GROUND MURAL
BEST PRACTICES GUIDE

MAY 2022
GROUND MURAL BEST PRACTICES GUIDE

Developed in partnership with DC Commission on the Arts & Humanities (CAH) for the Color the Curb : School Safety Program

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Working on the road, sandwiched between busy sidewalks and vehicular traffic, can be a unique and precarious experience that requires 360-degree awareness at all times. Remember, these sites were selected for curb extensions because of the pedestrian safety concerns in the immediate surroundings. There are safety precautions that you can commit to that will help protect yourself and others around you.

*Please note that any materials or supplies listed below are included with more detail in the Materials Checklist portion of this Best Practices Guide.*

**SAFETY FIRST**

**ON YOUR PERSON**

When working in active roadways, you want to be as obviously visible as possible. Keep in mind that motorists can often only see workers in their periphery or in rear view mirrors as a blur, so you must stand out! Additionally, you’ll want to protect you and your team from potentially harmful chemicals and debris by adhering to the following precautions.

- ✓ High visibility clothing and/or safety vests are always crucial.
- ✓ Wear suitable work shoes that protect your feet from glass, pebbles, rocks, etc. No open-toed shoes.
- ✓ You must be able to hear any potential sirens, honks, bicycle bells, and tire screeches around you. Be wary of noise-canceling headphones or loud music that prohibits your ability to listen.
- ✓ Heavy duty work gloves are recommended while in aggressive contact with the ground, such as while preparing the surface. There are lots of small debris that can break the skin that often go unseen.
- ✓ While using intoxicating substances such as degreasers, epoxies, or solvent-based coatings, wear a suitable mask or respirator to minimize your inhalation exposure. Even while using outside, these airborne chemicals can still be harmful.
AT YOUR SITE - SIGNAGE AND BARRIERS

- Clear signage that communicates awareness and physical site boundaries to passersby on sidewalks and roads. I.E. “PEOPLE AT WORK”, “WET PAINT”, etc.

- String hazard tape between white flex posts and barrier cones to form a clear perimeter.

- Block any pedestrian access from crosswalks and sidewalks into the curb extension area.

- You will need traffic and barrel cones to help form your safety perimeter around your site. If you do not have access to traffic cones, please communicate your needs directly with DDOT in advance of your surface preparation, as they may be able to provide traffic cones. If you purchase some of your own, avoid the collapsible lightweight cones, as they are very prone to falling over or floating away.
AT YOUR SITE - MATERIALS AND SUPPLIES

☑️ Protect and organize your supplies from small and curious hands! There will be facilitated, designated time for the elementary students to explore your materials in a hands-on manner.

☑️ Place your supplies in a way that prevents them from rolling away or tipping over. It’s easy for roller handles, covers, and frames to roll under barriers and into the sidewalk becoming a hazard for passersby.

☑️ If you must use accompanying sidewalk space for materials and supply storage while working, ensure that there is a minimum of six feet of uninterrupted space to comply with ADA accessibility standards.

☑️ Always keep lids on any open liquid containers.

Make sure to keep an organized and safe workstation while installing your mural. There should always be at least 6 feet of clear pedestrian path for people to use.
WEATHER

HEAT

In direct sun on very hot days, asphalt can radiate heat that is up to approximately 40 degrees warmer than the air, and sometimes even warmer in long periods of direct sun. This can put you at risk for heat stroke and burning your skin when touching the surfaces. Take care and be careful when working in hot summer temperatures. Only you know your limits, but always be sure to hydrate! You can improve working conditions in the heat by working when there is natural shade, or even supplying your own with optional pop-up canopies or large umbrellas.

COLD

In general, it is inadvisable to paint outdoors when the air temperature will drop below 40 degrees within 72 hours of paint application. For water-based paints, the water components can freeze prior to the paint fully curing, which can cause cracking and separation of pigment from the binders. Since each type of paint and coating have their own requirements, it is best to seek guidance from the labeled instructions on the paint can or directly from the manufacturer.

RAIN, DAMPNESS AND HUMIDITY

The surface upon which you are painting needs to be completely dry during application and up to 24 hours after. High humidity will lengthen this time period to 48 or 72 hours. Always be checking the weather forecast to keep an eye on potential rain throughout your installation. When in doubt, consult the information on your paint can or call the manufacturer hotline.

General rule-of-thumb is to install the mural in weather between 40 degrees and 80 degrees.
SURFACES

- Asphalt - Look for cracks, oil/grease stains
- Concrete - Find out if it is sealed (not common for public sidewalks)
- Brick or Cement Pavers - Find out if it is sealed, consider how you will apply paint if it is

In all surfaces, be aware of manholes and gutters, neither of which should be painted.
Cement curbs should not be painted.

Manholes and gutters should not be painted. Photos of mural at 6th Street NW & O Street NW correctly applying paint to the asphalt around the gutter and manholes
TEXTURE

The roughness of your surface will determine how much paint you will need to use and your application method. The deeper the grooves and pockets are of your surface, the more paint will be required. If you are unsure of how much paint to calculate, you can always start with one quart or gallon and see how far it goes, and calculate the rest of the project based on that sample application.

WHEN WAS THE SURFACE ORIGINALLY INSTALLED?

Paving material used in roadways must cure for a minimum of thirty days prior to being painted. If painted or coated prior to the completion of curing, the asphalt or concrete can absorb the color, eventually requiring multiple recoats in a short amount of time, and the cure time will be extended even longer. So it’s best to just be patient!

GREASE AND OTHER STAINS

Often, curb extensions are installed into spaces that have previously been used for parked or idling motor vehicles. These vehicles can leak gasoline and oil, which can stain the asphalt. If using a water-based paint or coating, remember that oil and water do not mix, and that the grease stain must be eradicated to allow for the successful installation of the mural. If not cleaned properly, the paint can bubble atop the stain as it cures, causing peeling and cracking of the mural. Please refer to the Surface Preparation chapter of this Guide to read more about degreasing.
HAS IT BEEN PREVIOUSLY PAINTED?

As with any other exterior painting, if your surface has been previously painted, you’ll want to ensure the following:

- If there is any chipping from the old paint, chip, scrape, sand and pressure wash it away as much as possible. If there is loose paint underneath your mural, your mural will not be able to attach itself to anything!
- If there are white lines or letters inside of your curb extension area that you need to paint on top of, ensure that the surface is grippy enough for paint, and sand it if slick or glossy.
- There are some paints that are formulated for painting on top of previously painted surfaces. You can ask your supplier or check the can for this helpful information.

NEARBY SEWERS, GUTTERS, STORM DRAINS, SERIOUS CRACKS

Nearby many curb extensions are storm drains, sewers and gutters that collect water, snowmelt, and leaves and debris. Sometimes, trash and large debris can flow into these spaces, and cause a buildup that prevents water from fully flowing into the drains, causing a bit of flooding in the well between the cement curb and asphalt road. These areas can hold moisture for longer than the rest of the road, so if this is the case at your site, be sure to avoid painting the areas closest to the drain a couple days before and after heavy rainfall. When it comes to your design, avoid any important or fine details in these areas where debris collection can regularly occur. *Do not paint in gutters or on utility covers.*

For cracks, DDOT does its best to assign mural installations in curb extensions that do not have many severe cracks, if any at all. You are not expected to repair cracks that may be present on your site’s surface. For deep or wide cracks, be sure to dig out large pebbles or collections of dirt and gravel as much as possible when cleaning your surface prior to painting. Do not attempt to fill the cracks with paint, as the paint will not cure properly and will crack.
LITTER CLEANING

Be a good Samaritan and clean any litter that is in or around your site! Not only does this prevent wildlife from harmfully using or consuming it, but it prevents unwelcome objects from blowing around onto your beautiful mural while in production and as it cures. Wear appropriate work gloves when handling trash, and dispose of it in the nearest public trash receptacle or put it into a trash bag to dispose of later.

DEGREASING

Grease stains can be one of the trickiest parts of surface preparation for curb extension murals, and are also one of the most important components to achieve a successful installation. They are easily identifiable as a dark splotch atop the pavement that is darker than the immediately surrounding pavement. While a degreaser may be added into your pressure washing solution, this is often not sufficient for stubborn grease stains.

To remove a grease stain, wear latex gloves and safety goggles, and apply the degreaser to the pavement and allow to sit for a few minutes. Then, using a sturdy deck brush or wire brush, scrub, scrub, scrub! You will know that the grease is
actively lifting from the road when the cleaning foam turns brown. Rinse the surface with fresh water while continuing to scrub, and allow to dry. You can expedite the drying with a fan or clean rags. Repeat this process until the foam no longer turns brown. Before and after photos of the grease spot can be useful in helping you determine how well the degreaser is working. Suggested cleaning products can be found in the Materials Checklist chapter of this guide.

**PRESSURE WASHING**

A thorough pressure wash of your surface is essential for a successful installation. Ideally, it is done one or two days prior to the first layer of paint or coating application. There are many contractors throughout the DMV that specialize in pressure washing, and it will be necessary to hire one if there is not an adequate water hook-up at your site or if you do not own a water tank. There are electric and gas-powered pressure washers of varying strengths and sizes available for rent at major hardware stores, which is a more economical solution, but does require a water and/or electric access on site.

When consulting with your pressure washer contractor, communicate your needs for a degreaser additive in the cleaning process, as well as the desire for a surface cleaner brush attachment.

Though it may seem counterintuitive, be sure to watch the weather forecast for your pressure washing. If a rainstorm or high winds come along after you have pressure washed, there could be dust, dirt, debris and trash all over your site again before you get the chance to paint your base coat, rendering your expensive pressure washing practically useless.
**SANDING**

Rarely necessary, this is only required if painting atop a previously painted glossy surface or shiny thermoplastic. Most thermoplastic has a rough coating on top of it that does not require sanding. You may sand by hand if it’s a small area, but if it is a large area, use an electric sander. Either way, use coarse sandpaper intended for previously painted applications.

You will want to sand before you pressure wash the site, so that the pressure washer can rinse away any dust generated from the sanding. Dust masks, safety goggles, and work gloves should be worn at all times when sanding a surface, as the dust generated from paint can be harmful to the lungs, eyes, mouth and can worsen any pre-existing cuts on the skin, no matter how small. Be careful of sanding in extremely windy weather, as the dust can fly into the way of passersby or other team members.

**TAPING OFF**

To save on cleaning time after painting, apply painter’s tape around the bases of all flex posts prior to painting. Make sure to remove the paint when the mural is done.

**SWEEPING AND MAINTENANCE**

After your surface preparation is complete, your mural site will require consistent upkeep. A couple sturdy deck brooms will help keep your site clear of debris throughout installation, and the space should be swept fully once every few hours, and even more frequently if there is wind.
SITE MANAGEMENT

The following questions are intended to help guide you through examination of your site and assembling important information for the management of your project.

1. If you are using a vehicle to transport materials, is there parking at your site where you can load and unload? If not, have you communicated with someone on site about the best place to do so?

2. Where are your electric and water connections? If there are none, what is your electrical and water plan?

3. Where are bathrooms you may use? Do you need a key or code?

4. Is there locked and safe overnight storage where you may leave your belongings on site? This is not a requirement, but always useful if possible.

5. Have you identified the closest bus stations, metro stations and bike racks for members of your team that do not drive?

6. Do you know which direction the sun shines on your site, and if or when the shade covers the pavement? This can help you decide if you need to have a shade structure on site and during which hours to schedule your team.

7. Do not leave your supplies on-site unattended. That includes overnight, running errands, taking breaks. You may want to have a system in place for a “spotter” to remain on sight if you need to leave, or someone who can run errands for you.
PARKING PERMITS

DDOT can help you secure reserved parking spots on public roadways. If you are part of a DDOT-sponsored AROW project:

1. Provide your DDOT contact with the following information for Emergency No Parking (ENP) signs:
   - Block location (ex. 200 block of M Street SE),
   - Anticipated time of day you will need the space, and
   - Anticipated dates you will be completing the work.

2. Schedule a time to pick up the ENP signs from DDOT. The signs need to be posted 72 hours before you need the space.

3. Post the signs according to the instructions on the back. If there is not a sign or meter to post the sign on, use a traffic cone.

4. Take pictures of the signs according to the instructions on the back and send the photos to your DDOT-contact.

   *NOTE: the 72-hour timer before the signs are enforceable begins when DDOT submits the photos.*

If you are applying for an AROW permit through TOPS, your ENP signs will be issued with the permit. You will need to follow the TOPS instructions to print the signs.
ARRANGING A WORK STATION

Because the curb extensions are in a precarious location in between an active roadway and public sidewalk, it’s important to keep your materials, supplies, and personal belongings consistently contained and organized. We recommend folding tables to store your things on top of and under, with your most used items readily accessible with the rest tucked away until needed.
DESIGNING FOR CURB EXTENSIONS

VIEWING ANGLES

Designing a mural for the ground, much like for walls, is a unique skill that requires a keen eye for thinking of the design from multiple perspectives and viewing angles. While designing, it’s common to start designing from an aerial view, but unless there are tall buildings at the intersection, virtually no one will ever experience the completed mural from that high up! So, remember to think of your design from the ground, up. When designing your curb extensions, you should prioritize the viewing angles in the order below, ranging from the most important first to the least important last:

1. **School attendees: students, teachers, facilities staff, and students’ parents and guardians that visit often.** They will see the curb extension murals almost every day, and view it from the sidewalk and crosswalks.

2. **Other sidewalk users that live and/or work in the neighborhood or are passing through.** They will also see the murals from the sidewalk and crosswalks.

3. **Cyclists, micro mobility users, roller skaters and skateboarders** who will have the opportunity to view the murals but will likely see them in more of a “blur” as they pass by.

4. **Motorists** on the road. They will see the murals as big swaths of color that will help encourage them to drive slowly around the corners, but will not generally have the opportunity to explore detailed imagery.
COLOR SELECTION

A successful curb extension design prioritizes the goal of increasing street and sidewalk safety by leveraging the use of vibrant colors and bold shapes and lines. That being said, you’ll want to use light colors (yellow, white, neons) minimally, as dirt and grime become very visible on them quickly, seemingly dirtying the entire mural.

Gradients may be achieved when using brushable latex paints, but not so much with two-part epoxy coatings. If you want to incorporate the use of gradients, it is crucial to apply your base coats in solid colors underneath the gradient layer to ensure the color is evenly installed and therefore strong.

LETTERS, WORDS, TEXT

Given the nature of this art being in the public right of way, there cannot be any legible text, words, numbers or letters in your design according to the DC Department of Transportation. You may sign your mural close to the sidewalk.

FINE DETAILS

Because of the rough surface, you will find that fine lines and gradients in small patches of ground will be difficult to achieve. It’s best to rely on bold brush strokes while creating the details of your design. When you’re painting linework, as with all color, do your best to apply paint in the deep crevices and not just on the surface. This usually takes several passes of paint, and that’s okay!
QR CODES

If desired, the Artist Team can be supplied with a QR code specific to their mural’s location, linking to DDOT’s Arts in the Right-of-Way map. If the Artist Team would like to have a QR code link to a different website, it must be the website of a community group or non-profit agency.

The application of the QR code will vary based on your site and where it will be the most visible and usable for passersby. It is important to ensure that the QR code is not physically inside of the curb extension, so that people capturing it do not venture into the active roadway. Installation options include:

• Vinyl Sticker on Electrical Box
• Aluminum Sign tied to Metal Sign Post
• Paper Poster Glued onto Electrical Box
• Yard Sign
• Spray Painted Stencil on Sidewalk

Please consult with the Technical Advisor to discuss which option is best for your site prior to installing the QR code.
ACCEPTABLE PAINTS AND COATINGS

- **Asphalt**: Driveway enamels and stains, garage floor paint, two-part epoxy coatings, waterborne traffic marking paint
- **Concrete**: Masonry paints, concrete stains, porch enamels, garage floor paints, two-part epoxy coatings

Qualities to look for in your selected product: will withstand hot-tire pickup, can be made into the colors you need, and intended for ground surfaces subject to abuse.

TO PRIME OR NOT TO PRIME?

If using water-based masonry paint on concrete, you should treat your mural as with any other concrete wall or blocks. Prime using a masonry primer and apply color in your preferred paint specifically formulated for concrete. If you are using a concrete stain, the paint is already formulated to adhere directly to the concrete and using a primer will add a barrier that prevents this adhesion. The best thing to do is discuss your specific site with a trusted paint store representative or manufacturer. If painting over thermoplastic crosswalk lines or stop sign lines, use a strong primer that will help the color adhere.

If your surface has been sealed, such as is common with brick or cement pavers, you will need to apply a primer and/or sand the surface appropriately so that the paint or coating has a texture upon which to securely grip. This is not common with roadway curb extensions.

SEALING

Because there is not a predetermined maintenance plan in place for Color the Curb, if you are using a water-based paint for your color, we ask that you seal your mural with a solvent-based sealer to ensure its protection from the elements. Be sure to use one that is formulated against hot tire pickup, and that can be applied over a painted surface. Ideally, you
should wait until after the paint has cured, approximately one week after installation. Keep in mind that when you apply the sealer, you should thoroughly sweep and rinse the mural to ensure debris does not get trapped underneath the sealer. If you are using a two-part epoxy coating, sealing is not required, but you may certainly apply sealer if you wish.

When applying the sealer, you’ll want to ensure that you are not doing so in extremely high humidity, as the sealant can fog up as it cures. This is a similar effect as placing plastic wrap over a hot dish of food! Check the forecast to make sure you are in the clear with a few dry days without extremely high humidity.

APPLICATION TECHNIQUES

Each mural site will require its own unique combination of paint application techniques depending on the surface type and design requirements. Color may be rolled on, brushed on, and/or sprayed with an airless paint sprayer.

Some brands of two-part epoxy coatings may require squeegees and/or brooming for application, and you should consult your supplier to ensure you have clear instructions should you pursue this route.

• **Rolling:** Use a minimum of ¾” nap rollers for asphalt and a minimum of ½” nap for cement

• **Painting with Brushes:** Use high quality brushes that can hold lots of heavy paint and endure lots of rough surfaces.

• **Stencils:** Stencils can be made of any durable material that you find accessible for your budget, and common materials include roofing paper, sturdy cardboard, aluminum, LDPE (low density polyethylene, and PVC. Stencil material selection will be determined by whether you will use them once, or want to save them for reuse on another project. If you want to reuse them, we recommend a plastic or aluminum material that you can clean the paint off of.

• **Paint Sprayers:** Best for water-based paints. Refer to your paint supplier or manufacturer about which nozzle to use, because it will be different than your typical water-based latex paint. Recommended for people who have experience with paint sprayers already.

Left to Right: Mural being painted with brushes, stencils, and rolling.
MATERIAL CHECKLIST

Please note that there are a few items intentionally listed under more than one category. This is to help you with your planning of quantities of needed items.

BRUSHES
☑ Paint brushes of varying widths
☑ 1/2”-3/4” roller covers
☑ Roller cages
☑ Roller poles
☑ Wire brushes for cleaning your paint brushes

CONTAINERS
☑ Empty small containers for paint brush water
☑ Empty small and gallon containers with lids for paint
☑ 5-gallon buckets for water, trash, and/or storage
☑ Spray bottle
☑ Bins/boxes for organization on site

ORGANIZATION
☑ Bins/boxes for organization on site
☑ Folding tables
☑ Suitable protective ground cover (cardboard, drop cloth, tarp)

CLEANING
☑ Degreaser
☑ Wire brushes
☑ Rags and/or paper towels
☑ Brooms (deck broom is best)
☑ Trash bags
☑ Latex gloves
☑ Extra water if no water access on site
☑ If hiring a pressure washing contractor:
  ☑ They should bring everything needed! Confirm with them directly
  ☑ If pressure washing yourself:
    ☑ Pressure washer
    ☑ Brush attachment
    ☑ Hose (locate water hookup) and/or water tank
    ☑ Fuel or extension cord (locate electric outlet)
PAINT
✓ Primer
✓ Paint
✓ Topcoat

TOOLS
✓ Paint can keys
✓ Hammer or rubber mallet
✓ Cordless drill with paint mixer attachment
✓ Extension cords
✓ Painter’s tape
✓ Paint sprayer
✓ Measuring tape
✓ Snapline and chalk powder

SAFETY AND COMFORT
✓ Caution tape
✓ Extra barrier cones
✓ Appropriate signage
✓ Knee pad cushions
✓ Folding chairs
✓ Sun protection
✓ High visibility vests and/or clothing
✓ Latex gloves
✓ Canvas or leather work gloves
✓ Safety goggles
✓ Face masks
✓ Respirator masks
✓ Hand sanitizer

SUSTENANCE
✓ Snacks
✓ Cooler with ice
✓ Drinking water
✓ Music

DON’T FORGET!
✓ Stencils if needed
✓ Your artwork renderings
✓ Transportation plan for your team
✓ Parking permits
✓ Fliers or useful resources that explain the project to passersby
✓ Electronics chargers
✓ Relevant contact information saved in your phone or easily accessible
Prices can range for the installation of a ground mural. Below are categories to think through to aid in your budget planning.

### ITEM CATEGORY

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### TIPS ON SAVING MONEY

- Register for pro discounts at major manufacturers and hardware stores.
- Share the costs of surface preparation with fellow Color the Curb artists. For instance, if you are renting equipment, can you share it with another team during the same time period and split the price?
- If you can invest in quality tools now, they will last longer and you can save money on future projects! Take care of your equipment so that they can take care of your career.
BLOOMBERG ASPHALT ART INITIATIVE

https://asphaltart.bloomberg.org/

The Bloomberg Asphalt Art Initiative focuses on education, methods and data for public art installed in roadways, pedestrian areas, and vertical transportation infrastructure. Their website offers relevant case studies and a free downloadable comprehensive guide to community-focused pavement art.

MADE YOU LOOK BALTIMORE

https://www.mica.edu/research/center-for-social-design/case-studies/made-you-look/

Maryland Institute College of Art collaborated with the Baltimore Department of Transportation to create an Arts in the Right of Way Toolkit for communities seeking to create and install traffic calming art in their Baltimore communities. It is free to download on their website.

CONTACT INFORMATION

Emma Blondin, DDOT - emma.blondin@dc.gov

Contact for assistance or questions regarding DDOT’s Arts in the Right-of-Way program.

https://arts-in-the-right-of-way-dcgis.hub.arcgis.com/