



Madison Parks Division

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July 28, 2019

To: All Alders

From: Eric Knepp, Parks Superintendent

Cc: Mayor Rhodes-Conway; Board of Park Commissioners; Janel Heinrich, PHMDC

Re: Playground Replacement Program

OVERVIEW

The City of Madison currently owns and maintains 180 playgrounds across the park system. This does not include most school playgrounds, which are owned and maintained by MMSD. The 180 playgrounds equates to 7 per 10,000 residents. According to the Trust for Public Land's annual rating of the 100 largest municipal parks systems in the nation, this puts Madison at #1 and by a fairly sizable margin. As a comparison, Cincinnati has approximately 5 playgrounds per 10K residents, and is currently 2nd in the annual ranking in this category. This places Madison at approximately 40% more playgrounds per capita than other communities. Madison Parks is certainly proud of this ranking, but such a sizable system of playgrounds does mean there are significant costs to develop and maintain the system in a safe and accessible manner.

In the 1990's there was a significant reinvestment in playgrounds to move away from wood structures, which were inaccessible, towards equipment that was safer and met ADA guidelines. At this time, the primary surfacing selected for installation was crumb rubber and/or pea gravel. By 2012, there was a significant need to reinvest in our playgrounds again as many were reaching the end of their useful life at similar times. This led to the Parks Division working collaboratively with Alders, the Mayor, and the Board of Park Commissioners to establish a programmatic approach to the replacement of over 120 of the playgrounds over the next decade beginning in 2013. The Council adopted RES-13-00034, Legistar 27854, in January 2013 (see *Attachment A*). This called on the Parks Division to develop a replacement program that prioritized playgrounds based on safety, age and condition a fair and equitable manner. The program was to include a standard playground equipment package, prioritized yearly capital budget plan for the replacements and equitable guidelines that would allow for neighborhoods to contribute financially to the project.

We have made meaningful progress on this front, with the Council authorizing on average over \$1,000,000 annually towards 10-17 playground projects since 2014. The funding for these investments is a blend of taxpayer support, park development impact fees, and private support. The specific projects are determined annually by staff using a primary factor of safety that is informed by annual audits of all playgrounds in the system. Additional considerations used to determine specific timing include available funding (e.g. impact fee funding is by district), geographic proximity of other projects (to provide a better bidding climate), social equity, and/or if there is a gap in the system from a service area perspective.

With regard to the major objectives of the resolution, progress has been made on all fronts as follows:

- Standardized Playground Design Process: A robust public engagement process has been developed that includes workshops within the neighborhood, where playground requirements are determined (i.e. target age group, equipment play factors, surfacing, etc), the scope of the project is discussed and neighborhood input is sought regarding options from the equipment manufacturers and surfacing. Follow-up playground meetings are held to discuss two options that have been prepared by Park Planners, and a final design is shared via email to all interested parties. **Attachment B** shows this process visually.
- Standard Package: Parks has established a set palette of features that are initially proposed to be included in playground designs. Actual features, size and appearance vary based on input received from neighborhood. Each playground is designed to provide similar opportunities at each of our playgrounds.
- Prioritization of Replacement: Safety audits have been completed on each of the playgrounds in the system. Replacements are prioritized based on safety, age and condition of the equipment. In addition, we prioritize replacement when accessibility concerns exist and new neighborhoods are developed in order to meet the goals of the City's Comprehensive Plan and the Parks and Open Space Plan.
- Matrix: Though a formal decision-making matrix was not completed, the Parks Division has established guidelines and a threshold to which neighborhoods can contribute towards the project. Over the past few years, Parks has been using a hard cap on donations for neighborhood park playground projects of up to \$7,500, which was originally approximately 10% of the cost. This is currently being reviewed as a part of our continuous improvement work.

PLAYGROUND TYPES & NATURE BASED PLAY

Standard & Fully Accessible Playgrounds

The standard playground includes slides, swings, various climbing features, structure, platform and often a standalone element. The size of the equipment varies based on the age of the intended audience. While our standard surfacing today is shredded wood or rubber mulch, there is still pea gravel and crumb rubber surfacing in some of the playgrounds, which we are working to replace. These playgrounds are meant to serve the surrounding neighborhood in which they are located.

There are currently two fully accessible playgrounds within the Parks system (at Brittingham Park and Elver Park). The accessible playgrounds are designed to allow people of all abilities the opportunities to participate in play without barriers. These playgrounds are designed to serve larger geographical areas as well, and are built to a much different standard than the standard playground. Both of these playgrounds have poured-in-place rubber surfacing with concrete curb surround and some degree of fencing/barrier to protect people within the playground. As a result, these playgrounds also have a much different cost profile, and are approximately five times more expensive than the standard playground. From initial observational data, however, they also tend to get well more than five times the visitors than most of our playgrounds.

Nature Based Play

The Parks Division in partnership with Public Health of Madison and Dane County (PHMDC) have been at the forefront of the national movement to improve nature connection to children with an emphasis on equity. Madison was part of the first cohort of cities to participate in the [Cities Connecting Children to Nature](#) Initiative led by the National League of Cities and the Children and Nature Network. This has led to an increased focus on improving nature based play elements into our playground offerings. Generally, this has included incorporating logs and boulders into the playground designs when neighborhoods show an interest. In some situations, aged standard playground features have been removed and nature-based elements put in their place. Pea gravel or wood mulch are used as surfacing in these applications as they are not technically a playground and are designed to avoid critical fall heights where more significant surfacing is required.

PLAYGROUND SAFETY SURFACING

A critical component of managing public playgrounds to ensure safety is the surfacing. It is a major part of the safety audit process. Our primary focus in this evaluation is for impact attenuation. Historically the two most common major traumas from playgrounds have been head and spinal injuries from falls and/or entrapments (especially of the head). The impact attenuation evaluation is critically important to evaluating safety of a playground as children are generally unable to appropriately assess the risk of a compacted surface and/or an insufficient depth of surfacing. This inability to assess the risk is what creates a potential hazard. We are hopeful that children do enjoy playgrounds in a manner where they are able to learn to develop skills for assessing risk, but we do try to do our best at removing hazards. Another important factor related to risk of head/spinal trauma is the critical fall height present on the structure. It is important to note that only poured-in place rubber, rubber mulch, and wood mulch meet the requirements set forth by the CPSA in their [Public Playground Safety Handbook](#) and [ASTM F1292](#) for critical fall heights above 5 feet, which the vast majority of our playgrounds do have. These are also the only types of surfacing that comply with ATSM F1951 to ensure ADA Accessibility. Sand and pea gravel do not meet these requirements.

Despite the concerns raised by some members of our community, we do not consider rubber mulch surfacing to be a hazard. We find that it is a resilient surfacing option that requires significantly less annual maintenance cost to meet impact attenuation standards. We, along with Public Health of Madison and Dane County, do monitor and evaluate ongoing research on the issue, but to date the academic research on this topic has not demonstrated a hazard related to the use of rubber (see [Attachment C](#)). Of note, just this past week, the [EPA's Research Team on Tire Crumb](#) issued [July 2019 Report: Tire Crumb Rubber Characterization Part 1 \(Vol1&2\)](#). This work was started during the Obama Administration and is not a formal risk assessment. However, the results that were just released are consistent with a significant portion of relevant research to date on the topic that indicate there are likely some trace contaminants in rubber mulch, but the risk for human exposure appears to be limited.

The Parks Division does recognize the concerns around the use of rubber and how for some people this may lead them to choose not to allow their children to get outside and experience nature and build social skills through play at our playgrounds. That is why since 2015 we have allowed for

neighborhood participants to choose between wood mulch made by the City (and certified for playground surfacing) and rubber mulch when we do replacements or new installations. Of note here is that the rubber surfacing used today is a BPA free poly coated rubber mulch that greatly reduces odor, dirt, and is more flame retardant (yes that is unfortunately important). Over the past five years we have seen approximately 2/3 of those involved in the design choosing wood mulch and the other 1/3 choosing rubber mulch. We provide as much information as we can in the process, but are open to the accepting the decision of those involved in this process for neighborhood parks. For larger community parks, the Parks Commission would take input under advisement, but they do have additional considerations in select areas. As an example, the fully accessible and barrier free playgrounds would not be so without poured in place rubber. Even though wood mulch meets the letter of the law as it relates to ADA, it is certainly not the same experience for someone with mobility concerns. An additional consideration here for the City is that as the number of wood mulch playgrounds increases, there will be an ongoing operational investment to ensure they maintain a safe impact attenuation throughout their useful life.

According to our safety and field condition audits, we do have a schedule established for playground replacements. We do our best to follow the prioritized schedule that we have worked to establish, but there are times when playgrounds are bumped due to heightened safety concerns or worsened conditions of others. In addition, the number of playgrounds replaced each year has varied due to changing construction and equipment costs. Each year, staff goes over the schedule again and adjusts as needed.

RECENT & FUTURE PLAYGROUND PROJECTS

As mentioned above, the Parks Division is working to continue replacement of much of our playground equipment in the system. The Division will have completed 87 major playground projects (see *Attachment D*) since 2013, with the vast majority being full replacements. The few that were not were surfacing and equipment updates to newer structures that were estimated to provide at least an additional 10 years of useful life to the playground. In 2020, we plan to work with neighbors and stakeholders on the following 11 playgrounds:

Replacements

Brentwood, District 12
Hillington Triangle, District 5
Morrison, District 6
Orlando Bell, District 16
Sheridan Triangle, District 12
Whitetail Ridge, District 18
Windom Way, District 12
Wingra, District 13
Woodland Hills, District 19

New Installations:

Eagle Trace, 10321 White Fox Lane; District 9
Galaxy, 132 Milky Way; District 3

As mentioned above, the annual audit process is a key driver of scheduling specific projects in a given year. Given what is known today, the following playgrounds are considered top ten candidates for inclusion in the 2021 or 2022 work plans:

Raemisch Homestead, District 7

Paunack, District 14

Norman Clayton, District 20

Vilas Park, District 13

Kennedy Park, District 3

Hoyt Park, District 5

Birchwood Point, District 9 – new installation

Skyview Park – District 19

Portland Park – District 3

Fully Accessible Playground(s) – Reindahl, Rennebohm, Warner, and/or Goodman

CONTINUOUS IMPROVEMENT FOCUS AREAS

The Parks Division's work on playgrounds impacts all neighborhoods in the City and requires a focus on continuously improving our processes and workflows. To that end, the following are focal points of our work to improve the process as we continue to work with stakeholders to invest in making our City the playground capital of the world:

1. Evaluate current caps on private funding for neighborhood playgrounds and consider establishing a matrix for private fundraising.
2. Develop a more detailed plan for the next 10-15 years, which will cover the timeframe when playgrounds first installed under the current program come up for replacement (approximately in 2033-2036). Incorporate an analysis on resource needs to install, grow, and maintain the system.
3. Monitor and evaluate relevant research on surfacing and report to the BPC by the end of 2020 to determine how the Commission would like to review this from a policy perspective.
4. Develop a timeline for installation of at least three more fully accessible playgrounds by 2024.