DUBLIN CITY COUNCIL
WORK SESSION
MONDAY, JUNE 20, 2016
6:00-8:30 P.M. – COUNCIL CHAMBERS
CITY HALL

AGENDA

1. Call To Order
2. Roll Call
3. Welcome
4. West Innovation Districts (30 minutes)
   (presentation)
5. Ohio University Master Plan (30 minutes)
   (presentation)
6. Scioto River Pedestrian/Bike Bridge (45 minutes)
   (memo and presentation)
7. John Shields Parkway Bridge (15 minutes)
   (memo and presentation)
8. Closing Remarks
9. Adjournment

Office of the City Manager
5200 Emerald Parkway• Dublin, OH 43017
Phone: 614-410-4400

Memo

To: Members of Dublin City Council

From: Dana L. McDaniel, City Manager

Date: June 17, 2016

Initiated By: Terry Foegler, Director of Strategic Initiatives
Megan O'Callaghan, PE, Director of Public Works
Mandy K. Bishop, PE, Bridge Street District Program Management Consultant

Re: Scioto River Pedestrian Bridge Design and Environmental Permitting Update

Summary

Detailed design and environmental permitting of the Scioto River Pedestrian Bridge began in late 2015. The detailed design process is bringing the iconic concept developed and endorsed as part of the Bridge Street District River Corridor Framework Plan in early 2013 to fruition. The concept consists of an "s" curve, two span, suspension bridge, with a tear drop shaped pylon. The pedestrian bridge will serve as an iconic pedestrian and bicycle crossing that functions both as a critical transportation link and a regional destination, featuring the scenic Scioto River corridor.

Staff recently received 30% design documents from the consultant design team which is an important design milestone. The goals of this memorandum and the presentation that will be shared at the June 20, 2016 City Council workshop include:

- Introduce City Council and the public to the consultant design team;
- Provide a formal public update on the status of this project based on 30% design documents;
- Demonstrate how the detailed design efforts are continuing to be guided by the previously established vision and concept for this iconic public improvement;
- Provide an overview of the schedule for the remainder of the detailed design process and construction as well as discuss variables that could potentially impact the schedule;
- Obtain feedback from City Council on several proposed bridge lighting design concepts and affirmation that design progress to date is consistent with the City's vision.

Background

The iconic design concept was developed by Paul Endres of EndreStudio, based in San Francisco, and both an architect and structural engineer. This concept was subsequently endorsed by City Council as part of the Bridge Street District River Corridor Framework Plan in early 2013. Park concepts, roadway relocations and roundabout layout, and the character of proposed private development along the river corridor were also endorsed as part of this plan. City Council's endorsement of the major public improvements recommended within the Framework Plan, including the iconic nature of the pedestrian bridge, also recognized the important transportation system and connectivity functions provided by the bridge. EndreStudio was a sub consultant to MKSK Studios, based in Columbus, which served as lead planning firm on the River Corridor Framework Planning effort.

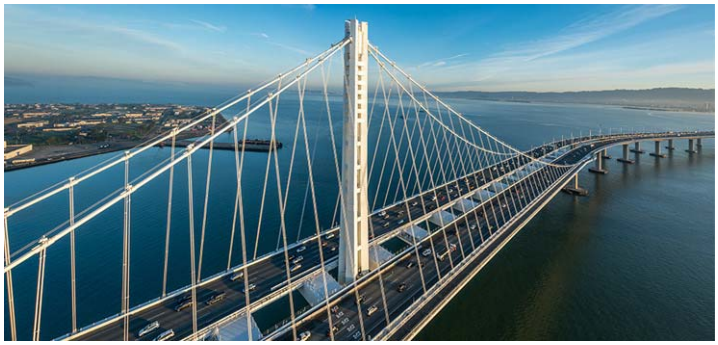
Design Team

Staff conducted a formal, competitive, selection process in the fall of 2015 to select the team for the design and permitting phase services for this project. As a result of this process, the team led by TY Lin International (TY Lin) was engaged. Staff believes the City has retained an extraordinarily qualified firm to lead the design effort, and that lead firm has pulled together an excellent team of sub-consultants to support its effort.

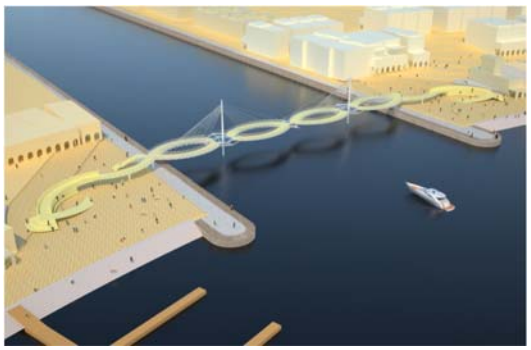
TY Lin, founded in 1954, is recognized worldwide for excellence and innovation in the specialized field of bridge engineering. Headquartered in San Francisco, TY Lin operates from offices in the US and abroad, employing more than 2,000 dedicated engineers, technicians and support staff offering an array of professional capabilities in the areas of bridge engineering and transportation project delivery.

TY Lin's professional services include analysis and design of signature bridge structures including suspension, cable-stayed bridges and pedestrian bridges. Experts in the specialized field of bridge design, the team of TY Lin has won awards for virtually every bridge type including suspension, cable-stayed, box girder, segmental, arch and truss bridges. Examples of signature bridge structures from TY Lin's portfolio include:

Harbor Drive Pedestrian Bridge
San Diego, California



Oakland Bay Bridge
Oakland, California



Lusail Pedestrian Bridges
Doha, U.A.E

Lowry Avenue Bridge
Hennepin County, Minnesota

TY Lin's team has the ideal combination of civil and structural experience and relevant site knowledge. Paul Endres is continuing in the role as project architect, Lighting Design Alliance is leading the lighting design, and RWDI Consulting Engineers is performing wind analysis and

testing. TY Lin has complemented its team's international experience with local firms MKSK Studios, EMH&T, S&ME and Resource International. In addition, AmeriCost Infrastructure Estimators, Inc. is providing cost estimates and design and construction scheduling services.

The City also engaged Genesis Structures to serve as the "Independent Design Checker" to perform a structural review of the plans, calculations, notes and specifications on the City's behalf. Founded in 2004 and headquartered in Kansas City, Genesis Structures, Inc. is a structural consulting services firm with particular expertise in complex bridge erection engineering, specialty structures, bridge design and demolition. Genesis oftentimes serves on the construction team working for the contractor which means they bring an important constructability perspective to the review process.

30% Design and Environmental Permitting Update

The pedestrian bridge design effort has operated under two key overarching tenants – to maintain consistency with the Framework Plan's vision and to implement the vision within the general budget constraints of the Capital Improvements Program.

The TY Lin team is committed to and capable of implementing the vision, and we are pleased to say that after completion of 30% design documents, the pedestrian bridge design remains consistent with the structure originally envisioned by Paul Endres and accepted by the City.

As context, at 30% design, pier types and locations, alignment, abutment type and locations (landing points), bridge width and depth are established. A concept has been developed to determine constructability and the area of impact for the construction has been evaluated. As we continue to advance toward 60% design, and more details are included in the plans, we will gain additional information that will further inform our permitting and construction schedule. TY Lin is currently on schedule and working toward a late July 2016 submittal of 60% design documents.

In addition, as the design efforts progress, so does the environmental coordination and permitting – primarily with the United States Army Corps of Engineers (USACE), Ohio Department of Natural Resources (ODNR) and Federal Emergency Management Association (FEMA). The two major permits associated with this project are federal permits that must be obtained from the USACE for work in wetlands and the river and from FEMA for potential impacts to flood elevations. Ultimately, the permitting will likely be the controlling factor driving the critical path schedule for the beginning of construction. The design plans are anticipated to be completed and ready for bid late in 2016 with permitting anticipated to be approved as early as March 2017. Steel availability may also be an important consideration in construction timing.

As the pedestrian bridge is being designed and permitted and readied for competitive bidding, Staff is working to advance key elements of other related projects that are necessary to build the pedestrian bridge. Over the winter, trees were cleared so that North Riverview Street Extension could be built in 2016 to serve as a haul road for the pedestrian bridge construction and provide an alternate access for Building Z construction so the west plaza construction (landing pad for the new pedestrian bridge) could advance. This is just one example of the types of infrastructure coordination that has and will continue to be undertaken as the pedestrian bridge evolves throughout the remainder of the year. The timing for building the pedestrian bridge is anticipated

to occur as planned following the completion of the realignment of Riverside Drive which is currently occupying the east landing area of the bridge.
The Project Manager, Mirek Olmer of TY Lin and architect, Paul Endres will provide an update and summary of the design process and value engineering as well as discuss their next steps in completing the design to implement the City's vision. The design team's presentation will focus on the following:

- Preliminary engineering;
- Concept validation;
    - Layout and length of the bridge and its impact to environmental elements, existing and future facilities;
    - Engineering aspects of the structure and its compliance with codes;
    - Aesthetics of the final design and its adherence to the architectural concept;
    - The cost implication of the concept validation.
- The 30% design and the status;
- Adherence to original design concept;
- Lighting design and guiding principles.

Recommendation

This is an informational memo. Additional information in the form of a presentation will be provided during the June 20, 2016 City Council Work Session. Staff looks forward to the discussion and Council's guidance regarding the bridge lighting design concepts as well as affirmation that design progress to date is consistent with the City's vision.

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Initiated By: Terry Foegler, Director of Strategic Initiatives
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Re: John Shields Parkway Bridge - Structure Type Study Update

Summary

The John Shields Parkway (JSP) Bridge over the Scioto River will serve as a key component for providing connectivity within the Bridge Street District Roadway network. The idea and general alignment of the JSP Bridge was reaffirmed as part of the Bridge Street District River Corridor Framework Plan in early 2013 and is part of the City's Thoroughfare Plan. A structure type study began in February of 2016 and is being performed as part of a comprehensive evaluation of the floodway/floodplain impacts of the pedestrian bridge and other proposed parkland improvements. Four structure type concepts have been proposed by the consultant team for further consideration as part of the structure type study. The goals of this memorandum and the presentation that will be shared at the June 20, 2016 City Council workshop include:

- Provide a formal public update on the status of this study;
- Provide an overview of the architectural and visual criteria for selecting the type of structure;
- Obtain initial reactions from City Council on the proposed structure type concepts for further consideration prior to the completion of the final stages of structure type study.

Background

The JSP Bridge is envisioned as a future vehicular bridge over the Scioto River between the I-270 and Bridge Street bridges, at the location of the new John Shields Parkway intersection with Riverside Drive, currently under construction. This future bridge will link destinations east and west of the Scioto River in order to facilitate local travel within the Bridge Street District. In addition to a new vehicular connection, the future bridge will provide additional pedestrian and bicycle connectivity across the river. This bridge was recommended by the Nelson/Nygaard analysis and transportation planning performed for the Bridge Street District in 2011-12 as an important element of district connectivity. Park concepts, roadway relocations and roundabout layout, and the character of proposed private development along the river corridor were also studied and established as part of the Bridge Street District River Corridor Framework Plan in 2013-14. Funding for the JSP Bridge Structure Type Study was included in the Capital Improvements Program (CIP) in 2015. Funding for design and construction is not included in the current CIP.

Staff conducted a formal, competitive, selection process in November of 2015 to select the team to perform the structure type study. As a result of this process, the team led by Burgess & Niple,

LTD, based in Columbus, was engaged. Burgess & Niple complemented its experience with Fredrick Gottomoeller of Bridgescape, LLC, based in Maryland and S&ME.

The structure type study began in February of 2016 and is being performed as part of a comprehensive evaluation of the floodway/floodplain impacts of the pedestrian bridge and other proposed park land improvements. The structure type study is needed to help assess the likely impacts of the various bridge components on the river itself, as well as upon the river park improvements now under design. The structure type and design will, for example, establish the number of piers and pier types in the river, which will help inform the types of flood mitigation needed, and the associated mitigation costs that may be required. It is therefore important to develop a comprehensive understanding of these potential river impacts and permitting implications in the context of the new pedestrian bridge, the river parks, and the future JSP Bridge. This is not a study that will actually initiate the design of the bridge, but rather will help define the type of bridge that will be most appropriate for this situation.

The scope of the study includes:

- Assess river impacts in the context of all of the planned Bridge Street District river corridor improvements;
- Ensure compatibility with emerging river park design and programming;
- Establish preliminary cost estimates for future capital budgeting;
- Select a preferred bridge design type based upon these considerations;
- Help facilitate the timely implementation of the bridge, when the traffic need is established and funding for the project is programmed in the future.

Architectural and Visual Criteria for Selecting the JSP Bridge Structure Type

The following architectural criteria were established for selecting the type of JSP Bridge to be built over the Scioto River and its valley:

- The bridge should **complement but not upstage the new pedestrian bridge.** Because of the heavy tree canopy in the area, and because the John Shields Parkway Bridge will - for the most part - be below the top of the tree canopy, there will be few locations from which both bridges will be seen at the same time. The primary concern at these locations will be to make sure that the JSP bridge appears to be lower in height and that its form is noticeably different from and less memorable than the tower/cables of the pedestrian bridge.
- The bridge should **consider incorporating an arch form to reflect the arch tradition of the Scioto River valley in the Dublin area.** Arches attract less attention than the tower/cables of the pedestrian bridge. The use of arches will make it less likely that the JSP Bridge will compete with the new pedestrian bridge from any position.
- The bridge should **provide a wide and attractive bicycle and pedestrian connection at street level** so it can serve as an important link to maintain the connectivity in the cycle track planned for the Bridge Street District.
    - With that in mind, the bicycle/pedestrian path should be placed on the south edge of the bridge, which will give users a view of the valley and the new pedestrian bridge.
- The bridge should **provide for river use by kayakers and canoers** and use iconography at river level that marks it clearly as a Dublin bridge for their benefit as well as for other park users.

- The bridge should **provide for the easy connectivity of the Scioto River parkland**, located on north and south sides of the bridge, on both the east and west sides of the river.
- The bridge should be **cost effective** to both construct and maintain.

Four visual criteria were established to further the City's urban and park design goals for the Bridge Street District as follows:

- The bridge should be easy to see through from all angles so it doesn't visually divide the park, but instead is seen as an element within the park. This will also support a perception of security for park users around and under the bridge.
- The bridge should appear to frame the river when seen from important viewpoints. The river is the most important feature of the valley.
- A bridge of this length will likely require five, six or seven spans (openings). It is important to the overall appearance of the bridge that the proportions of these openings (the ratio of span length to bridge height) be similar for every opening.
- Finally, travelers crossing the John Shields Parkway Bridge should have some sense of the size and depth of the valley, as well as a clear perception of where the river is located within this valley.

Structure Type Concepts Under Consideration

After preliminary assessments, four alternatives have been identified that satisfy the above criteria and would be appropriate to consider for further evaluation as follows:

1) Concrete deck arch;
2) Steel deck arch;
3) Above deck steel arch;
4) Above deck dual steel arch.

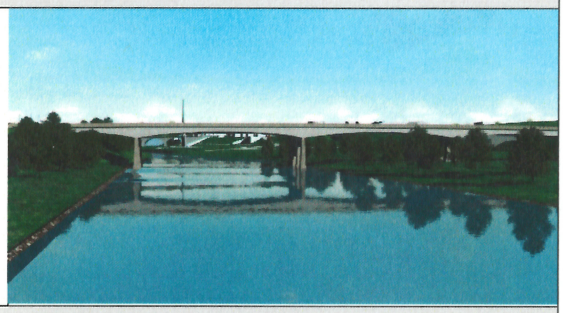
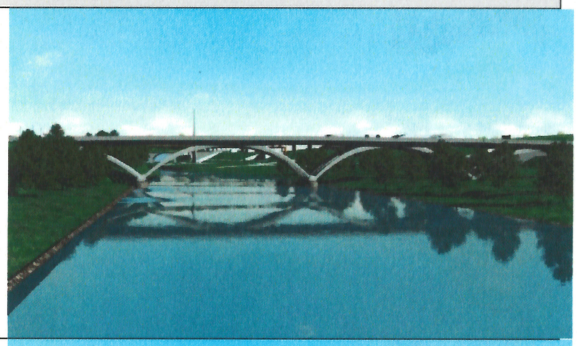
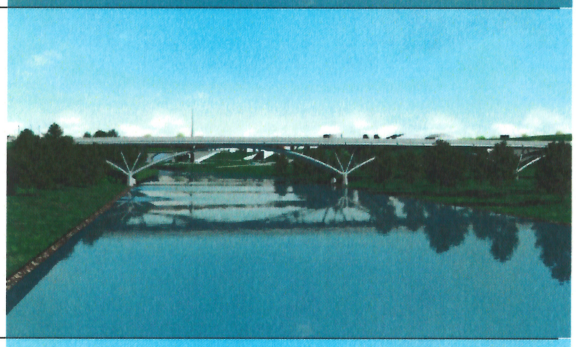
The study of these alternatives provides a more definitive comparison of costs and technical features along with their comparative strengths in complying with the criteria. The structure type concepts are outlined in Attachment A with planning level construction cost estimates and a preliminary assessment of number of supports. All estimates assume a five-lane bridge, intersection modifications where the bridge meets Dublin Road and Riverside Drive, lighting and other incidental costs. Although the haunch steel girder bridge does not meet the established criteria, the cost savings may warrant further analysis.

Some design considerations were established that will be applied to whichever bridge type is selected for the JSP Bridge. These include providing for a separation between bicyclists and pedestrians using the bridge, providing good visibility to the river and to the pedestrian bridge for pedestrians and bicyclists, providing lighting for park uses under the bridge and providing tasteful aesthetic lighting of the bridge itself. The JSP Bridge should also avoid the natural rock cliff face on the east side of the valley, if possible, so it can be preserved as a park feature. The bridge should also provide for easy north/south park circulation at bluff level.

Recommendation

This is an informational memo. This information will also be presented during the June 20, 2016 City Council Work Session. Staff looks forward to the discussion and any initial reactions Council may have regarding the structure types before the study is complete in August of 2016.

Attachment A
Structure Type Concepts

Bridge Type	Planning Level Estimated Construction	Number of Supports in the Floodplain	Image
Concept for Cost Comparison Purposes			
Haunched Steel Girder (existing Emerald Parkway Bridge Type)	*$22,000,000*	*4*	
4 Alternatives Under Consideration for Detailed Evaluation			
Concrete Deck Arch	$32,000,000	4	
Steel Deck Arch	$34,000,000	4	
Above-Deck Steel Arch	$38,000,000	4	
Above-Deck Dual Steel Arch	$41,400,000	3