



Department Source: Parks and Recreation

To: City Council

From: City Manager & Staff

Council Meeting Date: March 6, 2017

Re: MKT Trail Bridge Replacement Project

Executive Summary

The Parks and Recreation Department is requesting Council approval to proceed with the replacement of bridges #5 and #7 on the MKT Trail and, if funding allows, replacement of bridge #8 as part of the project. The total project cost is \$380,000, which includes \$230,000 in Park Sales Tax funds and a \$150,000 Recreational Trail Program Grant. In 2013, the department hired Cook, Flatt and Strobel Engineers to evaluate each bridge on the MKT Trail. The three bridges proposed for replacement ranked in the top four in terms of immediate need for replacement due to age and wear. Park planners have worked with various trail user groups, including the P&R Commission and the Bike and Pedestrian Commission, to develop a detour route while the bridges are under construction. The project will be bid through the City's Purchasing Department, and contract labor will be used to complete the replacement of the bridges. In order to reduce the impact on trail users, the project is scheduled to begin November 2017 with an anticipated completion date of April 2018.

Discussion

The MKT Trail is a 10-foot wide crushed limestone trail that serves as a multi-use trail for bikers, walkers, joggers, nature enthusiasts, and non-motorized commuters. The trail is constructed on the former rail bed of the MKT Railroad and is recognized as one of the first ten Rails to Trails Projects in the United States. The trail begins in downtown Columbia at Flat Branch Park at 4th and Cherry Streets and connects to the State of Missouri's Katy Trail State Park. The City and County share the management of the trail with the City's 4.7 miles linking to Boone County's 4.2 miles of trail at the southwest edge of the city at Scott Blvd. The total distance from the start of the MKT Trail to the Katy Trail is 8.9 miles.

The Parks and Recreation Department is requesting approval of an ordinance authorizing the replacement of bridges #5 and #7 on the MKT Trail and, if funding allows, replacement of bridge #8 as part of the project.

In 2013, the Parks and Recreation Department hired Cook, Flatt and Strobel Engineers (CFS Engineers) to complete a study of the 13 bridges that are part of the MKT Trail. The study provided a summary of conditions for each bridge, recommendations related to weight limits for the bridges, and cost estimates for future replacement. Based upon the information reported by the engineers, park staff included an MKT Trail Bridge Replacement Project as an identified capital improvement in the *2013 Parks, Recreation and Open Space Master Plan* to address the needed bridge replacements as part of a future Park Sales Tax ballot issue.



City of Columbia

701 East Broadway, Columbia, Missouri 65201

The three bridges recommended for replacement are due to the overall condition and age of the bridges. Each bridge is original to the MKT Railroad and has had continued damage to the wooden support system due to contact by floating logs and debris during heavy rains and flooding events. As part of the recommendation from CFS Engineers, the three bridges are currently restricted to pedestrian traffic only, and no vehicular traffic is allowed on the bridges to prevent further damage to the support systems. The restrictions to the bridges are problematic due to the need to access different sections of the MKT Trail with emergency vehicles and for trail maintenance by park staff. Over the past two years, park staff has completed major repairs to the support structure on bridges #5 and #8 to temporarily secure the bridges until their future replacements are funded. Repairs have included rebuilding the wooden support bracing and preventing future washouts with the addition of rip-rap stone at the end walls of each bridge.

The scope of the bridge replacement project will include the complete removal of the existing bridges and footings. Contract labor will install new end walls, and free span bridges will be set across the creek at each bridge location. The free span bridges will greatly reduce annual maintenance and potential damage to the bridges. Staff will no longer have to complete cleanup of log jams at the bridge locations or make repairs to the support structures due to the design of the new bridges.

The placement of the bridges will require the use of a crane. The range of area needed for the crane work to install 60-70 foot free span bridges will require the removal of some trees. The estimated number of trees 6" dbh (diameter at breast height) or greater to be removed for this project is as follows: eight trees for bridge #5, eight trees for bridge #7, and 11 trees for bridge #8. Park forestry staff will coordinate necessary tree removals with the contractor to oversee and minimize the number and size of the trees removed as part of the project. Forestry staff will be responsible for the replanting of these areas after the bridge replacement is completed at each location.

Park staff has sought preliminary public input to discuss the proposed detour route during the bridge replacement project. Park staff presented the detour route to the Bicycle & Pedestrian Commission, and a recommendation was made to support the detour route and project. Staff also shared the plans with PedNet to gain additional feedback regarding the detour route and construction timeline. On January 19, 2017, park staff introduced the MKT Trail Bridge Replacement Project and proposed detour map to the Parks and Recreation Commission. After discussion of the project, the Commissioners voted to recommend the bridge replacement project and detour map. After considering all initial comments and the P&R Commission recommendation, staff believes that proposed detour route, combined with the winter time frame of the project, will be an acceptable alternate.

Upon completion of the bridge design and cost estimate by the selected engineering firm, park staff will hold an additional public input meeting to share the final plans for the replacement project with Columbia citizens. The meeting will make the public aware of the necessary steps for the replacement of the bridges, necessary timeline for the project, and a



review of the detour routes for the portion of the trail to be closed for the project. Staff anticipates that this meeting will take place in early fall of 2017.

The MKT Trail Bridge Replacement Project is included in the City's FY17 Capital Improvement Program budget, and the total cost for the project is \$380,000. The project is funded with \$230,000 in Park Sales Tax funds and a \$150,000 Recreational Trail Program (RTP) Grant. On December 5, 2016, the City Council authorized the execution of the RTP Grant agreement and appropriation of the grant funding for the project. The MKT Trail Bridge Replacement Project will be bid through the City's Purchasing Department, and the replacement of the bridges will be completed using contract labor. The bid for the bridge replacement project will include the replacement of bridges #5 and #7 and an alternate bid for the replacement of bridge #8. Upon receipt of the bids for the project, park staff will evaluate the cost of replacement of each bridge to determine if it is feasible to replace bridge #8 as part of the project. The benefits of including bridge #8 is that the trail will not have to be closed a second time. P&R forestry staff will assist with necessary tree removal and site restoration upon completion of the project. Weather permitting, construction of the improvements is anticipated to begin in November 2017, and staff anticipates the trail improvements will be completed by April 2017.

Fiscal Impact

Short-Term Impact: The total project budget is \$380,000, which includes \$230,000 in funding from the 2015 Park Sales Tax and a \$150,000 Recreational Trail Program Grant sponsored by the Missouri Department of Natural Resources.

Long-Term Impact: Park staff anticipates a reduction in annual expenses associated with the bridges due to the design and installation of free span bridges.

Vision & Strategic Plan Impact

[Vision Impacts:](#)

Primary Impact: Parks, Recreation & Greenways, Secondary Impact: Transportation, Tertiary Impact: Not Applicable

[Strategic Plan Impacts:](#)

Primary Impact: Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

[Comprehensive Plan Impacts:](#)

Primary Impact: Infrastructure, Secondary Impact: Mobility, Connectivity, and Accessibility, Tertiary Impact: Livable & Sustainable Communities



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Legislative History

Date	Action
12/05/2016	Ordinance #023023 – Authorizing a Recreational Trails Program Grant and appropriating grant funds for the MKT Bridge Replacement Project.

Suggested Council Action

Approve the ordinance authorizing the project to proceed.