcoming for range of uses and users

Refer to **Table 6.26 General Recommendations for Traffic Playground Programming** for specific suggestions for each category. Most importantly, inclusion of underserved populations needs to be baked into the fundamentals of engagement through active and intentional efforts that ensure that all families and communities are able to participate and benefit fully from new traffic playground programming. Traffic playgrounds create a place for forming new partnerships and breathing additional life into programing for the community.

Preschool educator instructs student after in-class lesson at Maude Aiton Elementary School Traffic Garden, D.C.

PART 6 - TABLES + FIGURES

TABLE 6.1 TRAFFIC PLAYGROUND CATEGORIES BY DESIGN AND OPERATIONAL TYPE

Traffic playgrounds differ in several fundamental ways based on how they are constructed and operated. The following table classifies typical facilities based on these differences.

Facility Type	Typical Set-Up	Typical Elements + Operation
Type 1: Traffic Playground Court School-based sites are usually of this type. Most recently-installed Parks and Recreation sites are of this type	• Permanent surface-applied pavement markings that create set of street outlines on hard surface in outdoor space • Street outlines and markings created with products ranging from latex paint to thermoplastic materials • May be designed and scaled for use by children or adults • Typically located on school property or park site • Cost to install is low to moderate	• May include the following: street network with intersections * roundabouts * street pavement markings * • Traffic signs (permanent, portable or surface-applied) • May feature small-scale buildings, building outlines or building fronts • Available for use in conjunction with educational programs or active play • Users may provide own pedal devices • May act as dedicated educational facility or double as a playground
Type 2: Traffic Playground Park Older sites and those run by police organizations are more commonly of this type	• Small-scale physical streets constructed in dedicated outdoor space • Paved streets proportioned for use for children riding bikes, scooters, pedal cars • May be embedded within larger park or be freestanding • Facility may be staffed and involve scheduled programming • Provision of riding equipment varies • Usually designed for use by children • Cost to install is high	• Reduced-scale paved streets with lane markings and pedestrian crossings • May feature concrete curbs and storm drainage facilities • Streets are networked with multiple intersections • May feature roundabouts and multiple lanes • Traffic signs (permanent or portable) • May include the following: sidewalks * operating signals * miniature buildings * rail crossings * on-site classrooms * storage * *Usually no fee to use although schools may incur costs transporting student groups*

Facility Type	Typical Set-Up	Typical Elements + Operation
Type 3: Temporary Traffic Playgrounds These may be on school-based or Parks and Recreation sites. Also found in parking lots and closed streets.	• Temporary set of street outlines on hard surface • May involve a portable kit or temporary installation using removable materials • May be located on broad range of sites including school, park, parking lot or closed-off street • May be indoors or outdoors as part of a program or community event • The life of the installation varies from hours to a few months • Sized and designed based on program and available space • Cost to install is low	• Temporary street network with intersections, pedestrian crossings, and traffic features • Multiple methods to create street outlines including: (1) multi-colored floor mat; or (2) using chalk/paint/tapes/stencils • Portable signs (standalone or hand-held) • May feature portable buildings • May supply pedal devices • May have trailer to store and transport
Miscellaneous Types: Various Other Traffic Playgrounds	• Safety Towns or Safety Village including non-traffic safety programming • Permanent outdoor traffic playground in commercial theme park • Intended as fun traffic-themed attraction for active play • Cost to install is usually high	• May be built as a children's safety educational hub or as children's play amenity • Usually includes a street network, signs, signals, crossings and riding equipment • May feature commercial or TV characters and added fun elements such as personalized licenses (e.g. Legoland) • May involve fee to use

TABLE 6.2 TRAFFIC PLAYGROUND DIFFERENCES BASED ON AVAILABLE BUDGET

The following table highlights the principle differences between common types of traffic playground installations and projects based on available funds.

Traffic Playground Type	Low Budget $$-$$$	Medium Budget $$$-$$$$	High Budget $$$$$
Type 1	**Traffic Playground Court**		
Site	Redeploy existing small asphalt or concrete pad or parking lot.	Redeploy existing asphalt or concrete pad or parking lot.	Grade greenfield site and construct new asphalt or concrete pad for site.
Installation	• Clean and make minor repairs • Cover existing pavement markings • Add street lines and traffic features to surface • Use low cost traffic signs • Use available amenities and existing access	• Clean and repair cracks and drainage • Sealcoat or resurface • Add street lines and traffic markings to improved surface • Add traffic signs and amenities • Improve access if necessary	• Add complex street line geometry and traffic marking details to new pad • Install permanent traffic signs. • Add amenities • Add new access and connections

Traffic Playground Type	Low Budget $$-$$$	Medium Budget $$$-$$$$	High Budget $$$$$
Type 2	**Traffic Playground Park**		
Site		Redeploy existing connected trails to traffic playground use.	Identify, acquire and grade a greenfield site. Take through design and approval process.
Installation		• Redesign existing connected trails and transform into miniature streets by adding street lines and pavement markings. • Install permanent traffic signs.	• Construct new asphalt street network and any associated curb and drainage facilities. • Add street lines and pavement markings. • Install permanent traffic signs. • Add new amenities, access, and connections.

TABLE 6.3 TRAFFIC PLAYGROUND PLANNING AND INSTALLATION

There are many ways to conduct projects depending on the size of the available budget.

Project Phase	Low Budget $$$-$$$$	Medium Budget $$$$-$$$$$	High Budget $$$$$$
Task 1	**Managing the Project**		
	• Project can be conducted by local volunteers willing to spend time and share skills	• Project can be conducted though mix of volunteers sharing time and skills plus hired assistance	• Project conducted by hiring professional practitioner • Volunteer team as client or assisting agency to conduct project
Pros & Cons	• Possible learning curve • May take longer to accomplish • May lead to stronger community relationships • Risk of key volunteers leaving mid-project	• Reduced reliance on volunteers • May reduce timeline to completion • Reduce design/installation issues and project errors	• Benefit from professional knowledge and methods • May take longer to get project off ground initially but likely faster work process • Further reduce design and installation issues

Project Phase	Low Budget $$$-$$$$	Medium Budget $$$$-$$$$$	High Budget $$$$$$
Task 2	**Drawings and Instructions**		
	• Recruit volunteer team member with graphic design skills • Use Google Earth (or similar) for aerial view of site • Use InDesign or Illustrator or AutoCAD to prepare the layout drawing on site aerial	• Hire professional assistance for preparation of design and installation package • Use Google Earth (or similar) for aerial view of site and AutoCAD for layout drawings. Alternatively, prepare layouts using InDesign or Illustrator	• Hire professional assistance for preparation of design and installation package. • May use Google Earth aerial for site or conduct topographical survey to capture more accurate information • Prepare site layouts and design package using AutoCAD • Firm may conduct other civil design services if needed (e.g. ground testing, drainage improvements) • Prepare contractor solicitation package
Pros & Cons	• Relies on recruiting volunteers with design skills • Need extra care to avoid installation errors caused by quality of aerial and design information • Learning curve for volunteers	• Better quality information and techniques • More ambitious design and layout possibilities • Better installation instructions leading to fewer field issues	• Higher budget allows for more design options and increased design accuracy • Better installation instructions leading to fewer field issues

Project Phase	Low Budget $$$-$$$$	Medium Budget $$$$-$$$$$	High Budget $$$$$$
Task 3	**Installation**		
	• Installation accomplished by crew of volunteers using low cost materials and basic equipment	• Installation accomplished through mix of volunteers and contracted assistance or agency donations using professional grade materials and equipment	• Hire traffic striping/parking lot striping/sports contractor for full installation • Use professional grade materials • Use professional firm to direct and supervise installation work.
Pros & Cons	• Creates community bonding experience • Can lead to errors due to inexperience and inaccuracies • Less professional site appearance and less durable finish	• Use of professional grade equipment and materials leads to better appearance and longer lasting site • Team accomplishment builds relationships • Success can lead to follow-up community projects	• Professional grade equipment and supplies improves finished appearance • Faster installation and longer lasting site • Professional advice from contractor regarding aspects of layout and installation

TABLE 6.4 ASPECTS OF SITE SELECTION

Selection Criteria	Positive Factors	Negative Factors
Access	Good walking and biking sidewalk and trail connectivity	Poor pedestrian, bike and wheelchair connectivity
Ownership	Part of existing community/public facility	Problematic permission to use or unclear ownership
Location	Natural center of neighborhood walking/biking area	Far-flung corner of community distant from population centers
Safety	Slow-speed comfortable street with safe crossings	High speed roadway with busy crossing(s) to access site
Community	Lower-income neighborhood with many young people	Already well-served high-income neighborhood
Site	Mostly flat surface, clear of fixed objects and structures	Overly steep surface/steep drop-offs with hard-edged fixed objects
Surface	Reasonable to excellent asphalt or concrete surface quality (some cracking is okay)	Severely cracked or potholed asphalt/concrete (unless funds available to repair/replace)

TABLE 6.5 STREET NETWORK ELEMENT CRITERIA AND INFORMATION

Ranges can be adjusted up or down based on the site geometry and application.

Street Description	Criteria	Striping and Marking Information
Two-way, Two-lane Street	• Street = 6’ - 10’ wide • Striping lines= 2” - 4” wide • Corner radii = 3’ - 6’ • Street width and radii are typical but varies based on site	• Space between parallel yellow centerlines needs to remain consistent along length (otherwise it impacts appearance) • For dashed line striping, a useful rule of thumb is to keep the space between the painted segment double the length of the line so that dashes don’t appear too close together
One-way one-lane street	• Street = 4’ - 6’ wide • 8’ width in some locations • Striping lines = 2” - 4” wide • Corner radii = 3’ - 6’ • Street width and radii are typical but varies based on site	• Install arrows in the middle of the lane to show direction of travel
Two-way three-lane street	• Street = 10’-18’ wide • Striping lines = 2” - 4” wide • Corner radii = 3’ - 6’ • Street width and radii are typical but varies based on site	• Yellow centerline striping separates travel directions while white line striping separates the travel lanes • Arrows show the direction of travel in each lane • Third lane may match entire length of street segment or act as a left-turn or right-turn lane at intersection
Other lane configurations	• Street = based on number and width of additional lanes • Lines between lanes = 2” - 4” wide • increased sizing based on wider street	• Striping and marking follows the same conventions • Additional arrows may be needed to ensure clarity for direction of travel in each lane • Care needs to be taken at transitions and merge points to ensure that configuration is legible

TABLE 6.6 TRAFFIC PLAYGROUND INTERSECTION CONTROLS

Traffic playground intersections operate in four primary ways: STOP, Yield, traffic signal or no control.

Element	Stop	Yield	Traffic Signal	None
4-way intersection	**X**	**X**	**X**	**X**
3-way intersection	**X**	**X**	**X**	**X**
Roundabout		**X**		**X**
Railroad Crossing	**X**			**X**
Mid-block Trail Crossing	**X**	**X**		**X**

X = *type of operational control*

TABLE 6.7 SIGNS AND SIGNALS CRITERIA AND CONSIDERATIONS

Sizing can be selected based on street widths and age range of facility users as well as the site application.

Definitions:

- Sign head = face of the sign itself
- Sign post = vertical element supporting the sign head
- Sign base = weight attached to base of portable sign post

Traffic Sign Element	Criteria	Performance Considerations
In-ground installed signs	• Sign head = 12” - 16” wide • Sign post = 36” - 48” high • Use standard design, style and colors for sign head • Consider full-height sign heads and posts where adults learners also use site	• May need professional installation so that signs are anchored appropriately • Consider safety aspect when signs are fixed • Eliminates flexibility in moving signs around site
Portable signs and signals	• Sign head = 8” - 12” wide • Sign post = 24” - 48” high • Sign base = 15 - 25 pounds • Use standard design, style and colors for sign head	• Many commercial product choices available at range of price points and quality • Sign may fall over if insufficiently weighted • Heavier bases can be difficult to move around • May need on-site storage and handcart if portable signs cannot be left on street layout at all times • On-site storage creates need for arranging access and coordination
Surface-applied signs (painted or stenciled)	• Size to fit available space next to roadway • Use stencils that follow standard sign head format • Use standard design, style and colors when representing signs	• Signs can be stenciled on surface during striping installation • STOP and YIELD sign stencils can be custom-made as reduced-size versions of standard roadway signs • Ensure that stenciled sign does not conflict with pedestrian crossings

Traffic Sign Element	Criteria	Performance Considerations
		• Surface-applied signs eliminate safety or security issues • Surface-applied signs may be harder to see and follow • Less of a 'real-world' lesson
Combination of portable and surface-applied signs	• See above criteria	• May make it possible to have signs for public during off hours while portable signs are stored • On-site storage creates the need for arranging access and coordination • Creates a hybrid appearance
Homemade, handmade or handheld signs	• Size and materials vary • Follow standard design, style and colors when representing signs	• Can be readily created using available tools and materials or purchased at low cost • Not as effective during use • Creates need for storage and coordination • Usually less durable
In-ground installed signals	• Scaled-down traffic signal	• Reduced-size permanently installed signals • Possible safety issue as signals are fixed rigid and metal objects • Operating signals require power or battery packs

TABLE 6.8 TRAFFIC PLAYGROUND STREET CROSSINGS

These ranges can be adjusted up or down based on the site geometry and application.

Crossing Element	Criteria	Markings
Pedestrian crosswalk	• Crosswalk ladder markings should fit symmetrically and evenly within street width • Line up with sidewalks and curb ramps • Start with a space on both ends of crosswalk ladder markings • Easy rule of thumb is for crosswalk bar width to equal the space between bars	• Use solid white surface markings to represent crosswalk • Most popular crosswalk type is ladder style
ADA curb ramps	• Size to match corner radius • Line up with sidewalks and crosswalk markings	• Use rectangle of contrasting paint on corner radius of street edge striping line to represent ADA curb ramp • Red or bright yellow painted rectangle
Railroad tracks	• Railroad track sizing is a function of the road width and the angle of the railroad crossing • The R x R symbol is added to middle of lane on the crossing approach in both directions • A general rule of thumb is to make the railroad 'sleeper' bars narrower and longer than the painted crosswalk stripes	• Use solid white surface markings to represent railroad track • Railroad crossing created using a set of parallel wider white bars ('sleepers') crossed by parallel set of narrower white lines ('tracks') • Adding track at an acute angle across the streets enhances the railroad track 'look' • Unless true accuracy is desired, it is not necessary to include the horizontal white crossbar lines within the limited space
On-road markings (words)	• Sizing is flexible • To fit 3' - 5' lane width: - STOP letter height = 6" - Total width of 'STOP' = 21" - Yield letter height = 6"	• Markings are white • Generally, 'STOP' or 'Yield' words are added to surface using standard scaled-down roadway stencils

Crossing Element	Criteria	Markings
	- Total width of word 'Yield' = 24"	• 'STOP' or 'Yield' are set back from either a stop bar or yield line (see below)
Stop bar	• Length of stop bar = width of the travel lane(s) in the direction of travel • Width of stop bar (varies) = narrower than crosswalk bar width • Markings are white	• Marking = solid white bar • Wide solid white stop bar is shown in advance of crosswalks or next to stop signs • Bar should cover full width of the lane in the direction of travel only
Yield line (shark's teeth)	• Width of row of triangles = width of travel lane(s) in the direction of travel • Triangle height is 1.5 times the base dimension • Spacing of triangles varies (3" - 6")	• Markings are solid white • Row of triangles on an approach lets bicyclists know they need to yield to other travel lane • Typically applied on lane entering a roundabout • May also be used on approaches to mid-block trail or pedestrian crossings.

TABLE 6.9 TRAFFIC PLAYGROUND PAVEMENT MARKINGS

Sizes can be selected based on the site geometry and application and budget.

Pavement Marking Element	Criteria	Markings
Straight arrows	• Size proportionately to street width (15" tall works for 3' – 4' wide lane)	• Solid white markings • Use stencils • Locate centrally in lane
Curved arrows (for bends)	• Arrows = white • Size proportionately to street width	• Solid white markings • Use stencils • Locate centrally in lane
Roundabout arrows	• Arrows = white • Size proportionately to street width and lane radius	• Solid white markings • Use a simple curved design that follows the arc and direction of the roundabout • Locate centrally in lane
Bike lane symbol	• Use standard bike lane symbol • Size proportionately to street or lane width	• Solid white marking • Use stencils • Bicycle symbol is marked in the center of the street or bicycle lane • There are several standard versions of the bike lane symbol in the that can be scaled down
Parking spaces	• Lines = 2" - 4" wide • Spaces should be sized to accommodate bicycles	• Use white striping markings • Parking spaces can be shown in different ways and configurations depending on site and programming

TABLE 6.10 TRAFFIC PLAYGROUND SIDEWALKS

Sizing can be selected based on the site geometry, available space and application.

Sidewalk Element	Criteria	Denoting Sidewalks
Sidewalk Style 1 Created by adding striping line parallel to street edge striping line	• Sidewalk = 2’ -3’ wide (typical) • Striping line color = white or gray • Striping line = 2” – 4” wide	• Due to scale, space next to streets can be limited and constrained • Examine geometry closely to ensure adequate space for a sidewalk and logical crossing points • When using parallel striping to denote sidewalk close to the street edge, the striping itself can become confusing to users because of narrowness of streets and proliferation of lines • It can be hard to keep multiple striping lines straight and parallel over longer streets
Sidewalk Style 2 Created through combination of white line parallel to edge striping line plus adjacent green contrasting background	• Sidewalk = 2’ - 3’ wide (typical) • Entire width of sidewalk is painted gray	• Due to scale, space next to streets can be limited and constrained • Examine geometry closely to ensure adequate space for a sidewalk and logical crossing points • Added element of contrasting color makes sidewalk element more legible
Sidewalk Styles 3 + 4 Created through use of wide gray-color contrast paint for entire width on asphalt plus contrasting green background	• Sidewalk = 2’ - 3’ wide (typical) • Entire width of sidewalk is painted gray	• Sidewalk is created through application of a wide stripe of gray paint • This method eliminates the need to add more striping lines at the edges and creates a better appearance. • There is more flexibility in locating this wide stripe in relation to street edge • Examine geometry closely to ensure adequate space for sidewalk and logical crossing points • Sidewalk Style 4 is similar to Sidewalk Style 3 except white band on concrete background
Pedestrian figure symbol	• Pedestrian figure symbol = generally white	• Symbol generally used is from pedestrian signal head (scaled up) • Locate centrally on sidewalk • Although not generally used in public street applications, this symbol works well in traffic playground applications as it helps communicate which area is designated as sidewalk.

TABLE 6.11 TRAFFIC PLAYGROUND COURT STYLE EXAMPLES

The following table provides details on traffic playground courts shown in **Figures 6.3, 6.4**, and **6.5**.

Traffic Garden Court	Site Address	Siting Location or Previous Use
Style 1: Rectangular Court Layouts		
1. Westlake Safety Town, Ohio	27300 Hilliard Boulevard Westlake, OH 44145	Located in front of police station, next to parking area and other facilities.
2. MAK Town Safety Village, Ohio	Dayton Life Enrichment Center 425 N Findlay St, Dayton, OH 45404	Located behind community center, next to bike hub
3. Oceano Bicycle Playground, California	Oceano Elementary School 1551 17th Street Oceano, CA 93445	Part of elementary school playground
Style 2: Flexible Shape Court Layouts		
4. Warminster Safety Town, Pennsylvania	Warminster Community Park 300 Veterans Way Warminster, PA 18974	Located within a park next to playground on a repurposed airplane landing strip
5. Charlotte Bike Playground, North Carolina	Arbor Glen Outreach Center 1520 Clanton Road Charlotte, NC 28208	Located on pavement surrounding basketball courts next to recreation center

6. Lents Park Traffic Playground, Portland OR	Lents Park 4808 SE 92nd Avenue Portland, OR 97266	Located in a parking lot of a recreational park.
Style 3: Road Safety Skills Court Layouts		
6. Alexandria Bike Campus, Virginia	Jones Point Park Jones Point Drive Alexandria, VA 23242	Located on unused asphalt pavement under interstate bridge (used for firework event parking 1-2 times/year)
7. Fort Collins Walk and Wheel Skills Hub, Colorado	1601 W Drake Rd, Fort Collins, CO 80526	Located on overflow church parking lot directly next to trail network
8. Montbello Bicycle Course, Colorado	Montbello Recreation Center 5555 E 53rd Ave, Denver, CO 80239	Located behind recreation center in area that was used for occasional food truck parking/event

TABLE 6.12 SURFACE-APPLICATION PRODUCTS

Surface products purchased from local hardware stores or traffic supply stores have a range of features and attributes related to their application and use.

Surface-Applied Product Choices	Features and Attributes
Water-based acrylic latex paints	• Wide range of products formulated for asphalt • Most common products used for parking lot striping • Clean up more easily with water • Fast-drying and durable • Lowest cost products • Less environmentally harmful
Solvent-based oil-based paints	• Often preferred in colder climates • Cleanup requires special solvent thinning products such as mineral spirits or toluene • Durable • Widely available in many different formulations • More expensive products
Thermoplastic products	• Excellent appearance with vibrant and lasting colors • Highly durable and fast-drying • High-quality attributes may not be necessary where there is little wear and no vehicular traffic • Expensive products

TABLE 6.13 TRAFFIC PLAYGROUND PRODUCTS & SERVICES

There are a small number of firms in the U.S. specializing in products and services for installing and equipping a traffic playground. However, there are many products targeted at other fields that can be deployed in installing and equipping a new facility.

Product & Web Address	Notes
Traffic Playground Specialists	These businesses sell products specifically aimed at traffic playgrounds
Scale Products Company www.trainsignals.com	Scale Products Company specializes in high-quality scaled equipment for traffic playgrounds. They provide custom-manufactured signs and operating traffic signals as well as small-scale buildings. Safety Town on Wheels is a mobile kit assembled by Scale Products Companies. The towable enclosed trailer includes an entire portable town kit and is designed to be easily and quickly set up and taken down by two people.
Traffic Safety Suppliers	Some construction or highway products are useful in traffic playgrounds. There are many sites that sell these products with several representative sources listed.
Traffic Safety Store www.trafficsafetystore.com	This site features commercial-grade traffic supplies including: • Roll-up portable stop signs • Recycled rubber speed bumps (range of prices) • Cone sign toppers
Traffic Safety Supplies http://www.tssincva.com	This site features commercial-grade traffic supplies including: • Pavement marking supplies (equipment and paints) • Portable traffic signs
Traffic Safety Warehouse TrafficSafetyWarehouse.com	This site features commercial-grade traffic supplies including: • Pavement marking & striping supplies • Portable traffic signs • Roll-up signs plus fold-up bases • Speed bumps

Product & Web Address	Notes
Industrial Suppliers	These are general products aimed at the industrial market. There any many suppliers of these products with several representative sources listed.
Uline www.Uline.com	This site features a comprehensive array of commercial-grade packaging and supplies for industry including: • Roll up signs • Traffic posts • Portable bases for signs • Speed bumps • Parking lot stencils (stop, yield, arrows)
Home Depot www.HomeDepot.com	This site features commercial grade supplies including: • Traffic cones • Delineator posts • Traffic barricades • Pavement marking and striping supplies • Spray chalk
Parking Lot Suppliers .	Many products aimed at commercial parking lot operations also have application in traffic playgrounds
My Parking Signs www.MyParkingSigns.com	This site features signs including: • Wide range of portable signs and bases at many cost points, sizes and weights • Weighted sign bases (including types with small wheels) • Custom sign options also
Magic Master www.magicmaster.com	This site features: • Range of portable signs and bases at many cost points, sizes and weights • Weighted sign bases (including versions with wheels)
1800Stencil https://1800stencil.com	This site includes: • Professional grade roadway sign, word, arrow and symbol stencils in a range of sizes

Product & Web Address	Notes
School Commercial Suppliers	Specialty sites aimed at the school market sell play equipment and educational materials suitable for use in traffic playgrounds.
Noah's Park & Playground www.NoahsPlay.com	This preschool supply site includes commercial grade play equipment including: • Portable roadway sign sets (options: $110/4 signs, $693/6 signs) • Trike path kits (options: $3,000-$8,300) • Trike path kit extras (including bridge): $4,190 • Bike storage/General Store: $2,800
Kaplan www.kaplanco.com	This preschool supply site includes commercial grade play equipment including: • Traffic Sign Kits ($90/9 signs) • Village Traffic Signs Set ($210/4 signs + signal)
Guidetime www.guidecraft.com	This preschool supply site includes a set of portable signs: • Drivetime Signs Kit: $70/ signs
Surface Application Products	High-quality commercial grade products suitable for asphalt and with special attributes.
SealMaster www.sealmaster.net	This manufacturer sells surface products including: • Asphalt sealcoating • Colored pavement products typically used on courts of different types • The site features a sealcoat quantity calculator. Representatives can provide information about local professional applicators.
Traffic striping paint	There are many manufacturers and available products which can be purchased at local hardware supply stores or at specialty traffic supply stores. Some manufacturers have familiar names (e.g. Rustoleum) and there are many less familiar brand names with products aimed at the traffic and parking striping industry.

TABLE 6.14 POTENTIAL STAKEHOLDER SUGGESTION LIST

Look for the organizations and people who are representative of the community at large.

Stakeholder Suggestions	How or Where to Find
Local Community Local residents and families Close-by neighbors Retirees Young people Families	• Stop families riding by on bicycles to ask whether they or others would have interest • Make inquiries locally seeking people who you may not already know • Check for local KidicalMass groups
Under-represented Voices Community voices Neighbors: especially low-income families & communities of color Immigrants and first-generation community members	• Ask local non-profits or elected officials or staff for suggestions • Contact local churches and church groups • Contact local immigrant and refugee service organizations • Invite people who have spoken up or commented locally • Host table at a community event such as health fair, food distribution, library sale, international fair • Make inquiries locally seeking people who you may not already know
Local Organizations Disability organizations Local bike advocacy organizations Active travel advisory committee members Biking educators and volunteers Local street safety non-profits and organizations Adapted biking groups	• Look up local biking advocacy organizations or clubs • Look up pedestrian or transit advocacy groups (including disability focused groups) • Invite local appointed advisory committee or commissioners • Seek out roadway safety organizations (e.g. Families for Safe Streets) • Look for League Certified Instructors (LCIs) bicycling educators • Ask at local bike shop(s) or bike co-op

Stakeholder Suggestions	How or Where to Find
School Community School representatives (physical education, early childhood education, central office staff) School facility staff School community Safe Routes to School officials and committee members Community college	• Contact school principal or other staff • Check for school transportation committees and groups • Contact STEM and art teachers • Contact PE teachers • Contact preschool teachers • Contact PTA, parent's art group and preschool parent-education programs • Contact sports programs • Make connections with urban planning or design professors or students
Community Groups Local artists and makers Cultural groups Community maker space Service organizations Scouting organizations Local business	• Find contacts through past events and local cultural happening • Contact local maker spaces and art spaces • Contact local organizations • Seek local community-focused business members
Local Representatives Local officials & agencies Community leaders Other Community Representatives Local elected officials	• Seek out officials or staff involved in health and wellness, health-in-all policies, active transportation, public works, or transportation programs

TABLE 6.15 TRAFFIC PLAYGROUND ENGAGEMENT EVENTS

By working with local community organizations or institution, it may be possible to put together more in-depth types of ways of engagement.

Event	Format	Potential Locations or Partner
Conduct pop-up traffic playground demonstration	Set up a small-scale temporary traffic playground as a demonstration project and allow local young children to have fun biking and playing in the pop-up. Such pop-ups work well as part of alarger event such as open streets or bike rodeos. Host adjacent activities table for older children asking them how they would have designed the traffic playground. Gather the designs for use in project team layout meetings.	• Planned traffic playground site • School playground • Preschool playground • School parking lot • School gym/auditorium • Recreation center parking lot • Recreation center sports courts
Hold a walking tour or biking at or to the site	Conduct a community walking tour to the project site or hold bike rodeo. Invite a range of people and chalk out ideas on the asphalt. Display proposed plans and have participants write in their comments. Have children bring along bikes and scooters and chalk out sample streets to scale. Host a sign-making craft table and add the signs to the temporary streets for the duration.	• Planned traffic playground site • Walking route from some other community destination
Hold a visioning event or listening exercise	Invite community members to an indoor event where they can add their ideas to a model or drawings. Invite them to tell their stories of playing as a child and how they learned to ride a bike. Record these oral history submissions for use in programming.	• Farmers market • Back-to-school night • Recreation center parking lot • Before a community running event

Event	Format	Potential Locations or Partner
Host a community arts event	Team with arts events or organizations or school art teacher to create an event that taps the power of art to foster engagement and design ideas. Create models, collages, posters, or mosaics.	• Local schools • Local arts center • Arts festival
Hold a design contest	Have local community members or students submit their dream traffic playground designs or models. Announce winners and display submissions at subsequent event and in local media. Incorporate design and model elements into the project layout.	• School art or STEM teachers • Through scouting or other children's groups

TABLE 6.16 TEAMING WITH EVENTS AND ORGANIZATIONS TO CONDUCT OUTREACH

The local events of community life offer many opportunities for reaching local residents.

Location	Event	Outreach
School-based Events	• Back-to-school night • STEM nights • PTA, Transport Committee, Parents Education	• Speak to audience • Host information table • Conduct pop-up demonstration • Host hands-on activities and input • Hand out flyer or information sheet • Display poster contest submissions • Display cardboard model contest/challenge
General Community Events	• Church event • Sports event • Playground activity • Food distribution • Coffee shop • Farmers market • Food co-op • Health fair • Townhall meeting	• Speak to audience • Host information table • Conduct pop-up demonstration • Host hands-on activities • Distribute flyer or information sheet • Organize a site visit • Host a fund raiser
Virtual Happenings	• Twitter • Facebook • Instagram • Video platforms • Project webpage • On-line survey	• Hold Facebook live • Create a video • Create ongoing photo documentation project • Conduct on-line survey • Host virtual site tour • Hold on-line contest

TABLE 6.17 BARRIERS IMPACTING COMMUNITY ENGAGEMENT

By recognizing and addressing the many barriers to engagement, the community project benefits from a more equitable approach to the process.

Barrier Type	Barrier Type	Facilitation of Engagement
Communication	• Gaps in information • Access to technology • Lack of presence on social platforms • Language • Literacy and numeracy levels • Use of jargon	• Tailor format and content • Use established community networks and forms of distribution • Provide interpreters, signers and translations • Use everyday language and explanations • Use inclusive vocabulary • Reduce formality
Access	• Physical access • Transport needs • Costs to participate • Time to participate • Hour of the day • Childcare • Welcoming atmosphere	• Choose community-based locations • Select time of day and day of week with care • Provide giveaways or raffles • Facilitate presence by providing amenities and services • Provide childcare and kids activities • Hold combined events • Create outreach activities • Actively welcome people
Cultural	• Community history • Skepticism from past experiences • Trust in process • Relevance • Hard to reach groups • Marginalization	• Research background • Acknowledge and recognize history • Invite independent community facilitators or advisors • Provide clear and relevant case examples • Be clear on limitations

TABLE 6.18 INVOLVING CHILDREN IN ENGAGEMENT ACTIVITIES

Children are creative thinkers so asking them how they would layout the traffic playground will result in many ideas and suggestions.

Engagement with Children	Facilitate Their Involvement
Communications	• Explain what a traffic playground is • Show how kids use traffic playgrounds • Explain new ideas and vocabulary in age appropriate ways • Avoid use of jargon
Input	• Tell them stories about other children who have helped with projects and how their input was used • Ask their permission to use their input information • Add children's names (first name plus first initial of last name) to their work so they can be credited later
Activities	• Try out all elements beforehand • Make samples of anything children need to create • Label, sort, and measure out materials and supplies • Prepare a brief script or set of prompts printed out in large font with pages numbered. • Add fun, whimsy, bright colors, and silliness to activities • Provide materials and supplies that facilitate creativity • Include visuals/models of children using wheelchairs and other mobility devices • Ensure images or drawings show children from different cultural and ethnic backgrounds • Design activities to serve multiple age and ability levels • Hold a walking field visit to the site for children • Have plenty of volunteers to help out and go over ideas
Keep in mind	• Have alternative choices available for children who may be unable to participate in planned activities • Provide training to adults about working with children • Provide seating for adults (and children will get to stay longer) • Thank everyone for coming along and helping out • Invite them to use the future traffic playground

TABLE 6.19 ASPECTS OF VOLUNTEER ASSISTANCE

Having willing volunteers on hand allows the project team to take on more ambitious community engagement and outreach.

Aspects of Volunteering	Roles and Organization
Community engagement roles for volunteers	• Graphic design services • Staffing tables at community events • Setting up and staffing pop-up demonstrations • Making supplies for activities • Speaking other languages and translation services • Collecting comments from community • Working with children on design projects
Building a pool of volunteers	• Build contact lists for organizations and individuals • Let people know that you are seeking volunteers • Connect with schools and other organizations • Award service hours to teens • Maintain volunteer contact information list • Stay in touch with volunteers on an ongoing basis
Volunteers during community engagement events	• Provide advance details of what to expect • Provide brief training and go over expectations • Provide extra tips and direction for working with children • Create a team with vests, t-shirts or buttons • Let them know where to direct people with more detailed questions or concerns
Taking care of volunteers	• Thank volunteers in a timely fashion for their assistance • Take photos of volunteers in action and pass along with follow up messages • Keep volunteers informed on project progress • Let them know when project is successfully completed • Invite past volunteers to celebratory events • Include in awards and recognition

TABLE 6.20 WAYS TO CELEBRATE TRAFFIC PLAYGROUND PROJECT

It's always important to pause and communally recognize getting a community project accomplished.

Avenues of Expression	Format
Recognizing People	• Create naming opportunities • Recognize people in speeches and media stories • Award prizes and hosting giveaways • Make awards to outstanding volunteers • Nominate people for outside awards • Spotlight new voices and faces • Highlight role of young people • Thank and credit people publicly
Facility Events	• Hold ribbon-cuttings and grand openings • Invite guests to behind-the-scenes tours of new facility • Create annual event
Community Recognition	• Nominate project for outside awards • Tell community success story in different forums • Create videos and slideshows that document the participation • Build permanent recognition into the site (e.g. tile wall, framed photos, signpost names, etc.)

Traffic playgrounds provide recognition opportunities through the choice of facility name or signs at the site

TABLE 6.21 COMMUNITY ENGAGEMENT GUIDES AND ONLINE RESOURCES

There are many excellent documents available online about community engagement. This table lists a number of examples to assist with a traffic playground project.

Description	Where to Find Online	Type of Resource
Kid Partners for Great Planning, Improving Design Outcomes and Planning Conversations, ITE Winter 2018-2019	https://bit.ly/3i1tRFp	Magazine article
FHWA Hispanic Pedestrian and Bicycle Safety	https://bit.ly/30VDEXb	Website
National Center for Safe Routes to School Spanish Resources	https://bit.ly/3alUSA9	Resource webpage
Safe Routes National Partnership *Where the Duct Tape Meets the Road: How To Create Pop-Up Safe Routes to School Projects*	https://bit.ly/3edu2eL	Short guide (download)
Making a Difference in Your Neighborhood, The Center for the Study of Social Policy	https://bit.ly/31f5xKu	Download
DIY Community Cookbook, AARP Vermont and Community Workshop	https://bit.ly/3eqW9Hj	Download

TABLE 6.22 ROADWAY SAFETY AND BIKE EDUCATION PROGRAMS IN OREGON

Oregon is home to many best practice walking and biking programs and plans. These existing programs address walking and biking skills and safety education and encouragement

Program + Organization	Description
Walking and Biking to School Programs	
Beaverton School District	• The school district plans to update and prioritize needed projects to create more walking and rolling opportunities to school and throughout the neighborhood • SRTS coordinators plan to rotate through all 34 elementary schools over the course of 3 years to teach one 45-minute lesson to all K-5th grade students • Hold regular event days such as 'Walk + Roll to School Days' • SRTS offered several virtual events after schools closed for year
The Walk & Roll Challenge The Street Trust	• Walk + Roll to School (usually held May and October) • Walk + Roll online poster contest (K-8) • Serves schools statewide
The Jump Start Program The Street Trust	• Provides access to a fleet of bicycles and other equipment via annual grant application process • Assists community that receives fleet of bicycles with program development • Partners evaluate at end of year and if program is deemed successful, find funding to purchase a fleet of bikes and a trailer to continue the program
Train-the-Trainer Programs	
The Jump Start Program Training The Street Trust	• Partner with school districts and communities to create a local bicycle and pedestrian education program • Provide on-site 8-hour training for any teachers or community members willing to teach the program

Program + Organization	Description
Middle School Bike Safety Teacher Training Portland Bureau of Transportation (PBOT)/The Street Trust	• The Street Trust/PBOT partner to train middle school teachers • Street Trust instructor models how to teach the class • Program scaffolds across the three grades and 6th-8th grade uses its own curriculum
Pedestrian Education Training for Teachers The Street Trust	• Pedestrian Safety curriculum training for educators • Learn about curriculum, how to teach students, plan a walking route and encourage students to walk throughout school year
Summer Programs	
Play Grow Learn, Summer Camp 2020 East Portland/East Multnomah County, OR	• Summer program engaging youth (ages 17-20) in creative leadership roles providing programs to younger students • Temporary traffic playground installed and training conducted • Program currently under development • Likely to involve educational video component • Project partnership includes PBOT SRTS staff and Multnomah County SRTS program
Portland region temporary traffic playgrounds	• Over the course of three months, temporary traffic playgrounds have been installed in school playgrounds, school parking lots and in parks around the region • Facilities were created to give children and families a place to pedal and roll together outdoors • Refer to Portland Traffic Garden Map for updated list of locations
Community Events	
City of Tigard Bike Rodeos and bike safety courses, Tigard, OR	• Bike rodeos and bike safety events • Courses set up in school parking lots and city parks • Walk + Bike events at every public elementary and middle school • Now expanding to cover school district (outside Tigard boundaries)
Hillsboro SRTS program, Hillsboro, OR	• Pedestrian Safety Demonstration Intersection provided to PE and after-school teachers conducting pedestrian safety programs • SRTS Program and the Hillsboro Police Department have both hosted bike rodeos
Eugene Public Works Day Eugene, OR	• Annual open house event to learn about Public Works • Includes set up a small temporary traffic playground for children

TABLE 6.23 TRAFFIC PLAYGROUND PROGRAMS AROUND U.S.

Traffic Playground Facility Programs	Program Recipients	How Programs are Delivered
PBOT Pop-up Traffic Playground Partnership with local non-profit and companion youth training program	• Youth leaders (18 - 21) • Youth leaders will use training to work with elementary age camp participants	• Partnership between PBOT, City of Gresham, Multnomah County REACH program + SRTS and Play Grow Learn • Play Grow Learn is a local non-profit, dedicated to creating safe places for youth to play and learn • Refer to Appendix E for pilot program training for youth 'train the trainer' session
Aiton Elementary and Thomas Elementary Traffic Gardens, Washington DC Two facilities located on school playgrounds at each school property with in-school programming.	• All 2nd grade students receive PE biking program unit • Preschool students (age 4) receive classroom lessons • Facility open to all students (up to 5th grade) for recess play • Thomas Elementary Traffic Garden is open outside of school hours	• 2nd grades receive bike education through a 7-lesson PE unit which *i*ncludes skills practice and instruction on roadway safety using intersections and signs • Portable ramps are available to simulate non-flat conditions • PK students receive 6 x 10-minute roadway safety lessons in-class from early-childhood teacher • Classrooms have felt board kit featuring lessons characters • After lessons, PK students go outside to use facility
Baltimore Safety City, Baltimore, MD Facility is located in a public park. City staff provide programming on-site and travel to schools for safety assemblies.	• Partner with 150 schools and day care centers • Serves 50,000 students per year (some at the facility, some at their own school) • Two full-time traffic instructors (plus other staff roles)	• Facility is operated by Baltimore Department of Transportation • Focus is on pedestrian and biking safety and addresses roadway features including roundabouts, bike lanes, signs and signals • Open weekdays and closed for winter months and weekends • Refer to Appendix F for Safety City Day flyer

Traffic Playground Facility Programs	Program Recipients	How Programs are Delivered
Cascade Bicycle Club, Traffic Gardens, Seattle WA Two facilities provide programming and are open to public use.	• All age lessons • Summer camp programs • Young families bring riding devices • White Center hosts programs for older students (high school and middle school)	• Camp participants run drills, learn about traffic protocol both as a pedestrian and road user and practice braking and turning • Bicycle club run 'Learn to Ride lessons for all ages • Refer to Appendix G for Cascade Bicycle Club Bike Rodeo Instruction
Chautauqua Safety Village, Ashville, NY Non-profit organization runs programming at standalone facility.	• PreK + Kindergarten students • 1st + 2nd grade students • 3rd through 5th grade students • Chaperones are required to stay with students for the programs	• Programs offered as 2-hour field trips • PK and kindergarten students learn crosswalk and parking safety • 1st grade students receive traffic safety and street sign instruction • 2nd grade students receive traffic sign and pedestrian safety instruction • 1st and 2nd grade students drive electric cars around streets • Older students receive bike safety education and can ride their bikes
Eisenhower Park Safety Town, Nassau Co, NY Staff of four runs daily programming at standalone facility	• 3rd grade students from Nassau County • During school year, facility is open daily • Teachers sign class up as field trip. • Children's summer programs also	• Students receive classroom lessons in the building before going outside to facility • Students led around site by instructor in three roles: walking, riding a bike and driving an electric car • Facility and programming by the Nassau County Police Department
Fort Collins Walk and Wheels Skills Hub, Fort Collins, CO	• Children and families • Adult learners • Open to general public for practice and skills building	• City offers group classes and private lessons at the site with a certified instructor • On-site signs to instruct general public • Refer to Appendix H for sample program information

Traffic Playground Facility Programs	Program Recipients	How Programs are Delivered
Facility used for programming and events.		
Hamilton Safety Town, Trenton, NJ Facility is located on site next to a public library and runs summer programming.	• Program for rising kindergarten students (400 students per summer season)	• The program is 20 hours and covers a range of safety topics beyond biking and pedestrian safety • Students wear matching safety town t-shirts while participating • Teen volunteers assist with program instruction
Oceano Elementary School Bicycle Track, Oceano, CA Site is located on school playground and available public use outside of school hours.	• Kindergarten receive pedestrian safety instruction through PE • 4th and 5th grade students learn bike safety through PE • Local families use facility at weekends	• PE teacher teaches pedestrian and biking roadway safety lessons. • Uses bike-riding curriculum developed by SRTS that uses California core standards for 4th and 5th grade students • PE instruction includes 5th grade bike license test and tests basic maintenance skills.
Portsmouth Safety Town, Portsmouth, VA Staffed facility with regular programming and classrooms.	• All kindergarten, 1st grade and 3rd grade students • Groups from outside the city and the school system may also attend facility	• Facility is operated by the city police department with support from the school system and other agencies • All city students attend the facility at multiple times through their school career • Refer to Appendix I for sample program information
The Bicycle Playground, Charlotte, NC Programming run by county staff and local non-profit. Site is next to recreation center and open to public.	• Open to local children and adults • Groups can reserve the site for programs • Rodeo events with up to 150 attendees • Focus on bicycling safety	• County recreation staff training recreational specialists how to teach bicycling education • Learn to Ride (local non-profit) partner with county staff and host teaching programs at the site

TABLE 6.24 TRAFFIC PLAYGROUND POTENTIAL PROGRAMS AND ACTIVITIES IDEAS

Traffic Playground Type	**Program Set-up**				
Type 1A: **Traffic Playground Court (school-based site)**	Integrated into school PE and physical activities. May also be integrated into classroom learning and after-school activities.				
Activity	**PK**	**ES**	**MS + HS**	**Adults**	**Learning**
Free play on bikes and scooters during recess or before/after school	X	X			Skill Building, Physical Activity, Imaginative Play
PE biking curriculum and units (multiple grade levels)	X	X	X		Skill Building, Physical Activity, Roadway Safety
Challenge circuits (biking loops, crosswalk hopping, slow bike race)		X	X		Skill Building, Physical Activity
Bling Your Bike/Walk Day (reflective crafts, etc.)	X	X	X		Physical Activity, Imaginative Play, Community Building
PK classroom curriculum + safety lessons	X				Physical Activity, Roadway Safety, Imaginative Play
Personal safety lessons including strangers and harassment	X	X	X		Physical Activity, Roadway Safety
Afterschool Bike Club (maintenance lessons, final ride and certificate)		X	X		Physical Activity, Roadway Safety
Outdoor STEM lessons (math & measuring streets/alternative routes)	X	X	X		Physical Activity, Roadway Safety, Imaginative Play
Box City Building/STEM events and challenges	X	X	X		Physical Activity, Roadway Safety, , Imaginative Play
Disability modified biking programs	X	X	X		Skill Building, Physical Activity, Roadway Safety
Programs typically delivered by PE teachers, SRTS coordinators, and biking organization community educators. Additional potential for programming by PK teachers, classroom teachers and STEM specialists.					
Key: Preschool = PK; Elementary School (ages 5-11) = ES; Middle School (12-14) = MS; High School (14-18) = HS					

Traffic Playground Type	Program Set-up				
Type 1B: **Traffic Playground Court (non-school site)**	Programming varies widely. May be available to host non-profit biking or other civic organizations holding biking instruction programs and community events. Programming use may be coordinated through Parks or Rec (or similar).				
Activity	**PK**	**ES**	**MS + HS**	**Adult**	**Learning**
Free play on bikes and scooters during recess or before/after school	X	X			Skill Building, Physical Activity, Imaginative Play
Bike rodeo events	X	X			Skill Building, Physical Activity, Roadway Safety
Host Walk or Bike to School Day events	X	X	X		Physical Activity, Imaginative Play, Community Building
Bike Club (maintenance lessons, final ride and certificate)		X	X		Physical Activity, Roadway Safety
Community summer camp programs	X	X	X		Skill Building, Physical Activity, Roadway Safety, Imaginative Play
Informal biking lessons by families and local biking instructors	X	X	X	X	Skill Building, Physical Activity, Roadway Safety
Adult biking lessons and skills classes				X	Skill Building, Physical Activity, Roadway Safety
Modified disability biking programs (blind, mobility impaired)	X	X	X	X	Skill Building, Physical Activity, Roadway Safety
Programs typically delivered by PE teachers, SRTS coordinators, and biking organization/community educators. Additional potential for programming by teachers, STEM educators, scouting organizations and other civic groups.					
Key: Preschool = PK; Elementary School (ages 5-11) = ES; Middle School (12-14) = MS; High School (14-18) = HS					

Traffic Playground Type	Program Set-up				
Type 2: **Traffic Playground Park**	Programming varies widely depending on whether a summer or school-year operation**.** Alternative models include: • *Teachers apply to bring their class group as a field trip* • *Summer camp programming for young students. May be open at set times to general public for learning and fun*				
Activity	**PK**	**ES**	**MS + HS**	**Adult**	**Learning**
Free play on bikes, scooters and other devices	X	X			Skill Building, Physical Activity, Imaginative Play
Roadway safety lessons	X	X	X		Physical Activity, Roadway Safety
Afterschool Bike Club (maintenance lessons, final ride and certificate)		X	X		Physical Activity, Roadway Safety
Community roadway safety events for local families	X	X	X	X	Physical Activity, Roadway Safety, Imaginative Play
Box City Building/STEM events and challenges	X	X	X		Physical Activity, Roadway Safety, Imaginative Play
Personal safety lessons including strangers and harassment	X	X	X		Physical Activity, Roadway Safety
For staffed facilities, programs typically delivered by non-profit organization staff, department of transportation staff, crossing guards and others. For summer programming, teen volunteers may play assist in staffing program while earning service hour credits.					
Key: Preschool = PK; Elementary School (ages 5-11) = ES; Middle School (12-14) = MS; High School (14-18) = HS					

Traffic Playground Type	Program Set-up				
Type 3A: **Temporary Traffic Playground (school site)**	School site made available to local students and their families. Also open to general public if school site allows.				
Activity	**PK**	**ES**	**MS + HS**	**Adult**	**Learning**
Free play on bikes and scooters and other devices	X	X			Skill Building, Physical Activity, Imaginative Play
One-on-one biking lessons and practice	X	X	X	X	Skill Building, Physical Activity
Challenge circuits (biking loops, crosswalk hopping, slow bike race)		X	X		Skill Building, Physical Activity
Neighborhood Bike Club (maintenance lessons, rides)		X	X		Physical Activity, Roadway Safety
Outdoor STEM lessons (math & measuring streets/alternative routes)	X	X	X		Physical Activity, Roadway Safety, Imaginative Play
Community Box City Building/STEM event	X	X	X	X	Physical Activity, Roadway Safety, Imaginative Play
Space is generally un-programmed but available to families and community members for informal organizing					
Key: Preschool = PK; Elementary School (ages 5-11) = ES; Middle School (12-14) = MS; High School (14-18) = HS					

Traffic Playground Type	Program Set-up				
Type 3B: **Temporary Traffic Playground (recreation site, parking lot, closed-off street)**	Site available to the public or local community. Not usually programmed although may be set up in conjunction with a summer camp program or an event.				
Activity	**PK**	**ES**	**MS + HS**	**Adult**	**Learning**
Free play on bikes, scooters and other devices	X	X			Skill Building, Physical Activity, Imaginative Play
One-on-one biking lessons and practice	X	X	X	X	Skill Building, Physical Activity
Create challenge circuits (biking loops, crosswalk hopping, slow bike race)	X	X	X		Skill Building, Physical Activity
Hold summer camp programs	X	X	X		Physical Activity, Roadway Safety, Imaginative Play
Hold neighborhood fun events	X	X	X	X	Physical Activity, Roadway Safety, Imaginative Play
Hold neighborhood bike rodeo or parade	X	X		X	Skill Building, Physical Activity, Imaginative Play
Partner with community organizations to hold active/distanced events	X	X	X	X	Skill Building, Physical Activity, Imaginative Play
Hold community chalking or other art event	X	X	X	X	Physical Activity, Imaginative Play
May be set up for specific event or short-term. Otherwise, space is generally not programmed but available to families and community members for informal organizing.					
Key: Preschool = PK; Elementary School (ages 5-11) = ES; Middle School (12-14) = MS; High School (14-18) = HS					

TABLE 6.25 TRAFFIC PLAYGROUND MEASURING AND REPORTING

Information Type	Data and Information
Quantitative Data Measures Collect data that captures information about quantities and numbers.	• Conduct baseline measuring • Count numbers: students per year, event attendees, visitors to information page • Count participation numbers for programs • Track student ages and grades • Have students keep biking logs recording activity minutes • Measure duration of visits
Qualitative Data Measures Collect data that captures what is observed but not measured.	• Assess children's pre- and post-skill levels • Conduct surveys of the users • Conduct surveys of the program operators • Collect anecdotal reports • Ask users how they heard about the site • Observe and record information about site users
Local Measures Ask community stakeholders what should be measured.	• Ask what they want to know about the facility • Ask about barriers to use and follow up • Find out what outcomes they would like to see
Research Partner with local university or college programs to conduct research.	• Research children's response to in-class instruction and application on site • Test methods of collecting data using traffic playgrounds • Conduct longitudinal research

TABLE 6.26 GENERAL RECOMMENDATIONS FOR TRAFFIC PLAYGROUND PROGRAMMING

Focus Area	Programmatic Recommendation
Partnerships	Partner with organizations providing wide-ranging services to children, youth and families as well as school districts and other agencies
	• Partner with in-school and after-school programs • Facilitate new strategic and innovative partnerships with organizations serving health, youth training, and under-served populations • Partner with other agencies to help them address their missions • Introduce organizations to potential benefits and case examples • Select sites next to schools, recreation centers, bicycle co-ops, or other compatible programming groups
Physical Education and Activity	Integrate into physical education programs plus promote connections with existing efforts and everyday walking and biking activities
	• Designate use of the traffic playground as part of PE activities • Add new units and elements to PE that match the available site • Create curriculum that progresses and builds with higher grade levels • Deploy to meet children's daily activity recommendation • Encourage early arrival to school to spend time on traffic playground • Make site available for existing events and programs • Host walk and bike to school day activities and invite special guests • Create outdoor classroom STEM curriculum and activities • Hold periodic events for the public to try out the traffic playground
Roadway Safety Education	Integrate into roadway safety education programs and create new programs
	• Create goals that ensure that all children receive programming • Adapt and modify existing resources and curriculum • Build self-guided learning and instructions into the layout and signs • Host kindergarten orientation events and include roadway safety tips • Hold parent/caregiver program during Back-to-School Nights • Partner with local school districts to offer educational programming

Focus Area	Programmatic Recommendation
Equity and Inclusion	Focus on equitable access to traffic playground programming
	• Create policy around equitable program delivery • Actively invite and target outreach to children and their families • Create welcoming events that include snacks and multi-lingual signs, • Integrate programming into school day so all students benefit • Make signs in multiple languages and use universal symbols • Provide extra staff support for facility users, prioritizing community-based staff and multi-lingual staff presence • Provide equipment and find ways to get bikes to children • Include free bike maintenance at events • Provide teen and adult training so they can create and run programs • Actively survey and observe to figure out barriers to use • Ask community about their goals and needs • Locate facility close to underserved children and families
Training and Information	Provide training and guidance for program educators and community partners
	• Seek professional development training credit for educators • Hold on-site demonstrations and trainings at traffic playgrounds • Invite after-school personnel, early childhood educators, special needs teachers, scout leaders, LCI educators, teen program. • Create training and certification program (e.g. Master Traffic Playground Officer) • Provide materials with activities, games and tips for organizers • Provide technical assistance online and upon request • Host webpage with sites mapped and access information • Create a central communications board for programming • Provide information specifically for those with mobility needs • Create logo and make editable graphic documents and posters
Data and Reporting	Measure and monitor site use and programs to understand impact and determine where to develop

Focus Area	Programmatic Recommendation
	• Count number of users and programs • Track programming and events for underserved populations • Create a standard set of measuring metrics • Create reporting requirement and collecting mechanism • Produce annual or bi-annual benchmark reports • Track demographic information measuring and outcomes • Work with community members to identify how to incorporate the qualitative data generated to further understand community needs • Identify and facilitate research topics
Funding	Dedicate and qualify funding for traffic playground programming
	• Create mini-grant programs • Provide grants or matching funding to high-needs communities • Secure budget for maintenance and refreshing sites regularly • Recognition use of funds for traffic playground programs as part of existing funding programs
Facility	Ensure facilities available for range of uses
	• Keep traffic playground open when possible • For playground or recreation center sites, match opening hours • When sited at school property, make available outside of school hours • Make facility available as a stop off for students as part of on-road biking education rides • Make facility available for annual and recurring community events (e.g. health fair, chalk festival, public works day) • Choose facility location so that it can serve and be available to more children and families

FIGURE 6.1 TRAFFIC PLAYGROUND LAYOUT NOTES

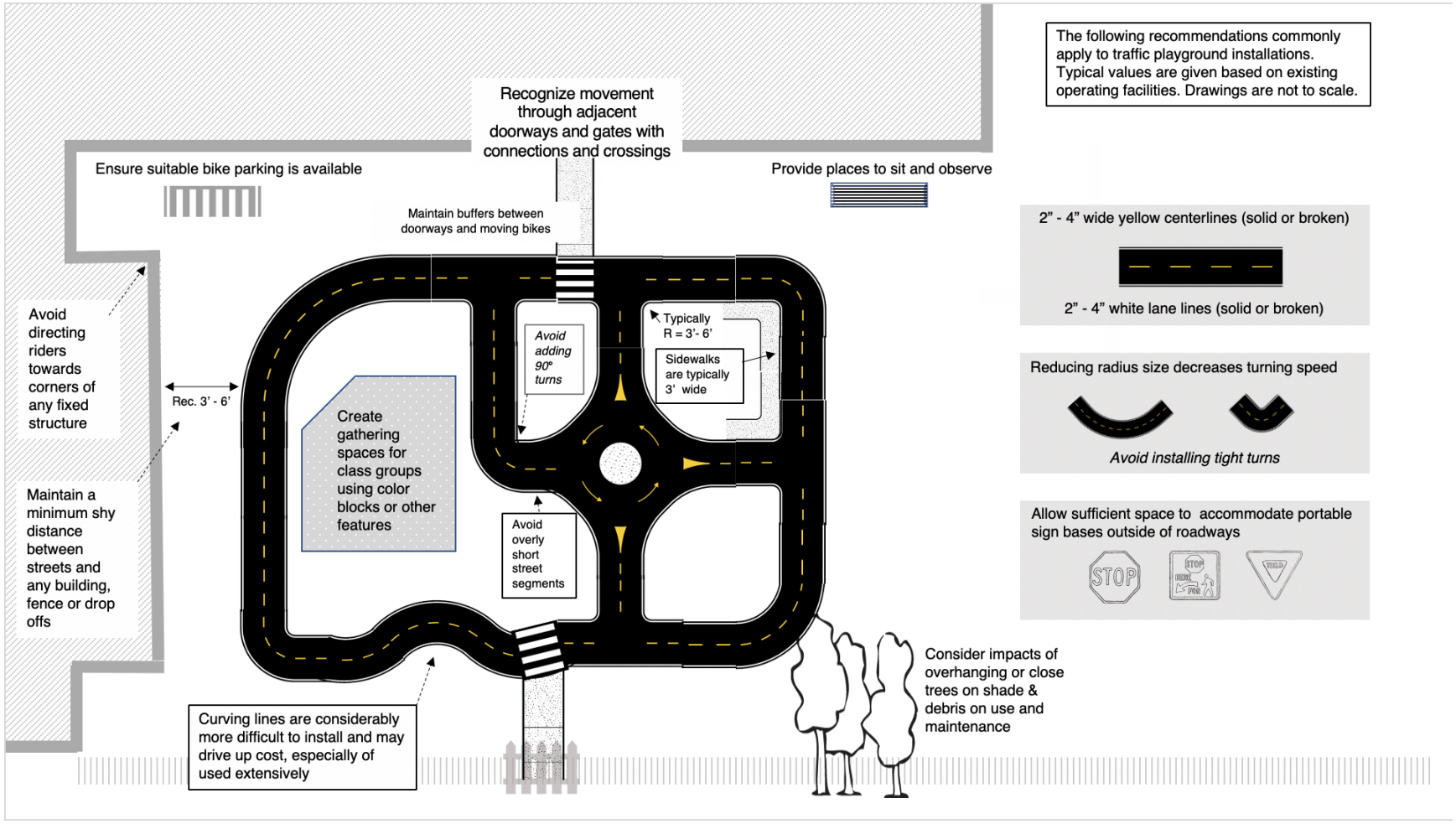


FIGURE 6.2 TRAFFIC PLAYGROUND PAVEMENT MARKINGS

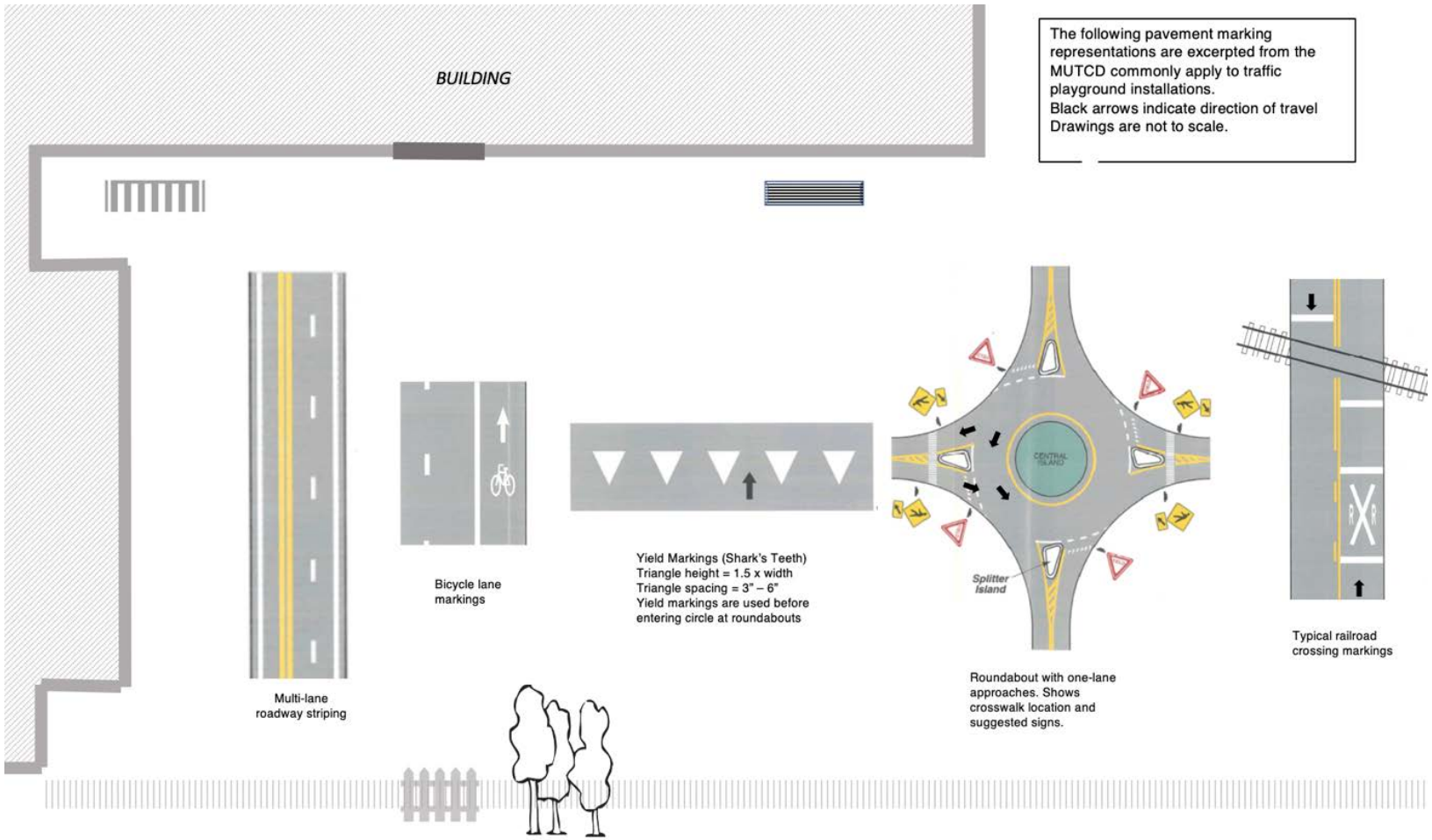
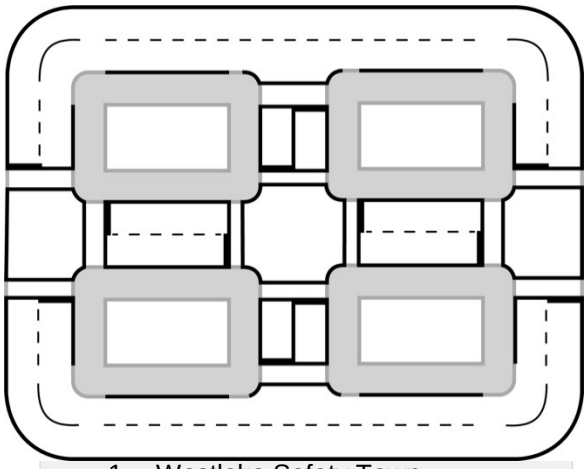
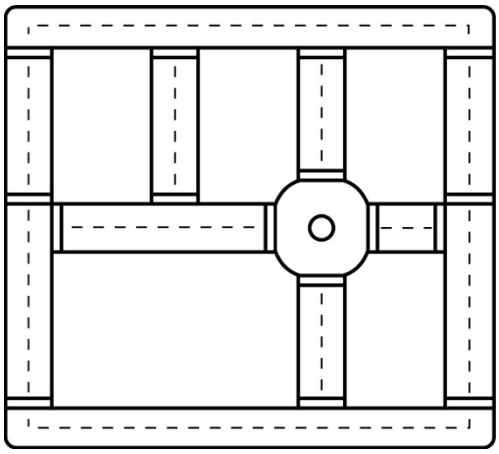


FIGURE 6.3 TRAFFIC PLAYGROUND COURT STYLE 1: RECTANGULAR COURT LAYOUTS



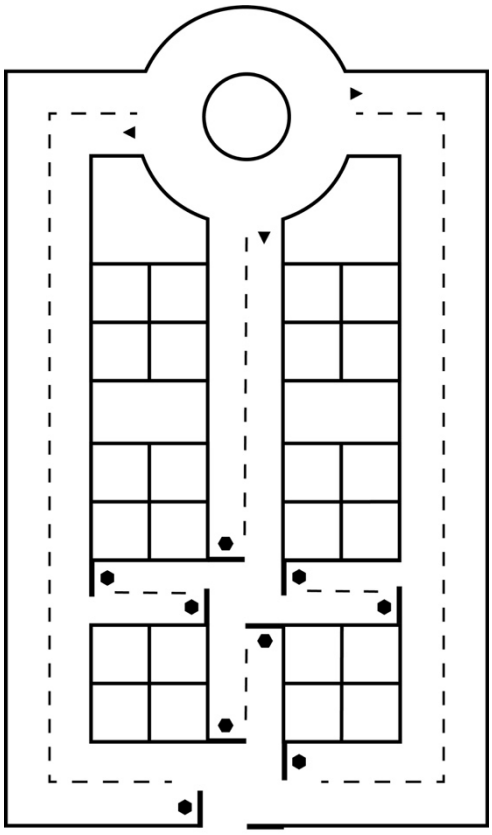
1. Westlake Safety Town

Westlake, Ohio



2. MAK Town Safety Village

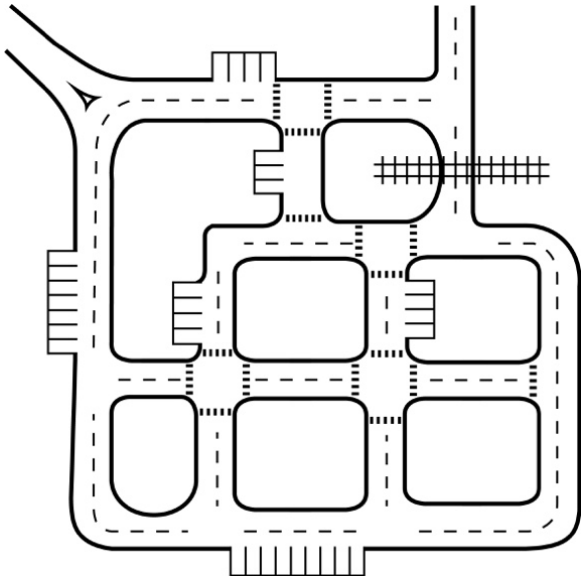
Dayton, Ohio



3. Oceano Bicycle Playground
Oceano, California

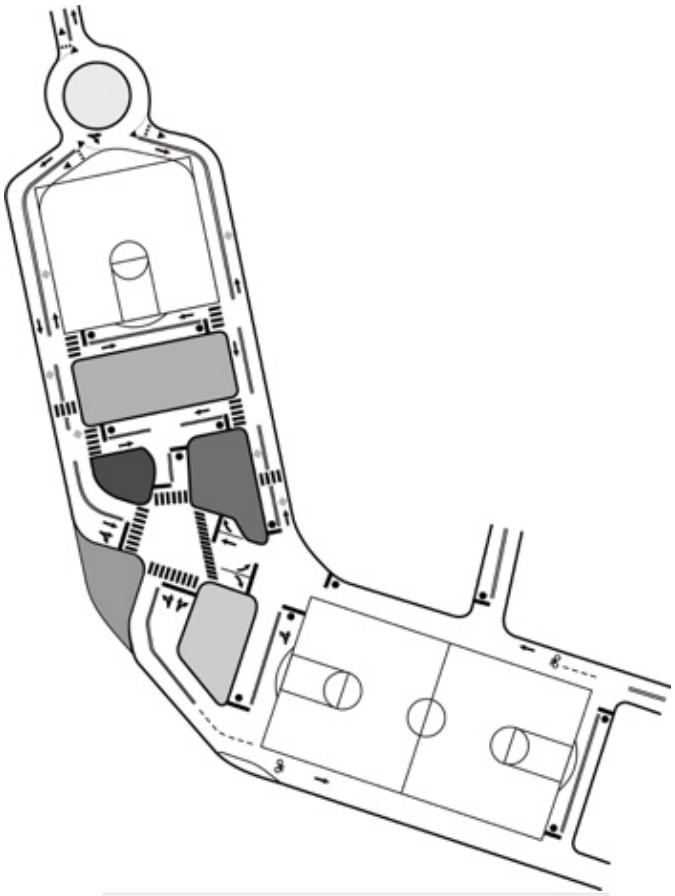
- Layouts fit within square or rectangular sites
- Can readily expand layouts by lengthening streets
- Can add parallel streets, short street connectors and roundabouts to increase size and biking options
- Such layouts are easiest to design and install
- Costs range from low to medium for these layouts
- Typical sites include basketball courts, tennis courts, other sports pads, school sites, parking lots and alleys
- Refer to Table 6.11 for more details about each site location

FIGURE 6.4 TRAFFIC PLAYGROUND COURT STYLE 2: FLEXIBLE SHAPE COURT LAYOUTS

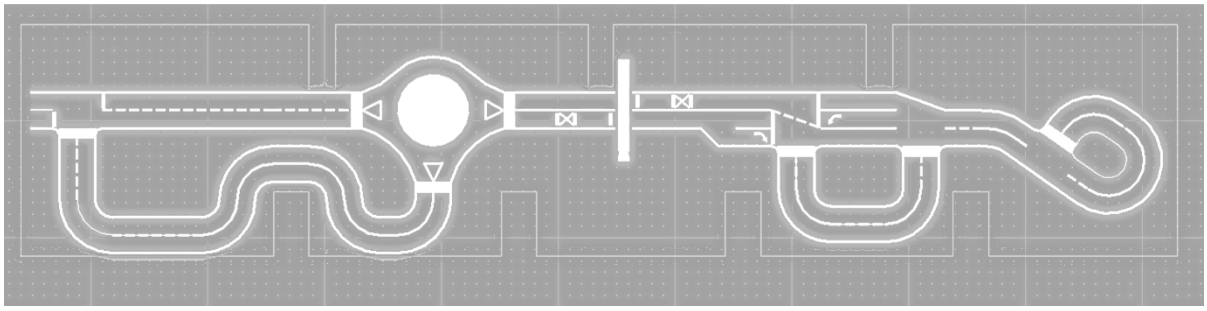


4. Warminster Safety Town

Warminster, Pennsylvania



5. Charlotte Bike Playground
Charlotte, North Carolina



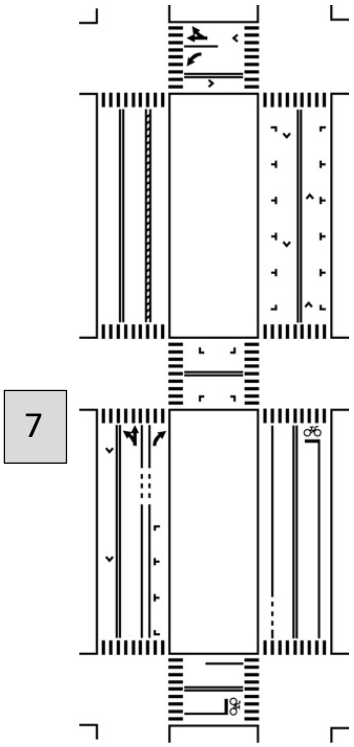
6. Lents Park Traffic Playground,

Portland, Oregon

- Street networks fit the site geometry and are designed to go around fixed features
- Layouts take advantage of geometry to add lengthy loops and create different zones
- Layouts creatively reuse underutilized asphalt and odd-shaped sites
- The street network can include unique features and extra elements
- Such layouts can be more costly and difficult to install
- Typical sites include existing school playgrounds and recreation centers
- Refer to Table 6.11 for more details about each site location

FIGURE 6.5 TRAFFIC PLAYGROUND COURT STYLE 3: ROAD SAFETY SKILLS COURT LAYOUTS

7. Alexandria Bike Campus, Virginia
8. Fort Collins Walk and Wheel Skills Hub, Colorado
9. Montbello Bicycle Course, Colorado



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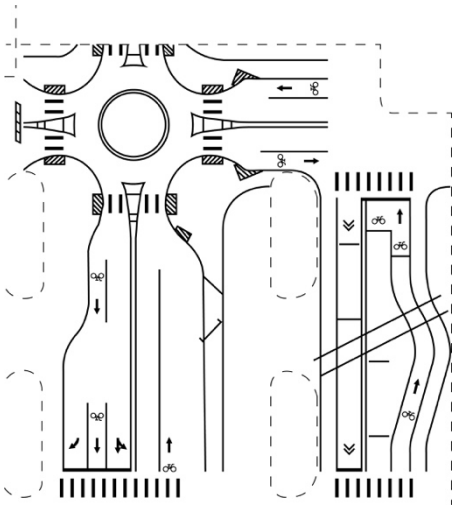

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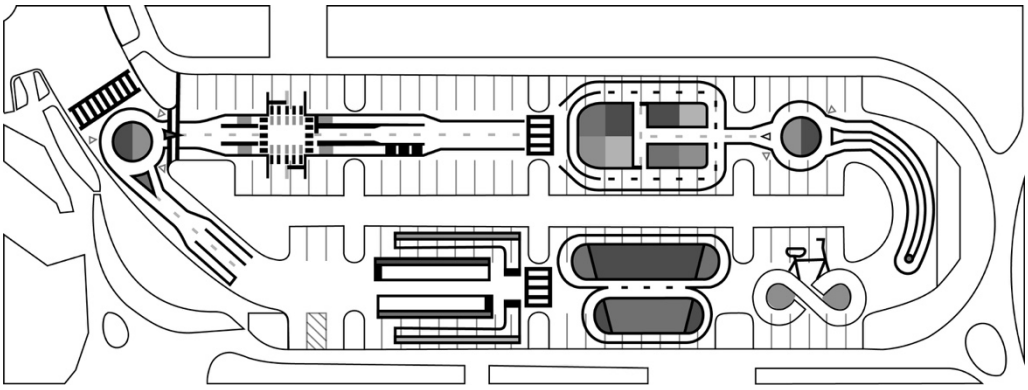

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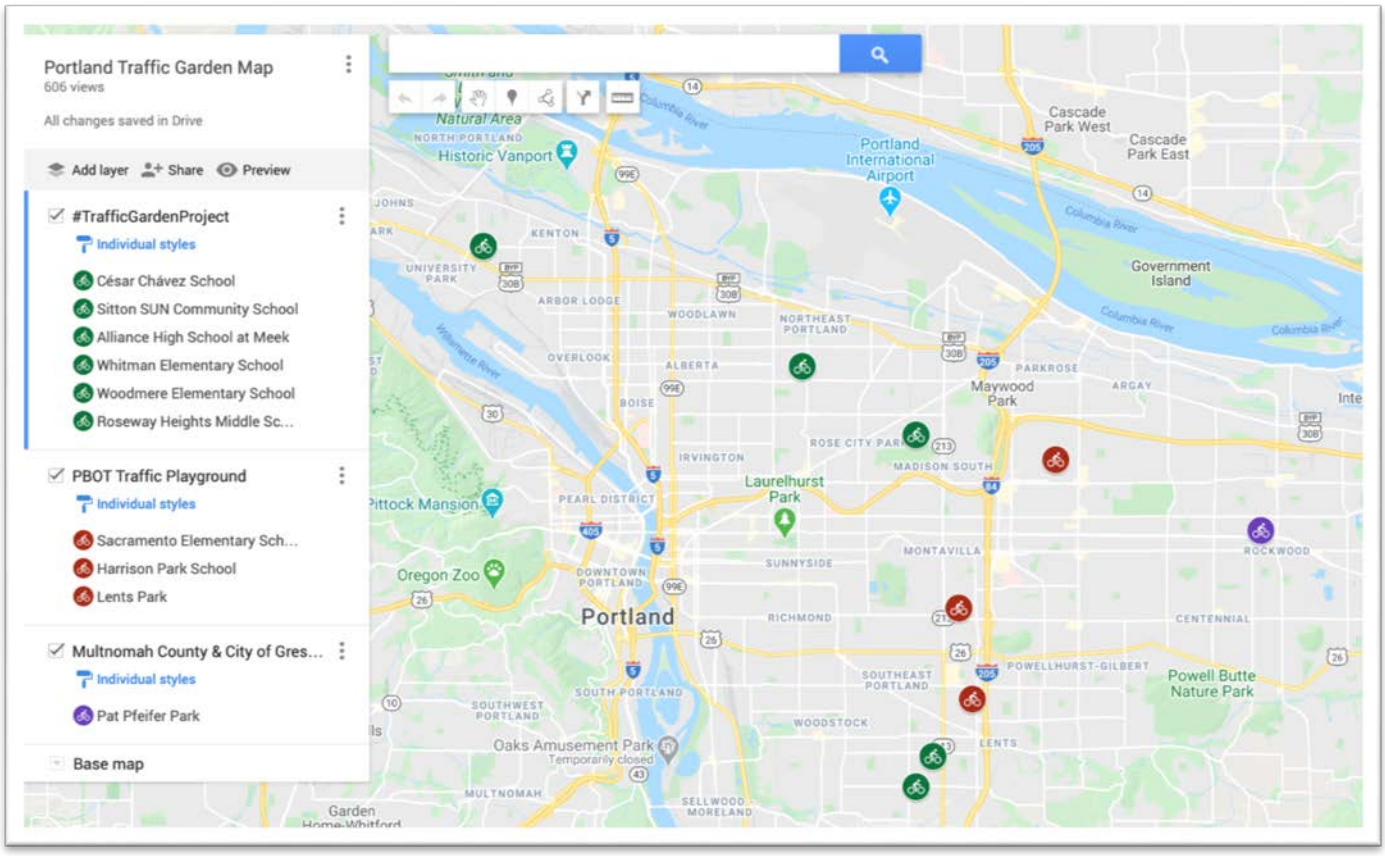
- Street networks and layouts fit site geometry and fixed features
- Layouts designed for adult learners as well as children
- Sites have different zones and design features to teach specific roadway lessons
- Layouts are set up to match specific bicycling skills and pedestrian education programs
- Such street layouts can be more costly and difficult to install
- Typical sites include underutilized parking lots such as church and recreation centers
- Refer to Table 6.11 for more details about each site location

FIGURE 6.6 TEMPORARY TRAFFIC PLAYGROUNDS



Temporary traffic playgrounds in Portland as of 8/14/2020. Visit the Portland Traffic Garden Map for updated list of locations

PART 7 – WORKSHEETS

WORKSHEET A: TRAFFIC PLAYGROUND VISION WORKSHEET

Traffic playgrounds must be safe, connected, accessible, comfortable and enabling. Use the worksheet to create a project vision that defines the future traffic playground.

CLEARLY STATE what type of traffic playground is envisioned

What is intended purpose(s) of installing a traffic playground?	
What will people experience upon arrival?	
What devices can be used? (hint: balance bikes, scooters, two-wheelers, wheelchairs)	
How will local character be incorporated?	
How will local history be reflected?	

CLEARLY STATE how facility will be run

Who runs and operates facility?	
How maintains facility (i.e. routine and preventative needs)?	
When is facility open for use (hours, days)?	
Will facility be fenced/gated?	

CLEARLY DESCRIBE users and requirements

How is equal access ensured?	
How are different backgrounds reflected?	
How are users with mobility issues served?	
Will age limits be in place?	
Will there be use requirements (e.g. age)?	

CLEARLY STATE how people will access facility

How will access be provided for people arriving on foot?	
How will access be provided for people arriving with devices (e.g. wheelchairs, strollers, cane, etc.)?	
How will access be provided for people arriving by bike?	

How will access be provided for people arriving via transit?	
How will access be provided for people arriving by motorized vehicles?	

Additional questions to consider

How will the facility operation develop and grow over time?	
How does facility vision align with community vision for children and families?	
How will facility success be defined?	
What does overall community success look like?	

CLEARLY DESCRIBE envisioned programming

Describe any skills building programming plans	
Describe any physical activity programming plans	
Describe any roadway safety education programming plans	
Describe any imaginative play programming plans	
Describe any community building programming plans	
Describe programming plans by age/skill level: • Preschool • Elementary School (ages 5-11) • Middle School (ages 12-14) • HS (ages 14-18) • Adult learners	

Describe other engagement plans? (e.g. camp programs, bike rodeos)	
How will impacts of programming or engagement be measured or quantified?	

CLEARLY ADDRESS potential barriers to access and use

Identify any physical barriers to access or use of site	
Identify any transportation barriers to reaching site	
Identify any financial barriers to use of facility	
Identify devices or equipment needed to use facility	
Identify any information or language barriers to use of facility	

WORKSHEET B: TRAFFIC PLAYGROUND PROJECT TEAM WORKSHEET

Use the worksheet responses to assist in identifying project team members to ensure representation and in distributing tasks.

CLEARLY STATE project team leadership

	Name	**Contact Information**
Project leader		
Leader assistant		

CLEARLY STATE core team members and perspectives

Core Team Member	**Contact Information**	**Organization (if relevant)**

Identify representatives from a range of perspectives: • People of color • Women • Children • Local business owner • Local children • Teens • Grandparents/caregivers • Older community members • Mobility impaired	Identify community representatives willing to donate the following skills: • Digital designer • Writing • Public/community/media relations • Artist/maker • Bike/pedestrian skills educator
Identify organizations and agencies to play roles: • Disability community representatives (multiple) • Active transportation advocates • Arts and cultural representatives • Local transportation officials	Identify key school community representatives: • School administration • SRTS coordinator • PE teacher • Parent(s)

NOTES

WORKSHEET C: TRAFFIC PLAYGROUND DESIGN CRITERIA

Traffic playgrounds must be safe, connected, accessible, comfortable and enabling. Use the worksheet to define traffic playground design criteria.

CLEARLY STATE type of traffic playground facility envisioned

Type 1: Traffic Playground Court (school-based site)	
Type: Traffic Playground Court (park/parking lot-based site)	
Type 2: Traffic Playground Park (standalone or park site)	
Type 3: Temporary Traffic Playground (school-based site)	
Type 3: Temporary Traffic Playground (park/parking lot/street-based site)	

CLEARLY STATE traffic playground facility capacities

What is maximum number of preschool participants (under 5)?	
What is maximum number of elementary age students (ages 5-11)?	
What is maximum number of middle school students (ages 12-14)?	
What is maximum number of high school students (ages 14-18)?	

What is maximum number of adult participants?	
What is the maximum number of public event participants?	
What storage is needed for associated equipment/devices, either permanent or temporary?	

CLEARLY STATE what layout features are to be included

List street types that are to be represented: • 2-way street • 1-way street	
List intersection types to be represented: • 4-way intersection • 3-way intersection • Roundabout List street features to be represented: • Sidewalks • Crossings • Bike lanes • Bike boxes • Arrows	
List pedestrian crossings to be included: • Painted crosswalks • Curb ramps	

• ‘STOP’ markings • ‘YIELD’ markings	
List other features to be included: • Gathering spots • Whimsical features • Painted name • Railroad crossing plus markings	

CLEARLY STATE what type of associated equipment is envisioned

Portable signs (list type): • Stop • Yield • Roundabout • Pedestrian Crossing • Other	
Permanent signs (list type): • Stop • Yield • Roundabout • Pedestrian Crossing • Other	
Traffic signals: • In-ground • Portable	
Challenge ramps: • Installed • Portable	

CLEARLY STATE amenities required or envisioned

Storage needs: • Temporary/short term • Permanent/long term	
Bike parking racks	
Benches and seating	
Other: • Water • Restrooms • Trash • Lighting	

WORKSHEET D: TRAFFIC PLAYGROUND COMMUNITY RESOURCES

Use this worksheet to investigate and seek available community resources that could contribute towards project.

Community Resource	Investigate and Explore	Tips and To Do's	Result
Sites	Local agencies or owners may be willing to donate or allow use of under-utilized space.	• Seek out suitable local space • Contact schools, Parks and Recreation department, churches and parking lot owners	
Existing Programs	Local providers may provide valuable joint-programming as well as support such as using their broadcast networks on behalf of project enhancing audience reach.	• Connect with existing local programs related to health, education, environmental, active transportation, child safety, community service, immigrant services and more.	
Local Grants	Businesses, local service organizations, foundations and governmental agencies may have funds available to support healthy activity, education, or other aspects of the traffic playground.	• Make personal visits and requests to community connections • Seek out local grants and sign up for grant notifications	

Community Resource	Investigate and Explore	Tips and To Do's	Result
		• Conduct research about options • Submit unsolicited requests.	
Volunteers	People may be willing to donate their time on a once-off or on-going basis to a project that provides clear community benefits.	• Put out requests through social media, local organizations, elected official's newsletters, and personal connections. Ask people from under-represented communities to do same	
Local Agencies	Officials representing the school system Department of Parks and Recreation, Department of Public Works, Department of Transportation and Municipal Planning Organization may provide assistance in various ways.	• Ask connections at agencies whether they can share staff resources (e.g. paint crews, sign making services) or donate used equipment (e.g. signs, paint installation devices) or materials to assist project	

WORKSHEET E: TRAFFIC PLAYGROUND SITE IDENTIFICATION WORKSHEET

Use this worksheet to gather information about the general suitability of the site(s) under consideration and to supplement the detailed field examination of the site.

CURRENT STATUS of site?

What is current purpose and use?	
How often is it in use and who are the current users?	
Is the current use of the site an asset to the community?	
Are there any known problems associated with site?	

DESCRIBE how the site is accessed

Describe access for people arriving on foot	
Describe access for people arriving with devices (e.g. wheelchairs, strollers, cane, etc.)	

Describe access for people arriving by bike	
Describe access for people arriving via transit	
Describe access for people arriving by motorized vehicles	

DESCRIBE site set up

Does site geometry to accommodate the layout-type planned?	
Is site large enough to accommodate desired layout?	
Are maximum and minimum dimensions for the length and width adequate?	
Describe the general condition of the surface (e.g. cracks, potholes, etc.)	

Describe existing surface markings	
Is the site hilly or sloped?	
Is there adequate buffer space from adjacent fixed structures and objects?	

LIST existing available site amenities

On the site: • Benches • Bike racks • Storage • Water (drinking) • Water (spigot) • Restrooms • Trash cans • Picnic tables • Shade	
Close by the site: • Benches • Bike racks • Storage • Water (drinking) • Water (spigot) • Restrooms • Trash cans • Picnic tables • Shade	

DESCRIBE new features needed

Does site need path connection or changes to gate to allow or improve access?	
Does site need improvements for people using wheelchairs or other mobility devices?	
Does site require any rehabilitation (e.g. surface, drainage, cleanup, crack repairs, markings removal, etc.)?	
Is secure storage needed and is there a suitable location for close-by storage?	
Do any other amenities need to be added?	
Are any other new amenities needed?	

DESCRIBE proximity to other features

Outline proximity to existing family-friendly community destinations: • School • Library • Park • Recreation center • Playground • Other	
Outline proximity to basic amenities within close walking distance: • Bathroom • Water • Benches • Shelter/shade • Other	

DESCRIBE ownership, availability and surrounding plans

Who owns property or can grant usage rights or sign a lease/agreement?	
Is there established relationship?	

Could they become a community partner?	
Who has current usage rights and does public already have access?	
What requirements must be met to gain rights to use the property?	
Are there any future development plans for the site or adjacent properties?	
Are there any adjacent road widening plans?	
What are recent and distant past uses of site?	

WORKSHEET F: TRAFFIC PLAYGROUND FIELD VISIT WORKSHEET

Use the listed prompts to gather information during traffic playground site field visits. Take close-up photos to document existing conditions.

DESCRIBE surface materials and conditions

What is the surface material?	
Does the material switch to another material in any areas? (Outline limits on aerial photo)	
What is the general condition and integrity of paved area?	
Are there extensive/serious cracks?	
Is there evidence of asphalt fatigue/alligator cracking?	
Note extent of weed growth in cracks	
Observe how site drains and how well drainage is working	

Is there evidence of water pooling after rainfall?	
Note location and extent of any silt, sand or gravel collected on surface	

DESCRIBE existing conditions and features

Note slope of site and any particular hills or dips (locate on aerial)	
Is there any evidence of active erosion (e.g. missing pavement or washed down soil)?	
Are there any bollards or stubs of bollards, poles or locking devices embedded in pavement?	
Any there any poles in the surface (e.g. basketball, lighting, electrical)?	
Are there any manholes, grates or electrical boxes in surface? Note if they are depressed or sticking up from surface.	

Are there any doorways exiting from buildings or sheds directly into the site?	
Note any building or storage container hard corners close to the site.	
Are there any other fixed vertical or horizontal hazards?	
Are there any stubbed off pipes or remnants of past infrastructure?	
Are there any drop offs or steep slopes at site edges?	
Are there any close by trees (with falling leaves and branch debris)?	
What is orientation of the layout of site relative to access points?	
Are any climate factors evident (e.g. sun, shade, exposure)?	
What are shade and sun patterns over course of day?	

Are there any building or air conditioner overhangs (dripping onto site)?	

DESCRIBE site approach and access

Describe access for people arriving on foot	
Describe access for people arriving with devices (e.g. wheelchairs, strollers, cane, etc.)	
Describe access for people arriving by bike	
Describe access for people arriving via transit	
Describe access for people arriving by motorized vehicles	
Describe family unloading and staging area	
Is there a maintenance access?	
How do emergency services access the site?	

Where would crews access site and stage equipment during installation?	
How visible is site to passersby?	
Does site have a street address?	
How easy is it to find the site using map apps?	

DESCRIBE doors, gates and fencing

Describe/mark doors that open into site	
Are doors open/locked/staffed?	
Describe gates: • How do they work • Area they kept locked/open/closed? • Who has keys and how can they be reached?	

SUGGESTED PHOTOS for documentation and later reference

Long views of the site from each side	
Close-ups of the surface including any cracking, potholes, silting and existing markings	
Close-ups of features including fencing, poles, bollards, and storage containers	
Overhead views (e.g. top of step ladder, adjacent building or drone)	
Photos of project team and volunteers at work	

DESCRIBE existing amenities at the site

Electrical supply and outlets	
Water supply and spigots	
Available artificial lighting	

Close-by bathrooms	
Benches	
Trash cans	
Available storage units or space	

NOTES

WORKSHEET G: TRAFFIC PLAYGROUND DRAWING PREPARATION

The **base layout drawing** of the site can be prepared using a Google Earth image. The base drawing should show existing conditions based on the collected field information combined with available digital information.

Base Layout Drawing Information	Confirm Included
Project name and address	
Name and contact information for preparer	
Date of preparation (plus revision dates)	
Drawing scale, date and due north	
Outline of site	
Outline of directly adjacent and surrounding features (buildings, driveways, sidewalks, paths, trail connections)	
Location of adjacent doorways and gates	
Location of any fixed or semi-permanent physical items such as drainage grates, poles, sign posts, bollards, fences, trash cans, sheds, electrical boxes, etc.	
Location of water or electrical sources for site	
Note about information source (e.g. Google Earth)	

The **conceptual layout drawing** is prepared on the base drawing and should include additional information about what is proposed.

Conceptual Layout Drawing Information	Confirm Included
Project name and address	
Name and contact information for preparer	
Date of preparation (plus revision dates)	
Drawing scale, date and due north	
Outline of site	
Outline of directly adjacent and surrounding features such as buildings, driveways, sidewalks, paths, and trails	
Location of adjacent doorways and gates	
Location of any fixed or semi-permanent physical items such as drainage grates, poles, sign posts, bollards, fences, trash cans, sheds, electrical boxes, etc.	
Location of water or electrical sources for site	
Layout of proposed street network with dimensions	
Other proposed pavement markings or traffic features	
Outside dimensions and street widths	
Note about information source (e.g. Google Earth)	

The **final layout drawing** is prepared on the same base drawing and should include more detailed and accurate information.

Final Layout Drawing Information	Confirm Included
Project and address	
Name and contact information for preparer	
Date of preparation (plus revision dates)	
Drawing scale, date and due north	
Outline of site and full dimensions	
Outline and label existing features	
Outline of directly adjacent and surrounding features such as buildings, driveways, sidewalks, paths, and trail	
Location of adjacent doorways and gates	
Location of any fixed or semi-permanent physical items such as drainage grates, poles, sign posts, bollards, fences, trash cans, sheds, electrical boxes, etc.	
Location of water or electrical sources for site	
Layout of complete street network	

All proposed pavement markings	
Any additional crossings or features	
Included detailed dimensional information	
Include typical details for recurring markings	
Add important notes about site and project	
Surrounding buildings and features including paths, trails, driveways and doorways	
Closest street(s) and label (at the same scale or in an insert)	
Property lines (only if accurate and verified)	
Notes about information source and accuracy	
Notes directing installation	

WORKSHEET H: DRAWING REVIEW CHECKLISTS

Traffic Playground Drawing Review Checklists

DOES LAYOUT accommodate walking and bicycling activities?

Are there clear walking and bicycling path and route options around?	
Do streets connect in a clear and consistent way?	
Can users change directions at several locations?	
Are signs and pavement markings shown at intersections?	
Are there too many stops/starts close together?	
Is there adequate space for multiple users to spread out?	
Are there different areas for users of different skill levels and abilities?	

DOES LAYOUT accommodate other aspects of operation?

Are there well-located places for groups to assemble during programming	
Where will people arrive at site?	
Upon arrival, how do users access the traffic playground?	
Are there suitable places for accompanying adults to sit and watch?	
Where do people park their bicycles?	
Is equipment storage in a readily accessible for start and end of programs?	

CHECK DESIGN for details

Are signs and pavement markings shown at on all intersection approaches and for all crossings?	
Do roundabouts flow the correct direction?	
Are correct lane configurations shown?	
Do any streets or lanes end abruptly?	

Are there any sharp turns with small turning radii?	
Are radii shown at all corners and dimensioned?	
Are any streets too narrow edge to edge (especially one ways)?	
Are any streets too wide edge to edge?	
Are any street segments overly short?	
Are there any hills or curves of concern?	
Is adequate buffering provided for users from any physical elements including adjacent buildings, poles and storage units?	
Are there any sharp corners or fixed objects in the direct path if bicyclist misses a turn?	
Are there adequate buffers and clearances from adjacent buildings, poles and storage	

CHECK FOR errors or omissions

Are existing features and edges represented correctly?	
Are all the existing access points, paths and doors indicated?	
Does anything seem off or shown in a different location to real life?	
Do field visit photos match details shown or is anything missing?	
Are all dimensions include for widths, lengths and markings?	
Does dimensional information add up and make sense?	

WORKSHEET I: TRAFFIC PLAYGROUND ADDITIONAL QUESTIONS WORKSHEET

PLANS for future

Is there a potential for future add-on or adjacent area that could be incorporated?	
Prepare wish-list of projects that could be undertaken by community groups or donors	
Could buildings be added on the street network or for adjacent storage/learning?	
Could site act as a canvas for future artist projects or embellishments?	

CONSIDERATIONS to keep in mind

Does project over-rely on a single champion?	
Is weather favorable for surface product application during planned installation?	
Is programming being developed so that site goes into is active use?	
Are funds budgeted to refresh surface materials in a few years?	
Are wayfinding signs planned so people can find the site?	
Are stakeholders and others who helped kept informed of progress?	

Element	Considerations	Notes
Art and Beauty	• Public art improves quality of life • Canvas for art installation • Whimsical elements	
Practical	• Tools, locks, helmets (multiple sizes)	

WORKSHEET J: EVENT PLANNING CHECKLIST

Traffic Playground Community Engagement Event Planning Checklist

Event Name
Event Date
Event Start/End Time
Setup Time
Site Address + Room Number
Site Contact Name/Information
Brief Event Description

ADVANCE PLANNING before engagement event

Coordinate and select date/event with partners	
Visit space + confirm accessibility	
Secure space + get on calendars	

Determine equipment needs	
Book equipment and list supplies	
Prepare plan for on the day	
Secure helpers and volunteers and designate roles	
Send out advance information and publicity	
Prepare publicity and contact media (if applicable)	

ON THE DAY of event

Arrive early to unload supplies	
Set up equipment, materials and signs	
Go over event details and expectations with team	
Welcome attendees and explain purpose of event	
Hold activity or participatory event	
Capture and record stakeholder input	
Photo document event	

Hold giveaways and gather attendee information	
Thank people for participating	
Let people know what to expect next	
Clean up and restore space	

FOLLOW-UP after event

Thank any hosting or partner organizations	
Thank volunteers and send them photos	
Send update about participation to rest of team	
Secure, record and copy the input information	
Go over input information with team while still recent	
Send follow up information to participants	


YIELD
STOP

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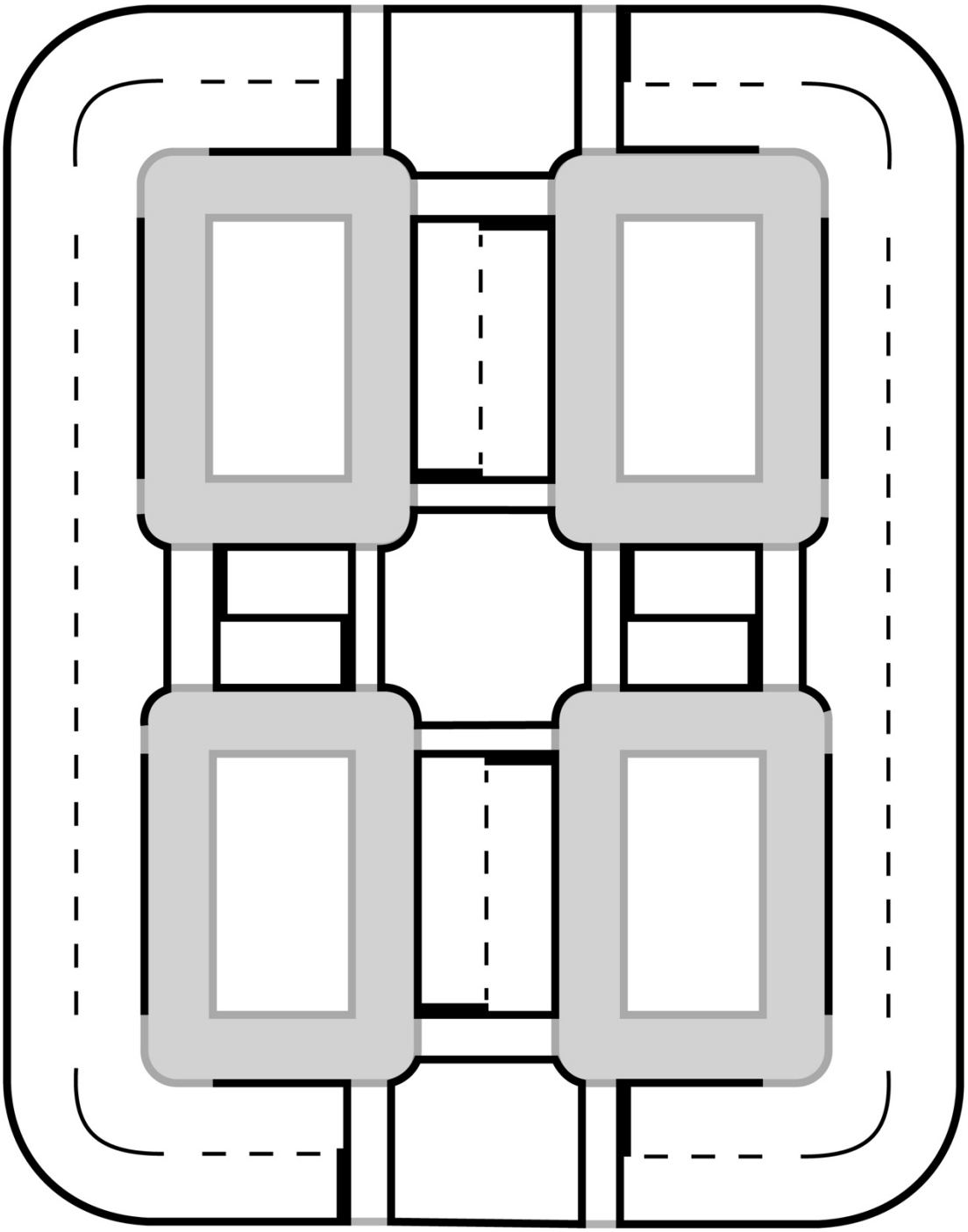
PART 8 - APPENDICES

APPENDIX A: TRAFFIC PLAYGROUND COURT LAYOUT EXAMPLES

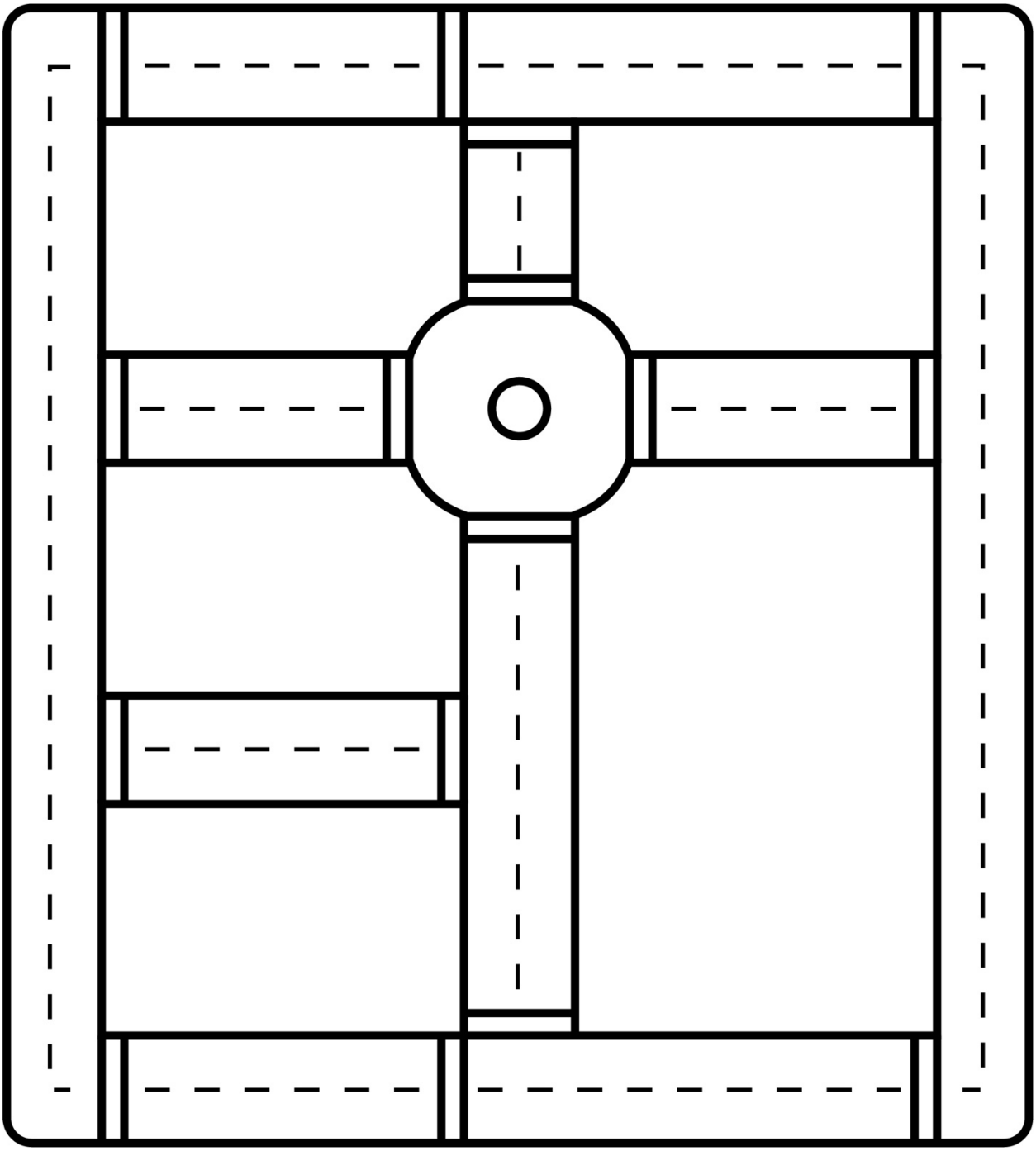
Traffic Playground Layout Example:

Westlake Safety Town, Westlake, Ohio



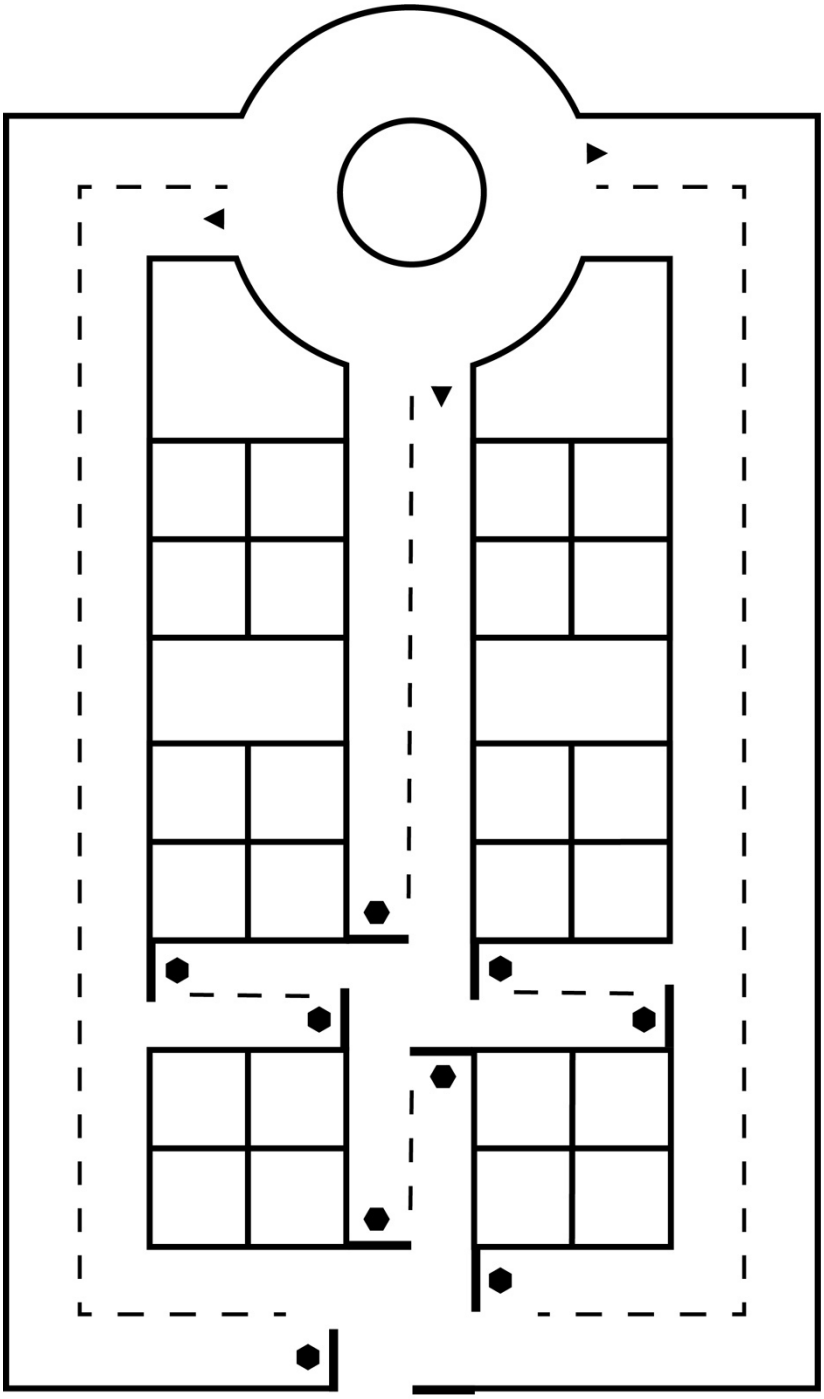
Traffic Playground Layout Example:

MAK Town Safety Village Dayton, Ohio



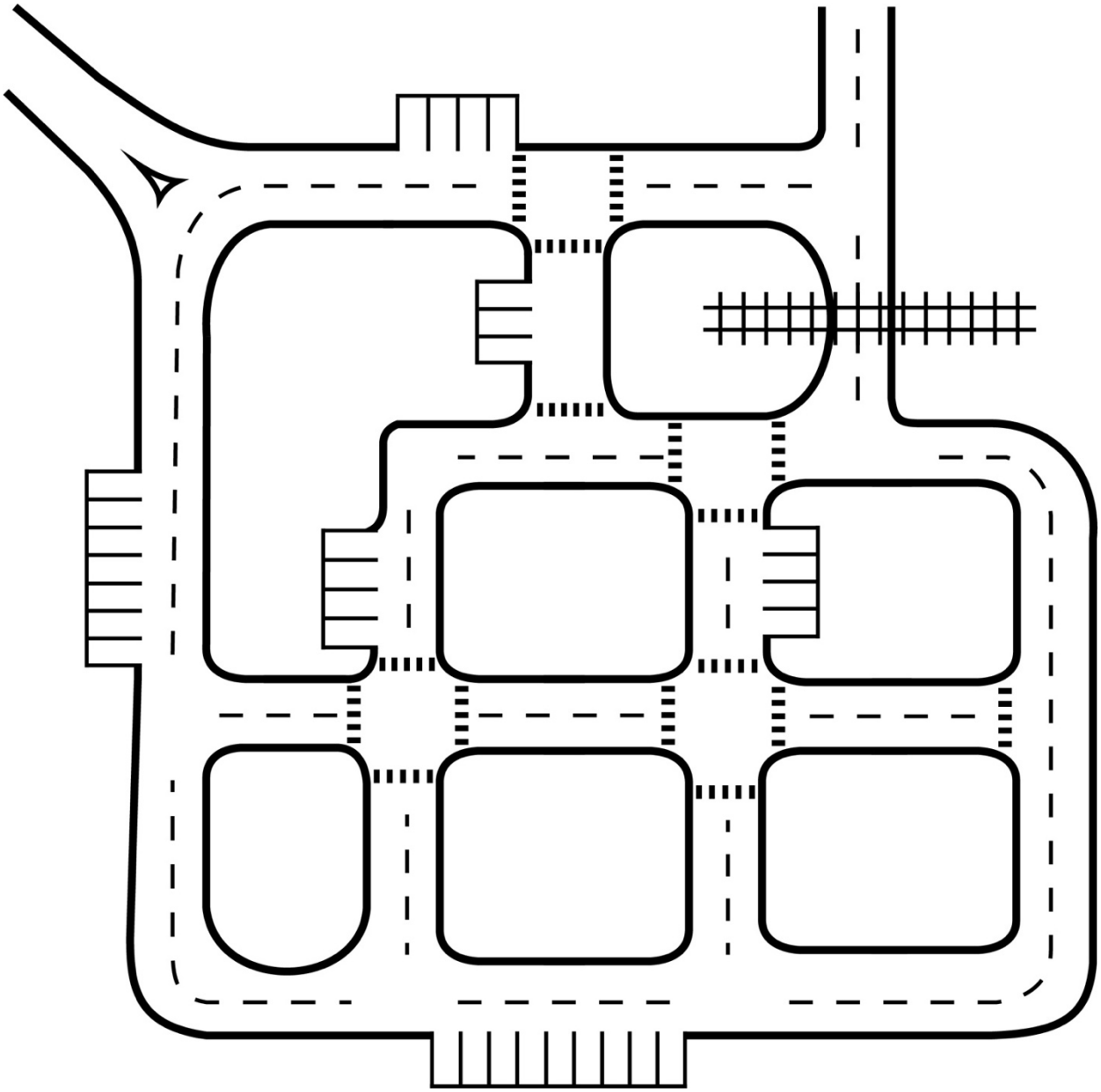
Traffic Playground Layout Example:

Oceano Bicycle Playground, Oceano, California



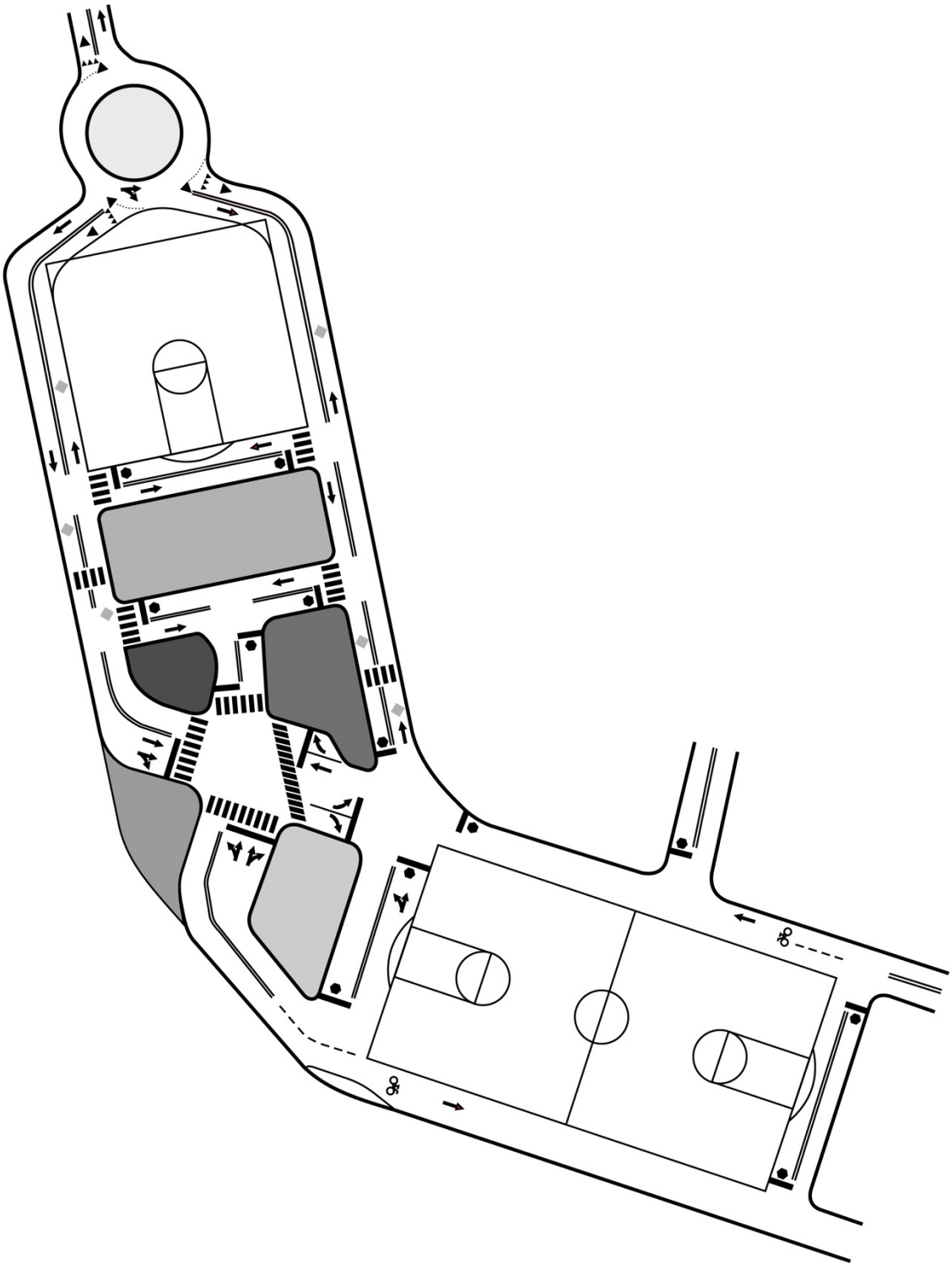
Traffic Playground Layout Example:

Warminster Safety Town, Warminster, Pennsylvania



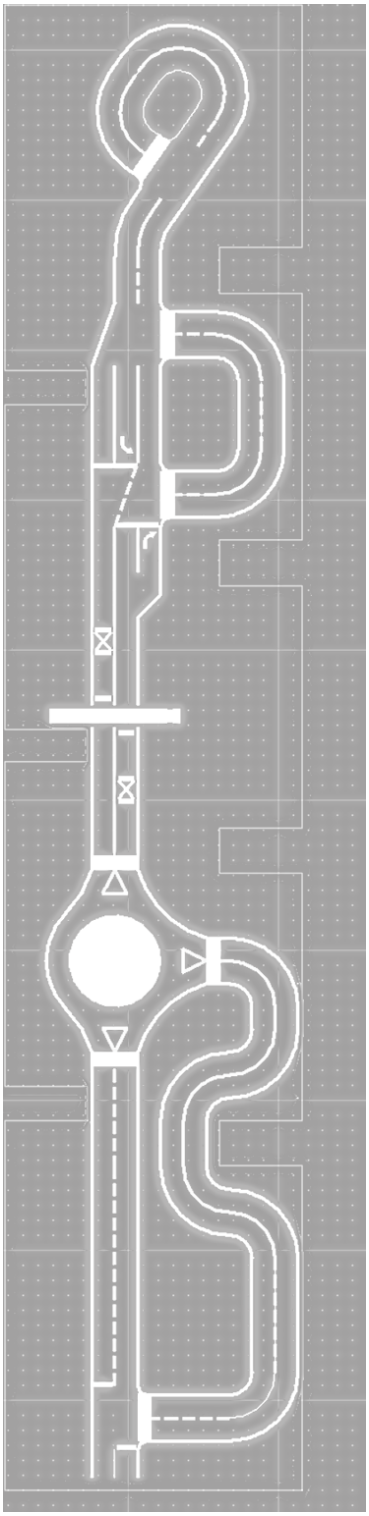
Traffic Playground Layout Example:

Charlotte Bike Playground, Charlotte, North Carolina



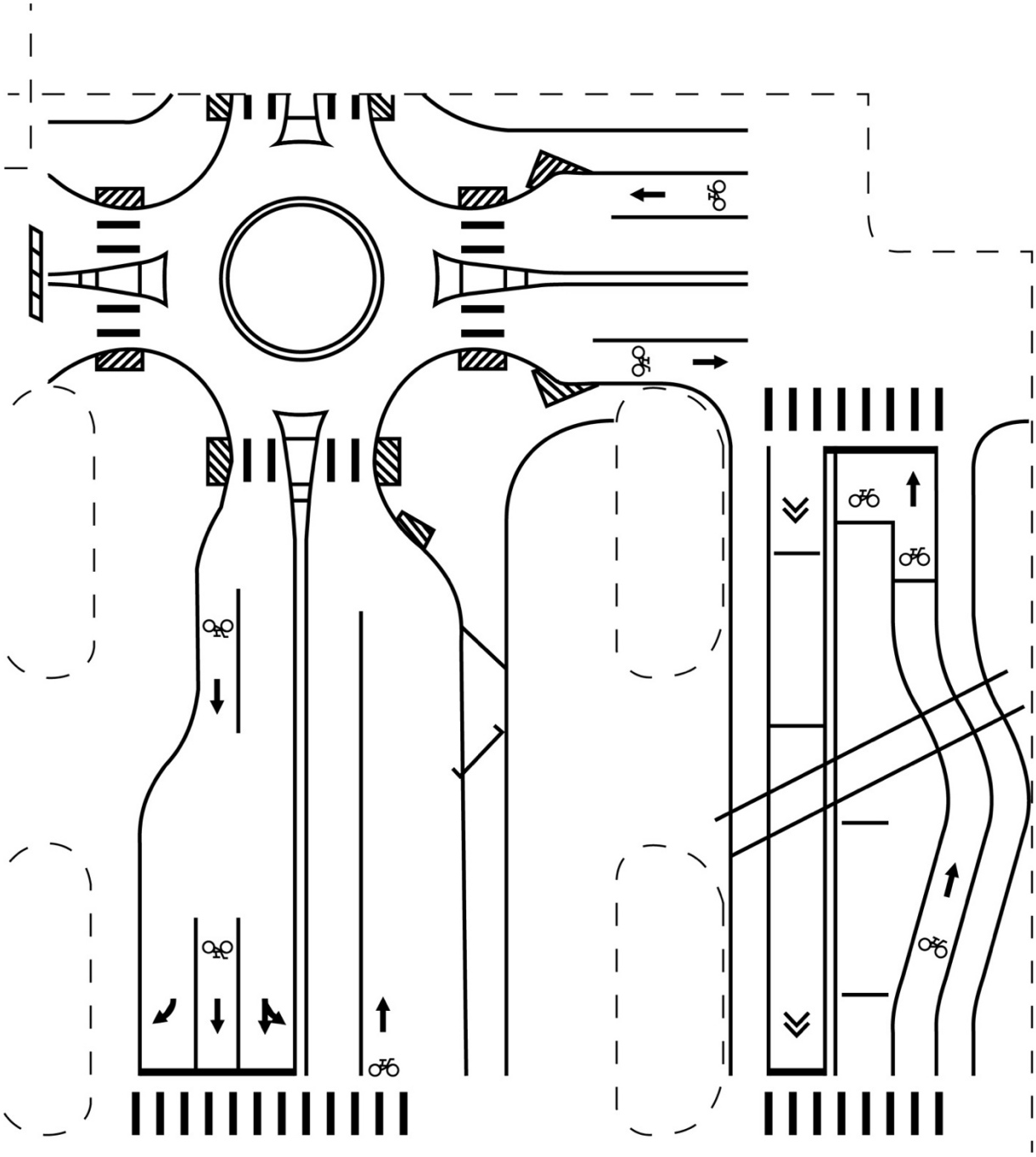
Traffic Playground Layout Example:

Lents Park Traffic Playground, Portland Oregon



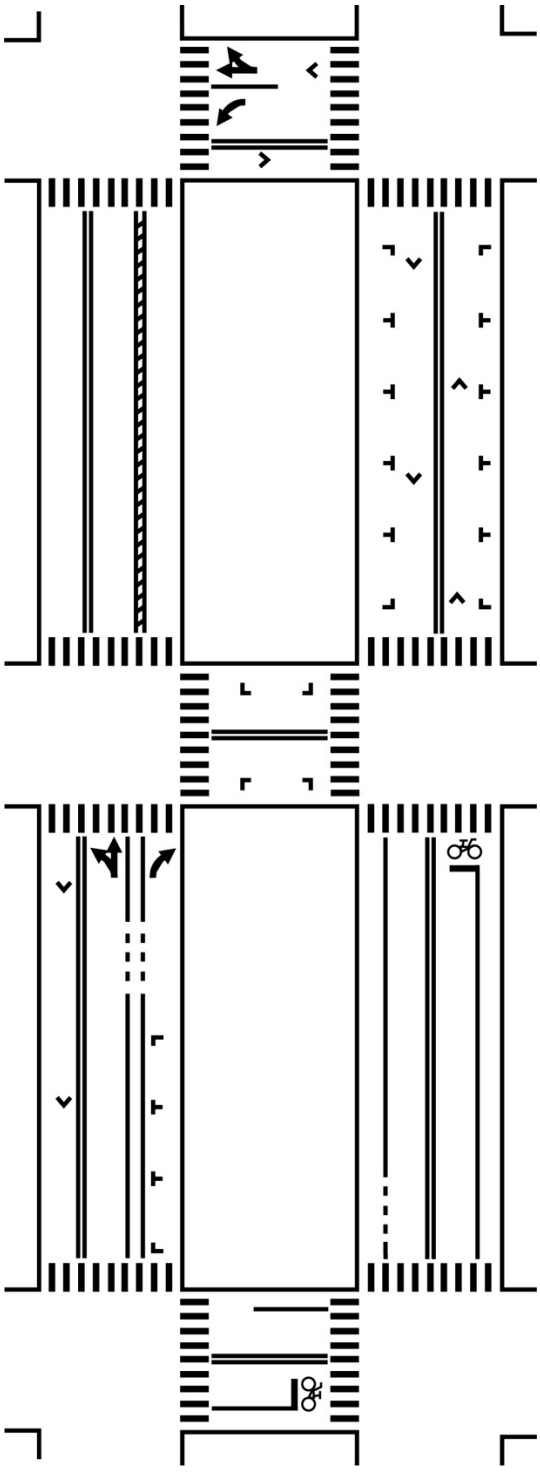
Traffic Playground Layout Example:

Fort Collins Walk and Wheel Skills Hub, Colorado



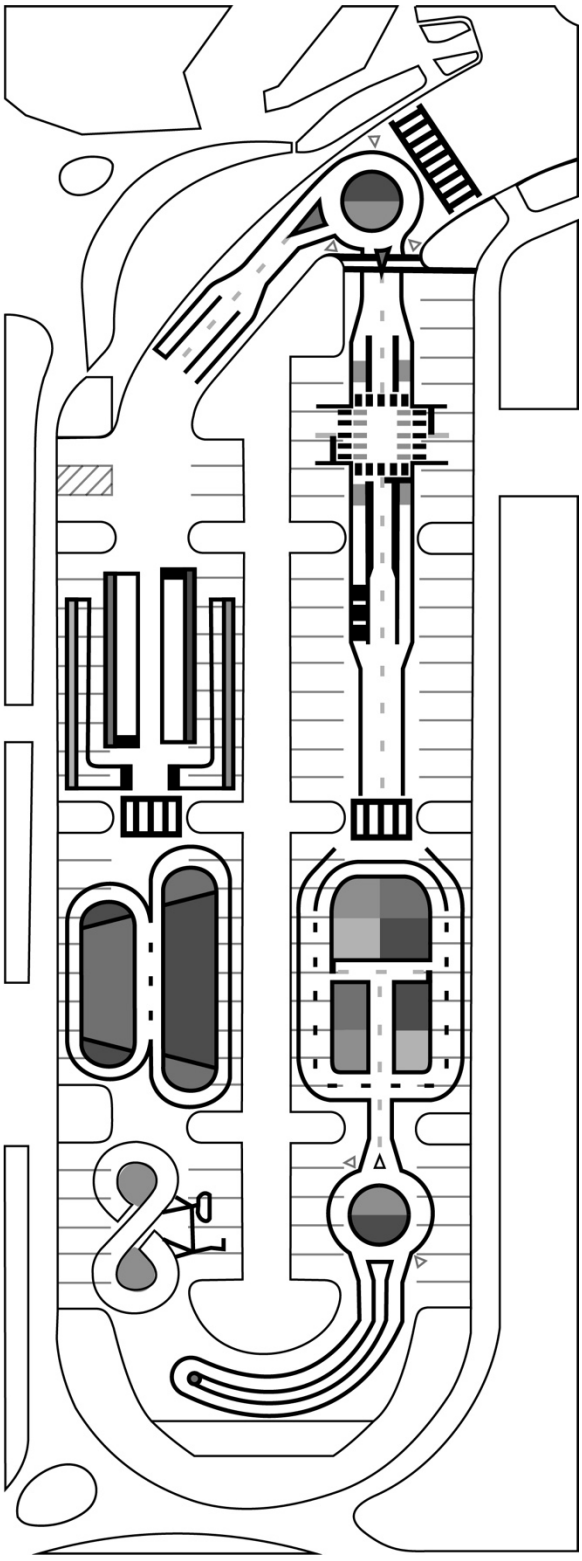
Traffic Playground Layout Example:

Alexandria Bike Campus, Virginia



Traffic Playground Layout Example:

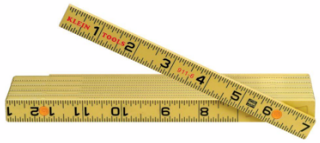
Montbello Bicycle Course, Colorado



APPENDIX B: TRAFFIC PLAYGROUND INSTALLATION TOOLBOX

MEASURING THE SITE

Marking and measuring are key aspects of locating and laying out the traffic playground. A range of measuring tools are needed to locate, mark and install the striping lines and pavement markings.

Tools	Purpose + Use + Tips	Cost
Yard stick 	Straight measuring tool Many layout applications Useful for drawing lines Low cost allows having several on hand to help with pavement marking, etc. Available at local hardware store and paint supply shops	$1 and up
6' folding ruler 	Measuring tool Extra length is handy for traffic playground features Longer straight edge is useful for marking and drawing lines Useful for spacing street lanes Available at local hardware store and paint supply shops	$13 - $50
Open reel hand-wind measuring tape (100') 	Long tape (available in range of lengths) Flexible tape follows corners and irregularities Measuring extensive lengths on sites Laying out boundaries Measuring angle or distance between points to assist with layout calculations Marking long street segments Easy rewind and handle useful if doing a lot of measuring Available at local hardware store and through sports courts suppliers	$15 and up

Retractable + locking measuring tape (6'-25') 	Useful for single person measuring Locking feature allows repeated marking of same length Tape is rigid enough to remain stiff over a distance and provide useful approximations during layouts Wide variety of sizes, longer is more useful Compact and can be carried on person Tape lengths and prices points vary widely available Available at local hardware store and big-box general merchandise store	Ikea 10' tape (FIKA) = $1.49 Other tapes $6-$50 each
Measuring wheel 	Handy for measuring site and setting up for marking the layout Useful for planning layouts and larger sites Elevation changes can alter accuracy Keep steady pace when using May be less versatile than long measuring tape Available at local hardware store	$30 - $130
Drywall T-square 	Durable tool that assists with marking in the layout stage Useful tool for squaring off pedestrian crossings and measuring from midline Readily find right angles easily and line up other measuring sticks Double-sided blade allows measurements in both directions Brands include Wal-Board Available at local hardware store	$12 and up
Chalk line + powder	Creates crisp straight line on surface after measuring Use temporary chalk powder Available at local hardware store	$7 - $10
Chalk stick + string	Easy method for measuring and marking circles of any diameter on surface	NA

ASPHALT STRIPING DEVICES

There is a range of asphalt striping equipment for adding paint and spray chalk lines to hard surfaces, varying widely in price and capabilities. All of the equipment features some way of holding a surface application material while it is applied as well as wheels to make the device easy to maneuver and control. Lower cost equipment is generally less complex to operate and easier for non-professionals to use. The quality of the finished lines is related to the equipment as well as operator skill level.

Equipment	Purpose + Usage + Tips	Cost Range
Line striping wand 	Rolling handheld device For use with inverted marking paint can Trigger to apply paint Adjustable line width These devices are intended for marking not striping Difficult to control application rate and line width Two-wheeled version provides better control for painting curves Many available brands including Rust-Oleum, Aervoe and Krylon Available in local hardware stores and traffic supply stores	$20 - $75
Line striper (4-wheeled, walk behind) 	Easy to operate (pull trigger and walk straight line) Adjustable line width (2” - 4”) Paints straight lines For use with cans of inverted striping paint Can also paint on grass with water-based paints Storage compartment holds extra cans (refills + empties) May feature removable handle for storage	$100 - $150

	Needs modified handle/sprayer if painting directly at curb edge Involves slow steady painting following chalk marking line Large wheels for stability on uneven surfaces Versions available for adding chalk lines from powder YouTube video demonstrations widely available Several widely available brands including Rustoleum, Aervoe, Seymour and Sharp Stripe Available in local hardware stores, traffic supply stores and sports field suppliers	
Powered striping machine (3- or 4-wheeled, walk behind) 	Striping machine powered by battery, gasoline or compressor Many designs, models and features Include paint tanks or buckets Basic versions may be suitable for use by non-professionals Higher cost machines include features that assist with keeping lines straight, equipment steering, consistent paint application including on rougher pavement, applying curved lines, getting close to edges, spraying stencils and preventing paint drips from application build-up Can be rented by the day or week from equipment rental companies Many available brands including Graco, Newstripe, Titan, Many instructional videos available online	Basic models: $1,500 - $2,500 Heavy duty machines: $2,500 - $10,000+

OTHER SURFACE MARKING SUPPLIES

Striping lines and pavement markings may be applied permanently or for temporary applications using paints, chalk or tape. Manual painting may make sense for smaller sites and applications and can result in similar quality line striping. Spray chalk and tape can be applied manually also.

Equipment	Purpose + Usage + Tips	Cost Range
Traffic stencils 	Available through parking lot or traffic supply companies Commercial grade, reusable stencils Bike symbol, STOP sign + word, Yield word, shark's teeth (yield symbol) Allow paint or chalk to dry completely before moving to next location Take care moving the stencil to prevent smearing Clean stencil to prevent paint build up which will otherwise cause drips	$10 - $100 +
Custom-made stencils 	Create design at required scale Available through parking lot or traffic supply companies Commercial grade or lesser grade reusable stencils Bike symbol, STOP sign + word, Yield word, shark's teeth (yield symbol) Allow paint or chalk to dry completely before moving to next location Take care moving the stencil to prevent smearing Clean stencil to prevent paint build up which will otherwise cause drips	$30 and up
Handmade stencils 	Hand cut stencils for striping or pavement markings from cardboard, mylar, corrugated plastic sheets, gym mats Low cost, light weight material Place on the surface, spray paint or chalk, then re-position for the next stripe or marking Stencil cutters and corrugated plastic cutters available Useful making more-durable traffic sign faces	NA

	Can be cut to make longer-lasting stencils Take care moving the stencil to prevent smearing Clean stencil and prevent paint build up which will otherwise cause drips	
Handmade line- or crosswalk-striping frame 	Make painting frame with readily available materials including carpet, plywood, dowels, corrugated plastic, etc. Use paint roller to make striping lines within wooden frame	NA
Roller brushes (long pole, wide or narrow) + paint tray	Narrow paint roller can be used to paint striping lines Wide roller useful for painting large spaces Follow chalk snap line or equivalent to maintain straight line Roller makes it quicker to paint and handle reduces the need to bend	Roller sets: $13 - $30 Pole: $8 - $30 Tray: $2 - $19
Brushes (foam, stencil, various sizes)	Foam brushes help spread paint or chalk into stencil corners Stencil brushes designed to minimize paint or chalk seepage at edges	Foam: $1 + Stencil: $2 +
Black and white traffic paints	Mix to create paint color that matches asphalt color Apply in blocks to mask existing markings	$25/gallon and up
Chalk stick + string	Easy method for drawing relatively accurate circles of any diameter	NA
Chalk line + powder	Creates crisp straight line on surface Use temporary chalk powder	$8 and up
Duct tape or safety tape	Create temporary striping lines Available in range of widths (2”+) Test in advance on surface	Duct: $5/60 yd + Safety: $4.50/36 yd +
Painter’s/masking tape	For manual painting, use painter’s /masking tape to mark out sides	$4 and up
Cardboard sheets	Rectangular sheets with straight edges Use to prevent overspray when using spray paint	NA
Buckets	For soaking and cleaning paint brushes and rollers	NA

SITE PREPARATION & CLEANING SUPPLIES

Cleaning of the site and the equipment tools are key for a successful and long-lasting installation. Sand and loose debris as well as any flaking paint need to be removed from the surface so that newly applied materials adhere properly. In addition, equipment and tools need to be keep clean during installation to prevent drips, smearing and mixing of materials and colors.

Supplies	Purpose + Usage + Tips
Utility broom	Sweep surface of loose debris and sand before installation
Clean up supplies	Paper towel rolls, rags, wipes, trash bags, water buckets Clean as you go Wipe spray chalk off templates to prevent color mixing and drips Keep hands clean Wash brushes and rollers
Pressure washer	Wash site of surface debris Use to clean out asphalt cracks prior to refilling Most devices need access to water hook up
Crack filler or sealant	Crack filler is an asphalt emulsion added to stable cracks Crack sealer is a hot sealant added to working cracks Read installation instructions
Sealcoat	Sealcoat creates a fresh black background for applying line striping Needs application equipment also Read installation instructions
Weed removal device or chemical	Grass and weeds growing in asphalt cracks needs removal prior to lane striping

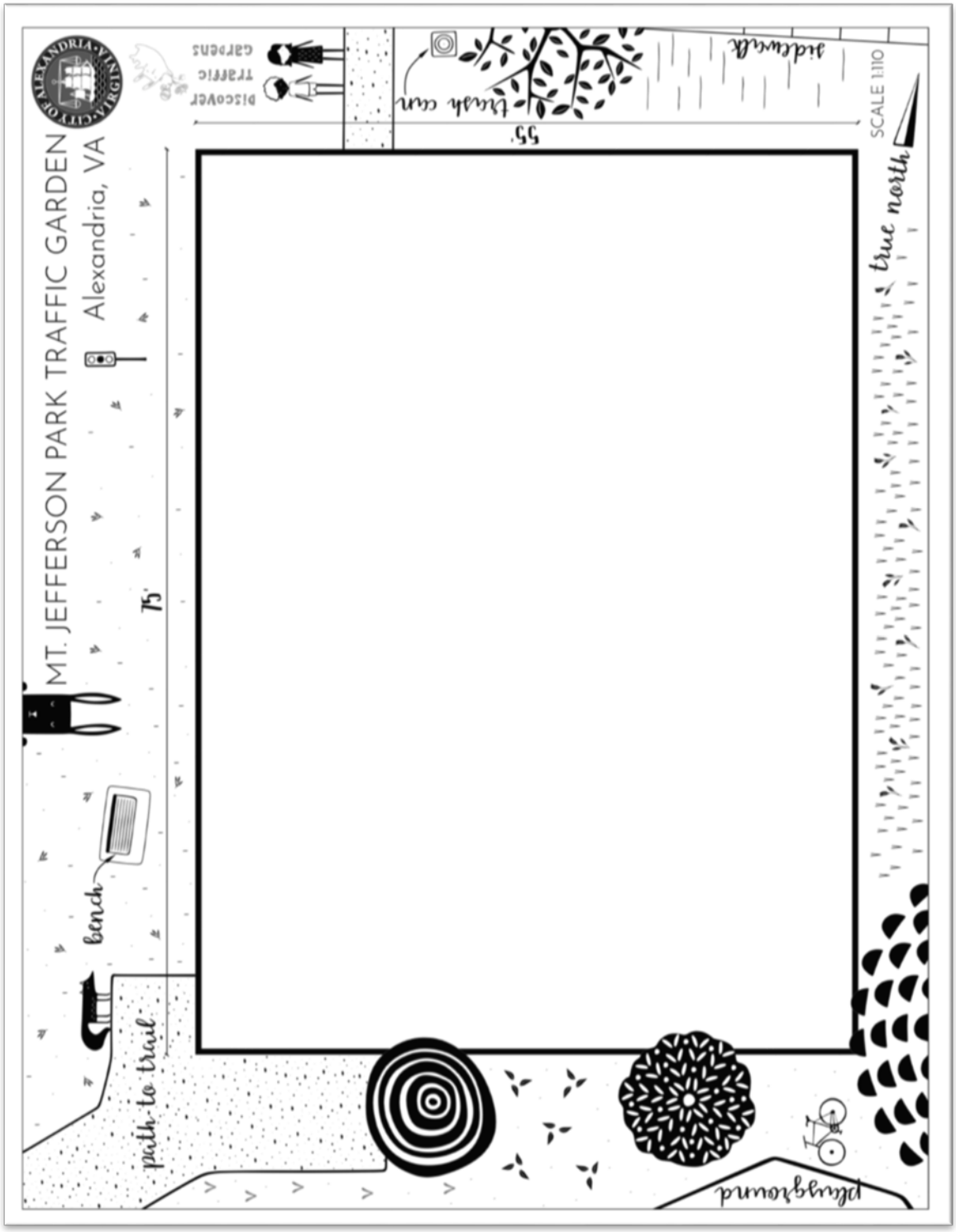
OTHER USEFUL ITEMS

As this is a large-scale project, there are many small items, tools and chemicals that can assist with organizing or performing the work. Many are items that you may already have on hand and will not need to purchase.

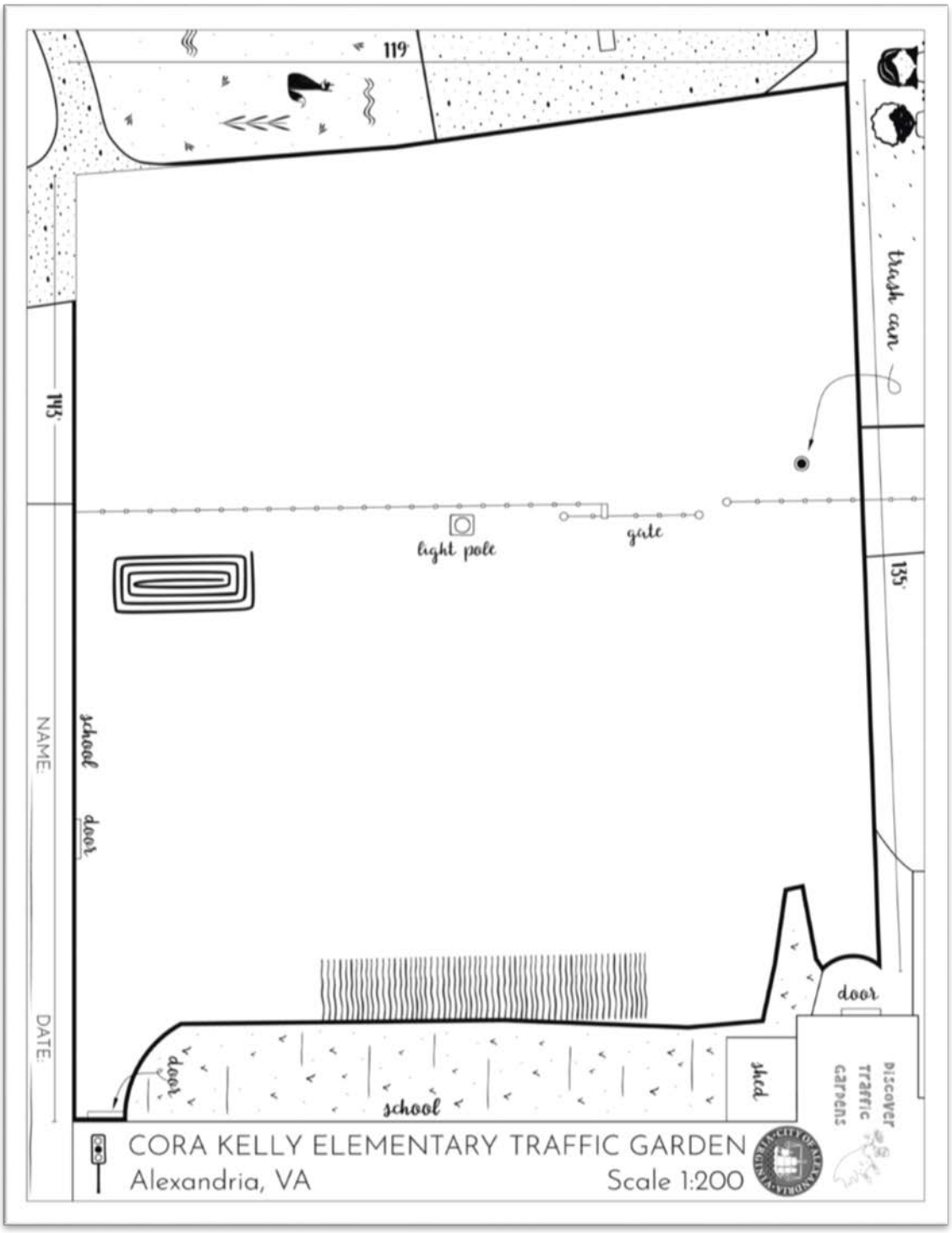
Supply or Equipment	Purpose + Use + Tips
A-frame sign	Inform passersby about work in progress and project Borrow or use child's chalk easel
Orange cones	Use to keep people from entering work area Can act as prop for signs or balloons Borrow from local public works department or PE program
Clipboards	Hold site drawing layout, installation instructions and volunteer information
Folding table(s)	Central place to access and return equipment and supplies Provides a check in spot for volunteers where they can also receive assignment Provide water, snacks and other comfort items
White board and markers	Central place listing instructions and any updated information List volunteer teams and contact numbers for key people
Cardboard (sheets)	Use to prevent paint and chalk overspray Also useful for organizing supplies and making into temporary signs
Tool belt, work gloves, knee pads	Useful personal items to assist in efficiency, safety and comfort during installation May be available to borrow
Scissors (titanium edge)	Cuts duct tape more cleanly Start at $10 each. Available in 3-pack at Costco for $10
Utility knife	Useful for making stencils, signs and miscellaneous cutting tasks
Solvent adhesive remover	For cleaning adhesive from duct tape cutting devices Brands include Goof Off, Goo Gone [*Only use if other cleaning methods have failed*]

APPENDIX C: COMMUNITY ENGAGEMENT ACTIVITY SHEETS

Example 1: Traffic Playground DIY Layout Base Sheet



Example 2: Traffic Playground DIY Layout Base Sheet



Example 3: Traffic Playground Design Brief

DESIGN BRIEF

The Problem:

- One underused basketball court, needing repairs
- No available space to learn to ride bikes
- Need for a place to learn on-street safety

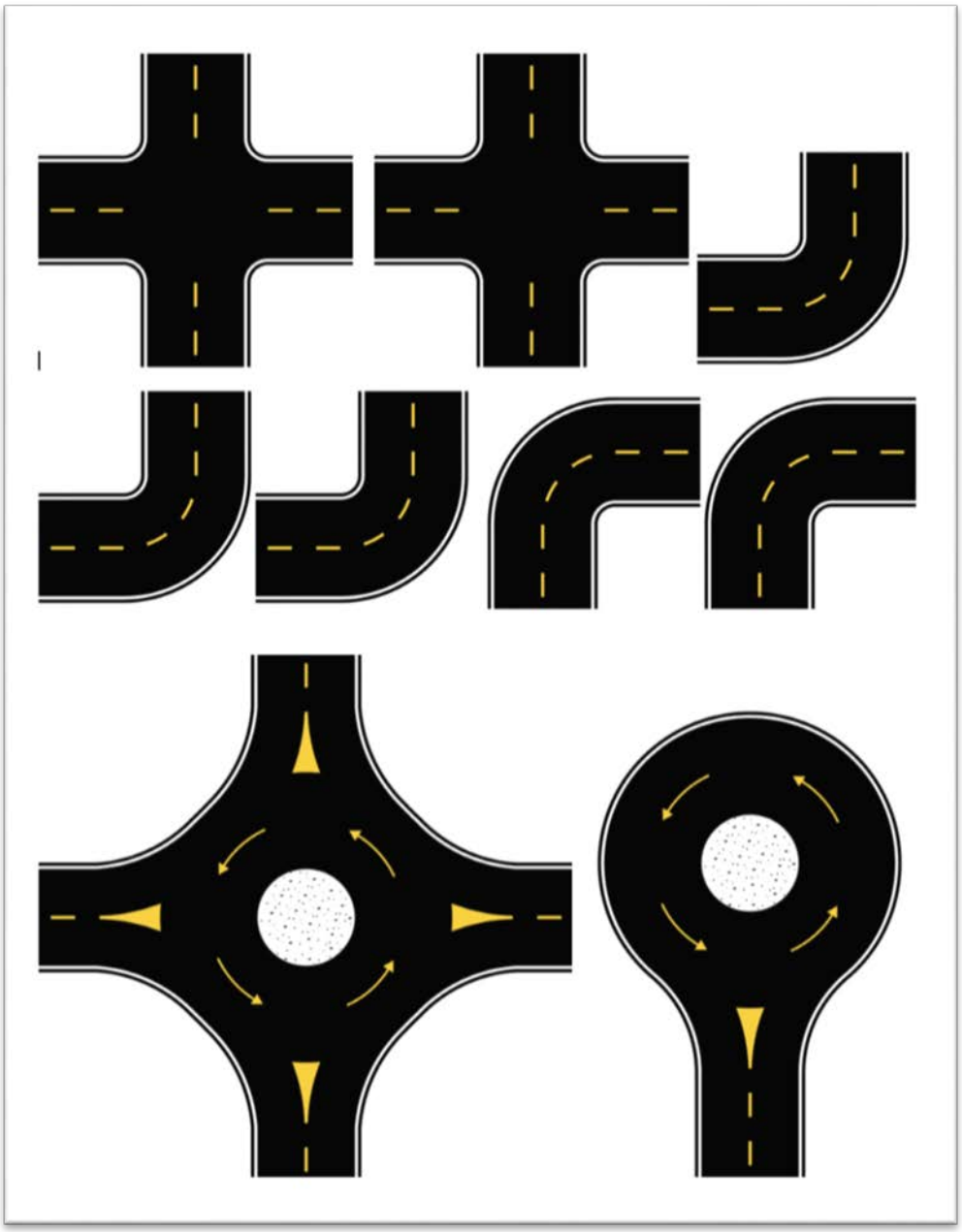
Materials:

- Streets, trails, railroad tracks
- Pedestrian crossings, signs
- Base drawing layout + glue sticks

Deliverable:

Traffic Garden Design: A detailed design drawing of a miniature streets network where children can have ride bikes and play while also learning about streets and transportation.

Example 4: Traffic Playground Cut-outs for DIY



Example 5: Traffic Playground Construction Permit

Traffic Garden Construction Permit

Name :

Date :

APPENDIX D: CASE EXAMPLES

Case Example 1: Reed Placemaking, Portland, Oregon

Information	Project: Reed Placemaking, Portland, Oregon
Project Plans	The plan for this local project was to install an on-street mural at the intersection of SE 28th Place and SE Pardee St. in Portland. The community project was facilitated by **The City Repair Project**, a Portland non-profit that supports and inspires communities to creatively transform the places where they live. The idea for the painted intersection was to honor the interconnection of human community to the natural world. The project involved the neighborhood in the creation and the installation of the painted design.
Stakeholders	The project intersection is near the Tucker Macon School, an elementary school that integrates children with hearing impairments that have cochlear implants with typical hearing children.
Type of Engagement	The placemaking project was designed with a kid-friendly spirit in mind. The school itself has goats and chickens, and neighbors from all over come to see and feed them. City Repair facilitated the collaborative visioning and planning among the community members and then implementation of the painted intersection installation.
Outcome	City Repair worked with the community and local volunteers to install the project. The intersection design features a mermaid riding a bike in the direction of future mermaid installations that were to be linked to this project subsequently.

Case Example 2: Cora Kelly Elementary School Traffic Garden, Virginia

Information	Project: Cora Kelly STEM Elementary School Traffic Garden, Alexandria, Virginia
Project Plans	The City of Alexandria is installing a traffic playground at Cora Kelly STEM Elementary School. The City wanted the school students to play a significant role in designing this new community resource. Sixth 3rd grade students prepared layouts for the future facility.
Stakeholders	The school is dedicated to educating all students for success through science, technology, engineering, and math (STEM) and is located in a diverse community. Sixty 3rd grade students participated in an in-school STEM design charrette workshop. During the workshop, they received instruction about the design process, and were provided with materials so they could prepare their own design for submission to the City. The workshop was held as part of their 3rd grade STEM class.
Type of Engagement	• The STEM room was turned into a Design Studio for the day • Students received an introduction to the project from a city official • Students field visited the site to examine existing conditions • Student prepared a layout design on a base drawing of the site • Volunteers provided guided instruction to the students including Spanish translation for two students • The city official inspected and approved each student design • Students then took their design to a City Hall booth where they met with a 'Mayor' who signed their drawing on behalf of the City • Students were presented with a Lifetime Traffic Garden Designer Membership card to acknowledge their learning • Each student signed and decorated a large banner which will be displayed as part of the future ribbon-cutting
Outcome	City officials representing planning, transportation and SRTS bike education programming gathered for a workshop to come up with the final layout. Officials went through all of the student-prepared designs and prepared a final layout for the site that was an amalgamation of five of the student submissions. The students were identified as they will receive specific recognition when the facility is installed. There is also a plan to add street signs that incorporating their first names. Final traffic playground drawings are currently being prepared and installation of the design will be in Fall of 2020.

Case Example 3: Little Street Traffic Safety Pop-up Installation, Los Angeles, California

Information	Project: Little Street Pop-up Safety Installation, Los Angeles, California
Project Plans	The Safe Routes to School Program within the Los Angeles DOT targeted Esperanza Elementary School for safety measures around the school property. The school is located on a two-way street called Little Street. City officials created a two-day pop-up to make it safer for families to access the school by converting it into one-way northbound street. This allowed the temporary addition of a drop-off lane, as well as a median and other street features. The school community was then able to provide input on the design ideas in the field while the City was working on permanent safety upgrades.
Stakeholders	Stakeholders included Esperanza Elementary students and family members plus school staff and local residents in the proximity Little Street.
Type of Engagement	The school community was provided input on the design ideas based on their experience using the pop-up while the City was in the process of working on permanent safety upgrades.
Outcome	The result of this project is intended to be permanent changes in infrastructure and improved safety around the school. In addition, the project made permanent impacts on the school community who participated as they saw the tools that can be implemented to make streets safer. This inspired them to advocate for these features at other locations in their community.

Case Example 4: Margaret Brent School Artistic Crosswalk, Baltimore, Maryland

Information	Project: Margaret Brent Elementary/Middle School Artistic Crosswalk, Baltimore, Maryland
Project Plan	The goal of this project was to improve crosswalk safety by creating more protected pedestrian space. This idea was also to draw the attention of passing motorists so they increased their awareness regarding the safety needs and right-of-way of children and residents walking to and from Margaret Brent Elementary/Middle School.
Stakeholders	Coordinated and facilitated by Graham Projects, the project drew input, assistance and expertise from a broad cross-section of the local community including The Friends of Margaret Brent, Live Baltimore, the Margaret Brent Elementary/Middle School community, the Harwood Community Association, and the Charles Village Civic Association as well as the Baltimore City Department of Transportation (DOT).
Type of Engagement	The participatory project involved redesigning the intersection so that it would be enhanced by vibrant public art and made safer through a process of civic engagement. Graham Projects co-led a drawing workshop with Margaret Brent students in June 2018 to generate visual themes that were integrated into three possible designs. These were then proposed to community members at several public meetings. One design was then selected for installation based on community feedback and votes tallied. The design, Reverberations Crosswalks, included symbols and colors inspired by drawings created by students and
Outcome	The Reverberations Crosswalks were subsequently installed with the help of local volunteers. Over the course of one weekend, local volunteers, including children, parents, and neighborhood artists, worked together to repaint the intersection with the community design. Using traffic paint, they installed the crosswalk and line-striped bumpouts while flex-posts were added to enhance safety. The vibrant crosswalks enhance safety by creating more protected pedestrian space and drawing the attention of passing motorists to the safety needs and right-of-way of children and residents walking to and from Margaret Brent Elementary/Middle School. Additionally, the highly visible design and colors celebrate the school's art education focus.

Case Example 5: Mt. Jefferson Park Traffic Garden, Alexandria, Virginia

Information	Project: Mt. Jefferson Park Traffic Garden, Alexandria, Virginia
Project Plans	As part of on-going City of Alexandria efforts to ensure safety on streets for all residents, the City is installing a traffic playground on existing sites for local children, The City planned their first traffic playground installation on an existing court next to a playground and a community trail.
Stakeholders	A central part of installing traffic playgrounds has been involving local children in the planning and design of the facilities. The City held a community workshop for children at the local library close to the site to provide design input for the new traffic garden. Children from age 2-10 attended with family members.
Type of Engagement	Design charrettes were set up that involved child-friendly learning materials and input methods, scaled roadway elements and engineering base drawings. The room was set up with an array of booths, tables and floor activities where participants could engage in one or all of the traffic garden design hands-on activities. The children were introduced to key ideas about the traffic garden and the design brief. They were provided with base drawings of the site and scaled street elements as well as other tools. They went to work laying out their streets and adding features and signs. They were assisted and facilitated by a number of volunteers and city staff who guided them through the process.
Outcome	City officials held a design workshop where they considered all of the children's submissions. The children's designs formed the basis of the final design layout for each site. Children were invited to the ribbon-cutting/bike rodeo event for the new traffic playground and have seen the site go into everyday use.

Case Example 6: Aiton & Thomas Elementary Traffic Gardens, District of Columbia

Information	Project: Aiton and Thomas Elementary School Traffic Gardens, District of Columbia
Project Plans	A George Mason University team was awarded Vision Zero grant funds from the District Department of Transportation to install traffic playgrounds in the existing school playgrounds. They were intended for use with the 2nd grade PE bike education program as well as the new preschool balance bike learning curriculum. The traffic playgrounds are also intended for everyday school play and as a community resource for active play.
Stakeholders	• Over 200 x 2nd grade and preschool students plus teachers took part in the design engagement workshops • Additional family members took part in creating classroom kits at both schools
Type of Engagement	Design charrette workshops were held at both schools so students could learn about the planned traffic playground installations and provide input on their design. Students took part in a series of drawing and hands-on modelling activities and students prepared layout drawings for the proposed traffic garden at their school. Over the course of the project other engagement at both schools included Vision Zero Heroes, a safety crafting event, and Family Felt Board Crafting, an event to create traffic garden tools for the preschool classrooms.
Outcome	The George Mason team held a design workshop where the project team considered the children's design layouts as well as other input they had provided. This input formed the basis of the final design layout for each site. Children have seen the traffic playground go into everyday play and instructional use at their schools. Some children were invited to represent the students at the ribbon cuttings and several were interviewed on local TV news shows. Other events at the traffic playground have included a bike giveaway to 100 students by the BMX Foundation. The National Highway Traffic Safety Administration made a promotional educational video about the traffic playgrounds featuring the Thomas Elementary students.

Case Example 7: Orfus Road Improvement Project Phase 3, Toronto, Canada

Information	Project: Orfus Road Improvement Project Pahse 3, Toronto, Canada
Project Plans	The Sterling Hall School is located along Orfus Road, a wide busy retail and recreation corridor. People are travelling by vehicle, foot, and transit and the design does not adequately meet the needs of all users. The middle school students travel this roadway extensively to access school and other activities. The school engaged a team, which included Maximum City, to conduct projects with the students about how to improve this corridor. Maximum City created programs where students engaged with the public about changes that they would like to see made along Orfus Road.
Stakeholders	• 200+ Orfus Road users • 100+ Sterling Hall students in Grades 6-8 • Sterling Hall staff • Local business and community members • City of Toronto staff
Type of Engagement	May 8th Intervention Day involved grade 8 students from The Sterling Hall School testing out their road design ideas for improving the street and public space. The event was held from 10:00am and 2:00pm on the south side of Orfus Road on public property. Student ideas included adding seating and planters to increase the character of the public space. During the engagement project: • The school orchestra performed to attract passersby to the area • Students conducted intercept surveys with passersby to gather feedback and measure the user experience of the design ideas • Students photographed the public reacting to student art and collected a quote from them to act as a caption for the photograph
Outcome	Survey respondents highlighted the purpose Orfus Road serves in different communities underscoring the importance of flexibility, diversity and cultural inclusivity for any improved street design. Students contributed observations about Orfus Road that drivers did not stop for pedestrians and that some slowed down as they drove past the design installation at Orfus Road and Paul David Street. As a result of this project, the City of Toronto has since made changes to the corridor to reflect the observations and information gathered from the public.

APPENDIX E: PBOT POP-UP TRAFFIC PLAYGROUNDS YOUTH TRAINING MATERIALS

Safe Routes to School

Traffic Playground Training

Session 1

Agenda

- Introductions:
  - your name; your pro-noun; and how do you go around town?
- What is a Traffic Playground?
- What should children know about traffic safety
- Types of safety
- Personal Security

Traffic Playground

Painted roads with intersections, stops signs, crosswalks, and other infrastructure commonly found in the street.

Provide children a fun space to learn rules of the road and practice traveling on streets.

Why is it important? Fatal crashes in Portland continue to be on the rise. Though data shows that kids are not responsible for crashes; PBOT would like to give kids tools to help them make safe choices.

What should Children know about traffic Safety?

When you were a child:

What is something you <u>wish you knew</u> about traffic safety?

<u>What were you taught</u> that was helpful?

What should Children know about traffic Safety?

This is what PBOT's Safe Routes program wishes elementary school kids to know when they graduate 5th grade

Basic Skills:
- Crossing the street
- Identifying traffic signs and signals
- Navigate signalized intersections
- Where to walk if there is not sidewalk
- Where to ride scooters and bikes
- Proper fit of helmet
- Parking lot etiquette
- How to share space in crowded areas

Basic Traffic Rules:
- Rules/laws for pedestrians and people riding scooters and riding bikes
- Obey signs and signals
- Right of way: yielding or who goes when
- How/when to use lights

Other Skills
- How to report bullying/harassment
- How to interact with strangers/adults they don't know - while walking, biking and taking transit
- How to read maps
- Health benefits

The Principles of Active Transportation

Different types of safety

Traffic laws

Society's code of conduct for using our right-of-way

Personal security

Person-to-person interactions when navigating public spaces

Environment

Interacting with vehicles & street infrastructure

Tools for your personal security

How do you communicate (verbally and non-verbally) when confronted with an unsafe situation?

PASSIVE

Accepting or allowing what happens or what others do, without active response or resistance

AGGRESSIVE

Ready or likely to attack or confront; pursuing one's interests forcefully

ASSERTIVE

Having or showing bold or confident statements and behavior

PASSIVE

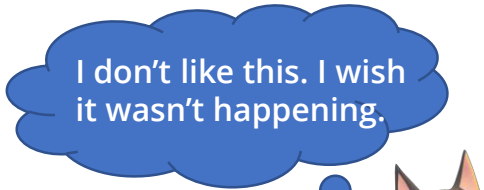
- What does passive look like?
- What are risks of being passive?
- What are the benefits?

Accepting or allowing what happens or what others do, without active response or resistance

AGGRESSIV

- What does aggressive look like?
- What are risks of being aggressive?
- What are some benefits?

Ready or likely to attack or confront; pursuing one's interests forcefully



PASSIVE

Not doing anything

RISKS

- Someone crossing a boundary won't stop
- They won't know you want them to stop
- Can show you are an "easy target"

BENEFITS

- Can feel more comfortable or natural
- If you don't respond, they might feel ignored and leave you alone

AGGRESSIVE

Responding forcefully or with anger, "bigger" than the unsafe behavior

RISKS

- Can escalate a situation
- Can incite violence
- Reduces your awareness of the situation

BENEFITS

- Can show you are not an "easy target"

ASSERTIVE

- **What does assertive look like?**
- **What are risks of being assertive?**
- **What are some benefits?**

Having or showing confident statements and behavior

ASSERTIVE

RISKS

- **Might feel uncomfortable, unnatural, or not "like you"**

BENEFITS

- **You are communicating clearly**
- **You are maintaining your confidence**
- **You are self-aware**
- **You are aware of the situation: People and environment around you**
- **Show you are not an easy target**

What response makes you feel most powerful?

Feeling powerful when aggressive

vs.

Feeling powerful when assertive

Depending on the situation – "match the energy"

- Remove yourself from the unsafe behavior
- Address the unsafe behavior directly
- Ask for help / find allies / make a scene

Assertive communication can help you stay confident, calm, strong and relaxed.

3 steps of ASSERTIVE communication

Step 1: **NAME IT**

What is the problem?

Name what behavior you find unsafe

Step 2: **FRAME IT**

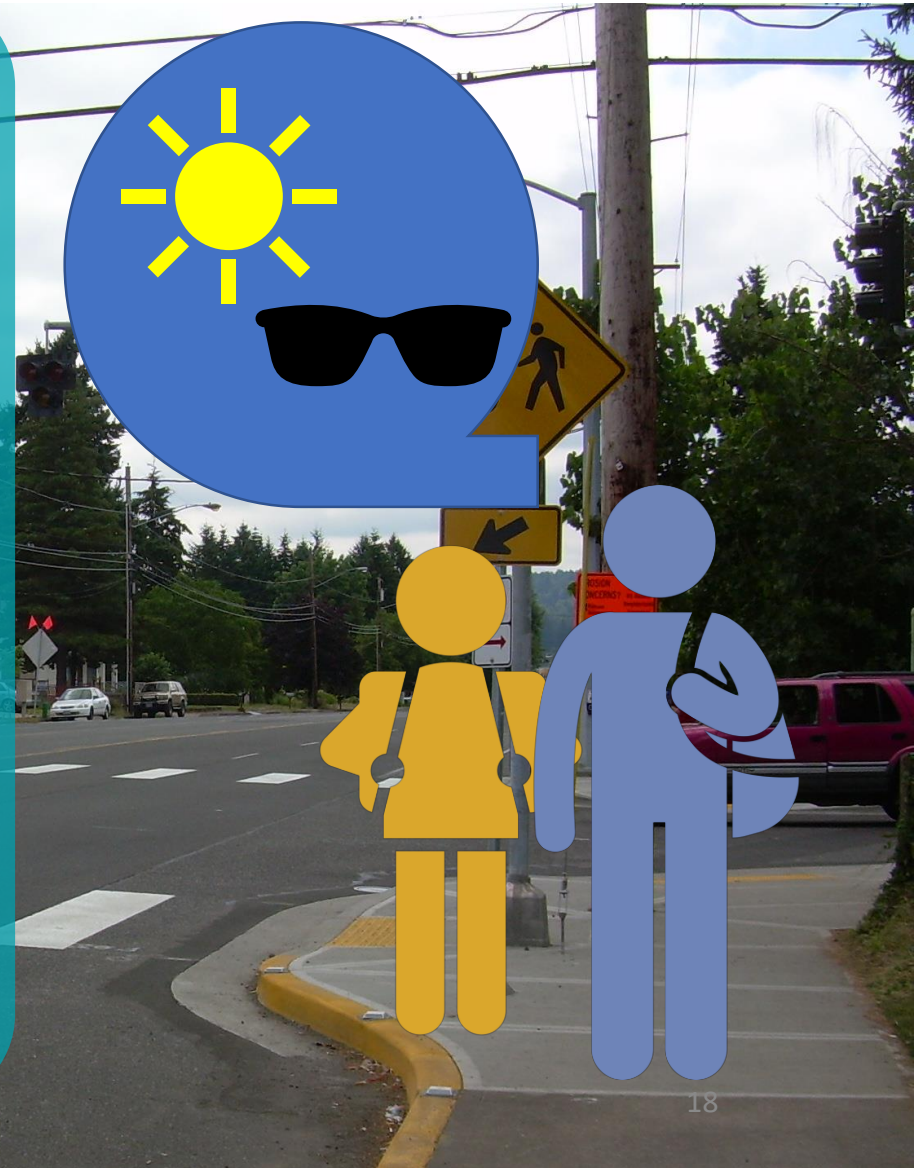
Why is it a problem?

Use "I" statements to say what you don't like

Step 3: **CHANGE IT!**

What do you want them to do differently?

In clear words, tell the person how you want them to change the behavior



On the Bus!

Practicing assertiveness with strangers in public spaces

Scenario 1

- Tool: Remove yourself from the situation
- Risks + Benefits

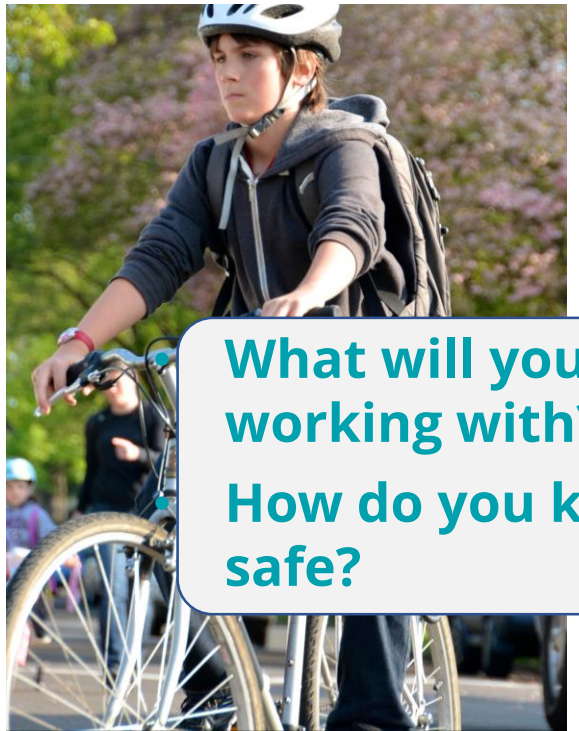
Scenario 2

- Tool: 3-Step method for assertive communication
- Risks + Benefits

Scenario 3

- Tool: Make a scene!
- Risks + Benefits

Reflection



What will you share with the kids you are working with?

How do you keep yourself and your group safe?

Thank you for participating!

Lale Santelices
Lale.Santelices@PortlandOregon.gov
503-823-1189

Safe Routes to School

Traffic Playground Training

Session 1

APPENDIX F: BALTIMORE SAFETY CITY DAY FLYER

THE DEPARTMENT OF TRANSPORTATION & SAFETY CITY INVITE YOU TO A FUN DAY OF TRAFFIC SAFETY ACTIVITIES!

3RD ANNUAL

SAFETY CITY DAY

Saturday, April 20, 2019

11:00 AM – 3:00 PM

Safety City – Druid Hill Park

BIKE GIVEAWAYS

FREE

- ✓ ENTRY
- ✓ FOOD
- ✓ MOON BOUNCE
- ✓ FACE PAINTING & MORE!

PLUS MEET ME, CAPTAIN ZERO

WELCOMING KIDS IN GRADES K-5

dot DEPARTMENT OF TRANSPORTATION BALTIMORE CITY

Baltimore's Safety City

For more information, contact Duwan Morris at (443) 984-2150 or duwan.morris@baltimorecity.gov

APPENDIX G: CASCADE BIKE RODEO INSTRUCTIONS

Organizing and Hosting a Bike Rodeo

A *Bike Rodeo*, also called a *Bicycle Skills Rodeo*, is a fun, interactive, and non-competitive skills course designed for kids to improve their bike handling and traffic safety skills. Held within a controlled and safe environment, our Bike Rodeo can be used as a great introduction to bicycle handling for kids and families alike. The Rodeo is easily incorporated into any community event and is especially well suited for health and wellness, environmental education, and youth fitness themes.

A successful rodeo celebrates the joys of riding a bike while simultaneously strengthening bike handling skills and traffic safety. We encourage hosting a rodeo that includes additional bike safety resources for parents, guardians, and families to help get everyone involved.

Table of Contents:

Bike Rodeo Overview

The Bike Rodeo is a circular skills course with five stations and an 'Okay Corral'. At each station the participant will develop their bike handling skills and traffic safety awareness. Participants do not need to visit the stations in any specified order, however the following order is a good way to build skills from simplest to most complex:

1. Slow Ride
2. Scanning
3. Rock Dodge
4. Driveway Rideout
5. Crazy Crossroads

Participants **must** begin the rodeo at the 'Okay Corral' to have their helmet and bicycle checked for safety (and 'okayed' by a leader).

Rodeo Essentials

Below is a list of the basic essentials to get your rodeo up and running. See the website for an example timeline for setting up a bike rodeo.

You will need:	**Specifically...**
A designated area for your rodeo	A rodeo can take place in a parking lot, playground, or other paved area. We recommend a 70'x 80' area (the bigger, the better). Make sure to completely cone off your space, especially if you are teaching in an area where cars might otherwise be entering.
Date	Join an existing event, or create your own!
Permission Slips & Waivers	Here is a link to a sample waiver. We strongly recommended having each child participant turn in a signed waiver form at your event to protect the hosting group from liability.
Volunteers and/or leaders	In order to put on a successful and safe bike rodeo, you will need to recruit volunteers to help run the event. Most of these volunteer positions do not require any special knowledge and can be trained

	from the provided Bicycle Rodeo Instructions. See below for more volunteer information.
Materials	Rodeo Kit Components: ● 12 small cones ● Sidewalk chalk ● 10 half tennis balls ● 2 stop signs ● 1 fence sign ● 1 car sign ● 1 railroad crossing sign Recommended (and not included in the kit): ● Bicycle pump ● Bike maintenance stand and tools ● Large cones *Feel free to build your own Bike Rodeo kit so that you can continue to host rodeos for your community! Building a kit (or multiple kits) can be a great community event.*

'OKAY Corral' and Stations Overview

Name	Objective/Description	Materials	Volunteer Needs
Okay Corral	Check that helmets are fitted correctly (see helmet fit hand-out) and make adjustments where necessary. Introduce the ABC Quick Check and make sure bikes are in working order before kids ride.	● 1 table ● Waiver forms ● Pens ● ABC Quick Check list ● Helmet fit guide ● Bike pump ● Hand tools or multi-tool ● Bike maps of area	● 2 minimum Special Skills: bike repair knowledge is useful at this station

Name	Objective/Description	Materials	Volunteer Needs
Driveway Ride Out	Teach children to stop and look left, right, and left again at the end of their driveways before entering the street or sidewalk and when approaching a driveway or an alley on a sidewalk.	• 1 fence or bush sign • 1 stop sign • sidewalk chalk • 6 small cones	• 1 minimum Special skills: none
Crazy Crossroads Hand Signals	Teach children to come to a complete stop at stop signs and to turn in the correct lane with the flow of traffic.	• 1 car sign • 1 stop sign, sidewalk chalk • 1 large cone	• 2 minimum Special Skills: none
Scanning	Teach children to look behind over their left shoulder (scan) for oncoming cars or cyclists without swerving.	• 1 car sign • sidewalk chalk • two large cones	• 1 minimum Special Skills: none
Rock Dodge	To practice looking ahead and quickly avoiding hazards in the road like rocks, glass, and other debris that may appear suddenly.	• 16 half-cut tennis balls	• 1 minimum Special Skills: none
Slow Race	To practice balance and control and be the last one to finish!	• chalk and/or cones for start and finish lines	• 1 minimum Special Skills: none

Additional Volunteer Information for Bike Rodeos

In order to put on a successful and safe bike rodeo, you will need to recruit volunteers to help run the event. Most of these volunteer positions do not require any special knowledge and can be trained from the provided Bicycle Rodeo Instructions. **It is good practice to ensure that event hosts are knowledgeable about bicycle and traffic safety.**

In the Bicycle Rodeo Instructions, each station lists the suggested number of volunteers needed. Additional areas where volunteers may be needed:

- If you establish a Learn 2 Ride area, we recommend having a 1 to 1 student to volunteer ratio as learning to ride requires a lot of one-on-one attention for success.
- You may want to place some volunteers between stations to keep an eye on the rodeo as a whole.
- It may be very helpful to have a few volunteers with bicycle repair and/or first aid knowledge.
- If you incorporate other riding stations be sure to allocate appropriate adult volunteer support to provide a safe and supportive experience for your riders.

There are several places that may be interested in providing volunteers for your bike rodeo:

- Local bike shops may be able to provide trained staff for a bike maintenance/repair station.
- Local parents, guardians, teachers, or other community members.
- Community partners and/or community service organizations.

Additionally, **background checks are strongly encouraged for adult volunteers working with children.**

Below are some pointers for you to use in your communications with volunteers:

- Broadly announce and advertise your need for volunteer support. Be creative!
- Once you acquire volunteers - send them reminders about the event to support their engagement.
- Thank them often!
- At the conclusion of your event send a thank-you email/correspondence with ideas for future engagement opportunities.

OKAY Corral

Children should always wear a helmet when they ride. Helmets must be CPSC approved and replaced after 5 years or one major crash.

Objective: Check that helmets are fitted correctly (see helmet fit hand-out) and make adjustments where necessary. Introduce the ABC Quick Check and make sure bikes are in working order before kids ride.

Materials	**Volunteers**
● 1 table ● Waiver forms ● Pens ● ABC Quick Check list ● Helmet fit guide ● Bike pump ● Hand tools or multi-tool ● Bike maps of area	● 2 minimum Special Skills: bike repair knowledge is useful at this station

Instructions:
Helmet Fit (2-2-2): ● Eyes: Helmet should be level and cover the rider's upper forehead. Student should be able to fit no more than 2 fingers between the eyebrows and brim of the helmet. Once the helmet is level, instruct students to turn knob at back of helmet to snug up the inner band and prevent helmet from wiggling side-to-side. ● Ears: Helmet side straps should meet to form a "Y" just below the rider's ear lobes. Students can use 2 fingers to make a v-shape just below their ear lobes to demonstrate proper side strap placement and fit. ● Mouth: Chin strap should be buckled and snug below the chin. Riders should be able to fit no more than 2 fingers between their chin and the chin strap once the helmet is buckled.

ABC Quick Check:

Air: squeeze the tires to make sure they are not flat.

Brakes: brakes should activate when squeezed. Make sure the rider knows how to use their brakes and that there is at least .5 inches of clearance between their brake levers and handlebars when squeezed.

Chains & Cranks: check that the chain is not rusted and runs smoothly, cranks should not move laterally.

“Quick” Release: quick release levers should be tight and secure

“Check” for any loose bike parts

Tips and tricks: Have riders straddle their bike to make sure it fits properly and check shoelaces to make sure that they do not get caught in the chain. The seat of the bike should come up to approximately the rider’s waist if they stand next to their bike.

7787 62nd Ave NE, Seattle WA, 98115 • P (206) 522-3222 • F (206) 522-2407 • www.cascade.org • info@cascadebicycleclub.org

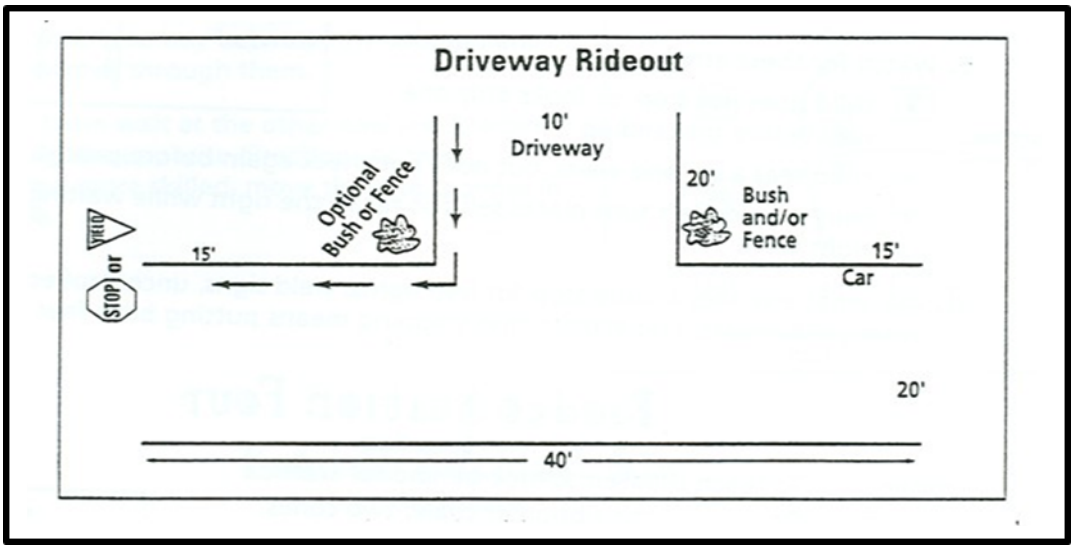
Driveway Rideout

Riding out into the street from a driveway without first looking for traffic is a major cause of injuries and fatalities to children.

Objective: Teach children to stop and look left, right, and left again at the end of their driveways before entering the street or sidewalk and when approaching a driveway or an alley on a sidewalk.

Materials	**Volunteers**
● 1 fence or bush sign ● 1 stop sign ● Sidewalk chalk ● 6 small cones	● 1 minimum Special skills: none

Example Setup Diagram:



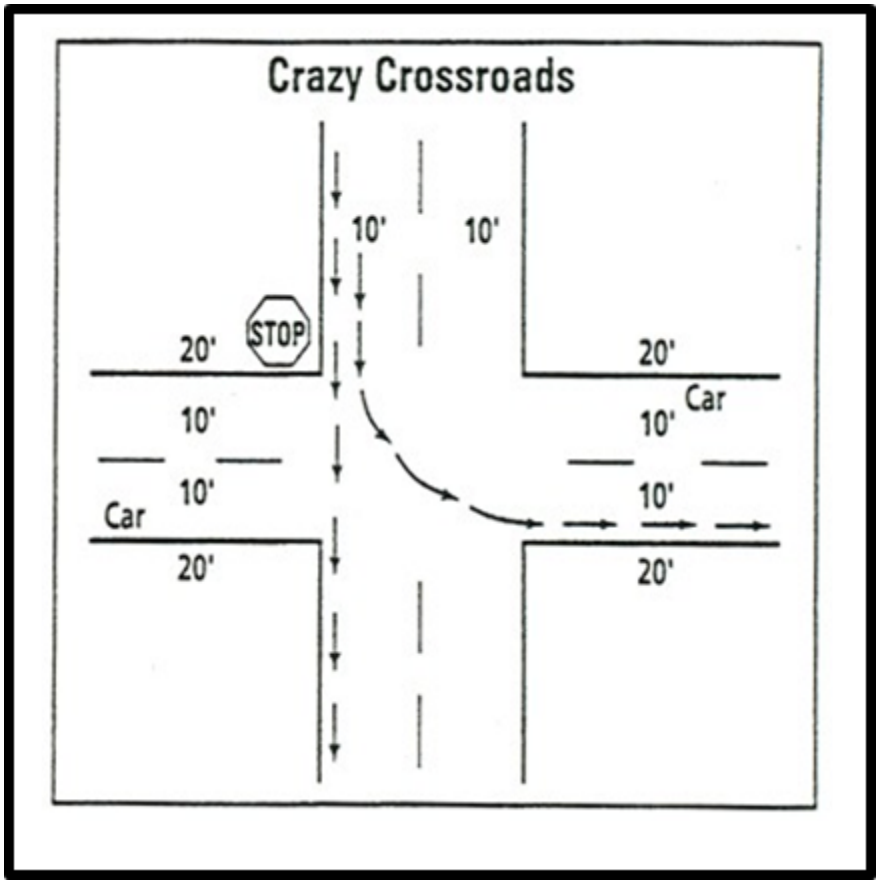
Instructions:
1. Have a volunteer hold a fence sign near the driveway exit to simulate an obstructed view explain to children that they should come to a complete stop before entering the street. 2. Have each child look left, right, and left again, before continuing forward. They may need to edge forward and look left, right, and left again to see past the 'obstruction'.
Tips and tricks: ● Remind kids to always ride on the right side of the street with the flow of traffic (and only if they have permission from their parents) Make sure they stay to the right as they proceed into the street. ● If a child does not look both left, right, and left again, or stop before entering the road, ask them to try again. Acknowledge what they've done correctly (i.e. looking ahead, coming to a complete stop, putting their foot up in "power pedal position" etcetera).

Crazy Crossroads

Objective: Teach children to come to a complete stop at stop signs and to turn in the correct lane with the flow of traffic.

Materials	**Volunteers**
● 1 car sign ● Sidewalk chalk ● Two large cones	● 1 minimum Special Skills: none

Example Setup Diagram:



Instructions:

Explain that there is an intersection and 4-way stop where they will be practicing stopping, signaling, and turning into the correct lane.

Have kids line up and practice stopping and looking left, right, and left again before signaling, and turning into the rightmost lane with the flow of traffic. Emphasize that bikers should never ride against traffic, as drivers won't be expecting them and that it is important to make eye contact with people in cars so drivers know they are there. Have an adult volunteer walk across the intersection with a car sign and practice making eye contact with the child before they signal and turn.

Tips and tricks:

- Check for the following errors:
  -Does not come to a complete stop before signaling and turning or turns into wrong lane
  -Forgets to look left, right, and left again
  -Does not make eye contact with the driver
- This station is easily modified to look like a number of different intersection scenarios. Feel free to be creative, especially if children are looking for more of a challenge

Hand signals:

Left

Stopping

Right*

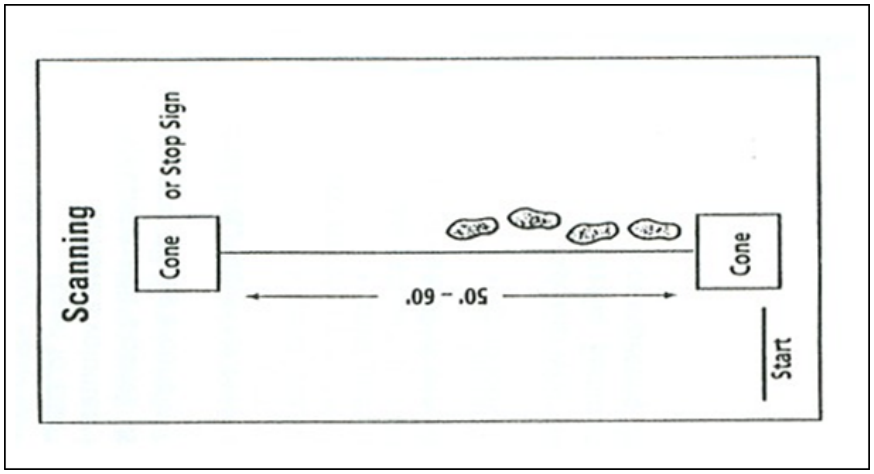
*Right can also be signaled with the right arm pointed straight out. However, we recommend signaling with the left hand for two reasons: first, when the left hand is signaling, the right hand can stay on the rear brake. In the event that a sudden stop is necessary, the rear brake (which controls the back wheel) is much safer to engage than the front brake alone- which controls the front wheel. Second, the left arm is more visible to drivers.

Scanning

Teach children to look behind over their left shoulder (scan) for oncoming cars or cyclists without swerving.

Materials	**Volunteers**
• 1 car sign • Sidewalk chalk • Two large cones	• 1 minimum Special Skills: none

Example Setup Diagram:



Instructions:
Ask children why they might need to scan behind them. Explain that it is important to scan for cars and cyclists before changing lanes and that this exercise will help them to control their bikes. Participant will ride in a straight line from the first cone to the second cone. The volunteer will stand next two the first cone while holding up the car sign. The volunteer will then call out “scan” at least twice before the rider gets to the second cone. The rider will look over their left shoulder so that they can see the car sign when they hear the call.

Tips and tricks:

- You can also hold up one or two arms, different colored paper, or anything large enough to be quickly identified with a quick scan
- To increase difficulty for riders who are able to scan comfortably, hold the car sign either up or down when you call out “scan”. The rider can then call out “car” or “no car” to signify whether or not a car is “coming”.
- If a child veers to the side while scanning over their left shoulder, have them focus on steering straight ahead. Having one’s arms and back straight helps with steering in a straight line.
- Reinforce the importance of riding in a straight and predictable line and not weaving in and out of parked cars.
- For those that are new to cycling, have them practice riding in a straight line using the chalk line as a guide.

APPENDIX H: FORT COLLINS WALK AND WHEELS HUB COURSE MAP + SKILLS TIPS

WALK & WHEEL SKILLS HUB

COURSE MAP

BIKE REPAIR

YOU ARE HERE

START HERE AND TRY THE COURSE IN BOTH DIRECTIONS!

CLASS AREA

WAIT HERE

AVOIDANCE WEAVE

MAP LEGEND

- A Power Start
- B Scanning and Signaling
- C Lane Choice
- D "Copenhagen Left"
- E Protected Bike Lane
- F Crossing Railroad Tracks
- G Bike Boxes
- H Navigating Roundabouts
- I Taking the Lane
- J Sharrows
- K Avoidance Weave
- L Door Zone
- M Driveways
- N Rock Dodge

City of Fort Collins

WELCOME to the Walk & Wheel Skills Hub — a community bicycling and walking skills course designed to help you feel comfortable and confident navigating Fort Collins on two wheels and on foot. The Skills Hub is open to the public and can be used by people of all ages.

Check out **fcgov.com/fcbikes** and **fcgov.com/saferoutes** to learn about class offerings hosted at the Skills Hub and other information about bicycling and walking in Fort Collins.

WALK & WHEEL SKILLS HUB

TIPS FOR THE SKILLS HUB & THE ROAD

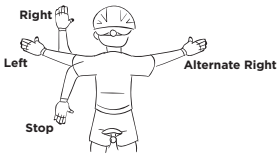
BICYCLISTS RIDE SMART

Protect Your Brain

Your helmet should sit level on your head with the chin strap fastened — snug but comfortable.

Signal Your Movements

Cyclists are required by law to use hand signals to indicate when they intend to change lanes, turn or stop.



Go With the Flow

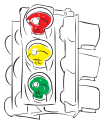
Ride with the flow of traffic. Wrong-way riding on the road is against the law and is a leading cause of crashes.

Line Up

Don't try to squeeze between parked or moving cars. If there is no bike lane approaching an intersection, or when turning vehicles are in the bike lane, you need to wait in line with the cars rather than squeezing through on the right.

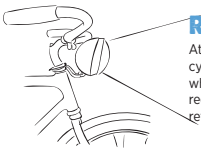
Do the "Right" Thing

Use rightmost lane that serves your destination. This may be the left-turn lane if you are turning left.



Take a Brake

Stopping at stop signs and traffic signals is required by law. Take advantage of the brief stop to catch your breath and say "Hi" to fellow cyclists.



Ride Bright

At night or when visibility is poor, cyclists are required to use a front white light and rear red reflector. A red taillight and bright clothing with reflective elements are recommended.

Happy Trails for All

Share the trail — slow down, indicate you are passing with a bell or your voice, and pass on the left when safe to do so.

Give Yourself Some Space

Take the full travel lane when warranted and move back over to the right as soon as it is safe to do so. Ride no more than two abreast, and single up if faster moving traffic is backing up behind you.

Drive Your Bike

Your bike is a vehicle; as the driver you must follow the laws and ride predictably to help other road users know what to expect.

Walkers Go First

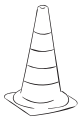
Yield to pedestrians at intersections, mid-block crossings, and on sidewalks and trails.

Leave Sidewalks to Pedestrians

It's best for cyclists to use roadways unless the sidewalk is the only option. If using a sidewalk, avoid riding against traffic. When entering streets, driveways and crosswalks, slow down and watch carefully for motorists who might not see you. Dismount and walk through marked dismount zones.

Blinded by the Light

Be "sun aware" — the low-angle sun in the fall and spring can make it difficult for motorists to see you.



Respect the Cone

Obey traffic control signs in construction zones, and follow signed detours.

PEDESTRIANS WALK SMART

Be Visible

Wear bright clothing when walking at night.

Be Seen

When walking and bicycling, it's best to make eye contact with other road users to ensure you are seen, and always act predictably to avoid confusion.

Walk Together

Younger children should walk with adults so that they learn how to navigate streets safely. For schoolchildren of all ages, it's safer to walk in groups rather than alone.

Choose a Safe Route

Whenever possible, use sidewalks, multi-use trails and streets that have less traffic and lower speeds.

Crossing Busy Streets

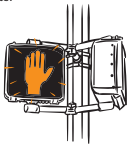
Use crosswalks and intersections with walk signals. Stop at the curb and look for traffic in all directions (left, right, in front of and behind you).

Never Dart into a Street

If your ball or pet goes into the street, stop at the curb and look for cars before going after it. Always walk — not run — across streets.

Mind the Hand

Always wait for the white pedestrian indication to start walking. Don't enter a crosswalk when the orange hand is flashing or solid.



Travel Smart

Avoid talking on your cell phone, texting or using earbuds when walking or riding a bike.

MORE TIPS BE SMART

Bike-N-Ride

All Transfort buses are equipped to carry three to four bicycles, offering a convenient option to expand your trip.

Video Detection

If you see a small white camera on the traffic signal arm at intersections, this is a special device that detects bicyclists. Wait for the signal to turn green!

Sharrows

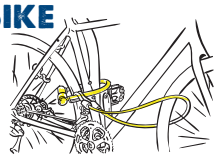
These pavement markings indicate a shared lane for bicycles and automobiles and indicate proper bicyclist positioning in the lane.

Report Road Hazards

Use the Access Fort Collins app on the fcgov.com website or your smartphone to report potholes, broken glass, missing utility covers and other road hazards.

Locking Your Bike

It's best to use a U-lock and/or heavy cable to lock your bike frame and wheels to a secure object. And don't forget to register your bike — you will have a better chance of getting it back in the event of theft: **fcgov.com/BikeRegistry.**



City of Fort Collins

SINCERE THANKS TO SUMMITVIEW CHURCH FOR ITS PARTNERSHIP IN THIS PROJECT

APPENDIX I: PORTSMOUTH SAFETY TOWN PROGRAMS

SAFETY TOWN
CITY - POLICE - SCHOOLS - COMMUNITY

PROGRAMS

Pedestrian Safety
Grade One

Greetings

Welcome students to Safety Town

Introduction to participants

Objectives:
1. Review safety procedures, definitions, rules and regulations that will enable students to walk the street safely
2. Look at the designated training video
3. Conduct outside practical exercises and demonstrations

Pedestrian: Walking People – you become one when you left the bus and started walking

Sidewalk: Walk in the middle
Never cross between cars, buses, and trucks
Walk single file

No Sidewalks: Walk on right side far left facing traffic
Walk single file

Crosswalk: Always look! Look Always!
Look left, right, behind and left again

Traffic Light: Cross when you know you have enough time to crosswalk

Pedestrian Light: Waterside (hand)
International signal

Discuss signs and shapes

Show Video:
1. Be able to explain what see and be seen means
2. Be able to tell me something the boys should (not) have been doing

Prepare to go Outside:
Demonstrate proper way to look before crossing a street
Encourage students to look down each street and not just roll eyes
Always observe traffic light before crossing
Do not walk on median strip
Walk between (middle) of white lines
Walk don't run

Pedestrian Safety
Kindergarten

Basically the same as first grade depending on their attention span
All of the above topics are covered

Bicycle Safety

Third Grade

Greetings

Welcome students to Safety Town

Introduction to participants

Encourage students to pay attention, follow directions, and being focused

Today's Lesson: Stress to students that emphasis will be placed on these things to be accomplished for them to become safe riders:

1. Will cover some rules, regulations and procedures that will encourage riding safely
2. Will look at a film stressing good riding habits, proper care of bikes and some things that will ensure safe riding habits
3. Will go outside and practice procedures outlined in class

Points to cover:

- Bicycle is a vehicle
  - Follow same rules as people who drives cars
- Ride on the right side of street with flow of the traffic
- Obey traffic signs and signals (cover)
- Wear helmet
- One on a bike
- Wear light colored clothing especially at night
- Communicate to others when you are going to stop or turn (teach hand signals)
- Discuss proper fit of bicycles
- Discuss signs, shapes and their meanings (classroom wall)
- Discuss safety parts of bicycles
  - Horn, pedals, kick stand, lights, fenders, reflectors, hand grips, chain guard and good seat (saddle)
- Discuss yielding to pedestrians
  - Purchase license for bicycle ($2.00 at City Treasurer's
  - Office)
- Be careful of right turns and vehicles

Short video: The video will stress bicycle safety rules you should follow to be safe riders. These bicycle safety rules will help you to become safe drivers later on in life so pay attention.

Outside Instruction: Bicycles will be assigned
Riders will follow safety procedures at all times
Will wear doctor caps and helmets