



Questions and Comments generated from the September 17, 2013 City Council Work Session:

Roadway Elevation

1. Is it correct that Dubuque Street has been closed 150 days in the last 20 years due to flooding, and that it would have been closed only 6 days if the road/bridge were at the 100 + 1 elevation? Have you assessed any other intermediate flood levels; e. g., 200 + 1?

It is correct that if the roadway was elevated to the 100+1 elevation, the 2008 closure would have been 6 days due to flooding, not including any required clean up or repair work. Since the last Work Session, the 200+1 flood elevation has been evaluated. The 200+1 elevation is approximately 3.4 feet higher than the 100+1 elevation & the resulting information is summarized in the cover memo. We have updated Backwater Comparisons (Figure 2), Key Spot Elevations (Figure 3), Cost Comparisons (Figure 4) and the Cross-Sections at Mayflower and Bella Vista (Images 2 and 3) to reflect the 200+1 elevation and the Partial Through Arch Options.

2. Would you please clarify and elaborate on why you think using removable Hesco barriers in combination with a lower roadway elevation is not a reasonable option.

Early on during the Environmental Assessment, it was determined that it would be too risky to keep Dubuque Street open with temporary flood protection measures actively holding flood waters off the roadway. Under current rules, eligible costs associated with flood preparation and cleanup are eligible for 85% reimbursement from FEMA if their deployment is part of a federally declared disaster. We have observed that the cost to deploy HESCO barriers varies widely. Our best estimate is that it would cost approximately \$690,000 to deploy HESCO barriers and pumps to provide about 3.5' of temporary additional protection for this corridor. Keep in mind that the traffic will be significantly impaired while the HESCOs are deployed and removed, and since the HESCOs would be placed on the sidewalks, they would be closed. This estimate does not include potential sidewalk repairs.

3. How will water runoff from the east side of Dubuque Street be handled?

Runoff from the hillside on the east side of Dubuque Street, flowing from east to west, will be conveyed westward to the river, similar to the existing condition, through open ditches and cross-road culverts. Adequate sizing and improved grading to these ditches and culverts will provide better conveyance than the existing infrastructure. It is important to note that the new, elevated roadway will not be designed to function as a "levee" type embankment with gated culverts and interior pumping stations. Just as in the existing condition, when river stages are high, water will backup and inundate the region east of Dubuque Street. During



high intensity rainfall events, an elevated Dubuque Street would not be expected to be closed as is currently experienced.

4. Additional images or renderings have been requested of the east side of Dubuque Street.

Included in the packet are additional cross-sections (XS-1 through XS-7) showing preliminary design of the Preferred Alternative and how it impacts properties adjacent to Dubuque Street. The top image is the plan view with the cross section line delineating what the section below illustrates. Additional copies of these cross-sections will be provided to you at Tuesday's Work Session.

Flooding Issues

5. Can more information be provided on the future road closures by various impact levels?

We can only project the next 20 years based on history from the past 20 years. Based on the past 20 years, approximately 150 days of road closures due to Iowa River flooding with additional closures expected when 1" or more of rain falls in one hour. That being said, we cannot predict flooding and whether or not it will occur. .

6. What is the economic impact to the City and its users when Dubuque Street is closed?

This question has been asked before and a solid answer is difficult to develop. Staff is in communication with Iowa City Economic Development Division, Summer of the Arts (event attendance) and the Chamber of Commerce. Our goal is to develop an answer that addresses this question to the best of our knowledge for the 2008 flood as well as the 2013 flood that closed Dubuque Street while all other arterial roads remained open. This information will be provided in an upcoming Information Packet.

7. How will the project relate to the Army Corps of Engineers operation plan for the Coralville Reservoir?

The maximum release from the dam (20,000 cfs) could be achieved without impact to an elevated Dubuque Street. This would give the Corps the flexibility to open the gates as needed without giving Iowa City time to prepare and close the roadway.

Construction

8. How would cost overruns during construction be paid for?

The current estimates include a 20% contingency at this time. Cost overruns would likely be paid for with G.O. Bond proceeds. Our \$55 Million Wastewater project is over 70% complete with less than 1% change orders.

9. Cost Clarification between Iowa City Gateway options and the No-Build option

The Cost Estimates for the Gateway Project as presented during the September 17 Work Session were for Construction only, with a note at the bottom stating "Environmental Assessment, Final Design, Construction Administration and Inspection Fees = \$8 Million.



Trunk sewer construction not included in these costs.” The amount shown for the No Build Option did include the Final Design, Construction Administration and Inspection Fees.

Design Considerations / Footprint Reduction

10. Travel lanes in the Preferred Alternative are 12’ wide. Can this width be reduced and if so, what will the affects be?

According to the Iowa Statewide Urban Design and Specifications (SUDAS) Design Manual, the Iowa Department of Transportation (DOT) Design Manual and the American Association of State Highway and Transportation Officials (AASHTO) Green Book, an arterial lane width is recommended to be 12’ wide. This lane width is set to accommodate all vehicles including some major users of this corridor such as buses and delivery vehicles. Something less than a 12’ wide lane can degrade traveler safety. For instance, the Highway Safety Manual (HSM), shows that a reduction of a lane from 12’ wide to 11’ wide is expected to result in a 4 percent increase in the number of crashes.

11. To increase safety on Dubuque and Park Roads, would it be better to reduce speed from 35 mph to 25 mph? Would a reduction in lane width result in a reduction in speed?

During the design phase, speed management will be studied and considered. A reduction in lane width can be an effective method of speed control. However, as mentioned above, it can also result in an increase in the number of crashes. The 12’ lane width is set to accommodate all vehicles including some users of this corridor such as buses and delivery vehicles. It is recognized that traffic speeds along this stretch of Dubuque Street often exceed the posted 35 mph and during final design, speed reduction measures on Dubuque Street will be analyzed.

With the installation of new traffic signals and exit ramp configuration, traffic from I-80 now travels through a controlled intersection that requires slowing or stopping before it reaches Dubuque Street. It is expected that with this new interchange and its proximity to the Foster Road traffic signal, traffic speeds through the corridor will be reduced simply because the free-flow exit ramp has been removed. Dubuque Street’s current classification is an arterial street with contolled access. 35 mph is an appropriate speed for this type of roadway.

12. Could a pedestrian-actived signal be installed at Mayflower?

This will be considered during final design. This shall contribute to pedestrian safety and have a secondary benefit of reducing speeds on Dubuque Street between Foster Road and Park Road, but will have the negative impact of traffic delay.

13. The Preferred Alternative recommends wide sidewalks on both sides of Dubuque Street. Can these widths be minimized or perhaps eliminated on the east side?

One part of the Purpose and Need of the project was to maintain and enhance the bicycle, pedestrian and transit amenities. By reducing widths or eliminating the sidewalk on the east side of Dubuque Street, all or in part, would not address the goals of the project. Walkability



of the corridor would be reduced and potential winter maintenance issues would be created if the width were reduced.

The Iowa River Trail is an existing resource on the west side of Dubuque Street and has been designed to AASHTO standards for trails. This is the most heavily used trail in the metro area and is expected to be maintained in the proposed design. There is currently a 4' sidewalk on the east side of Dubuque Street between Kimball Road and Park Road. The need to provide a continuous walk on the east side of Dubuque Street from Brown to Foster was expressed by the public at all of the public meetings in order to provide the Northside residents and students at Mayflower access to controlled intersections at Park and Foster Roads. Mixed bike and pedestrian usage is predicted on this multi-use path similar to the Iowa River Trail.

14. Can parkway widths be reduced?

Eliminating or reducing the parkway (the grass buffer between the back of curb and sidewalk) would create winter maintenance issues related to snow storage and snow removal from sidewalks. It would also reduce the safety buffer and lessen pedestrian sense of security that the current parkway configuration provides between the sidewalk and travel lanes.

15. Can the median width be reduced from 0-25' to 0-12'?

On Dubuque Street, south of Kimball Road, there is currently no median proposed to reduce impact on the wooded bluffs.

Between Kimball Road and Ridge Road, the alignment of the roadway has been shifted west to reduce impacts to properties along the northbound travel lanes. Staff made a conscious decision to shift the roadway and maintain the existing median between the northbound and southbound lanes in this location because it is important to the character of the corridor. It also serves to provide sufficient storage for Cambus to be able to perform their northbound to southbound turning movement at the relocated intersection of Ridge Road and the entrance to Terrell Mill Park. At the relocated intersection of Taft Speedway and Dubuque Street, maintaining the current median width provides storage between the northbound and southbound lanes for cars traveling east to north or north to west. Travelers seeking to make these turns would not have to cross all travel lanes at one time to complete the movement.

North of Ridge Road, the roadway has maintained a shift to the west in order to reduce impacts to adjacent properties. The Foster Road / Dubuque Street intersection was recently improved in 2005 and the Preferred Alternative minimizes impact to this area. The existing left hand turn lane will be maintained. The median width throughout this section of roadway transitions the roadway from the Taft Speedway intersection to the Foster Road intersection.

16. It has been indicated that a right turn lane from southbound Dubuque to westbound Park is warranted by the Metropolitan Planning Organization of Johnson County (MPOJC). Why is the new turn lane necessary?



Based upon the existing traffic volumes at Dubuque Street and Park Road the southbound right turn lane is warranted. The threshold where a right turn lane becomes necessary is approximately 300 vehicles in the peak hour making a turning movement. In this case the current model shows 715 vehicles making the southbound right turn in the AM Peak Hour. The addition of the right turn lane will increase function and safety at the intersection. The Highway Safety Manual (HSM) confirms this safety benefit, indicating a 4 percent reduction in intersection crashes with the addition of the one turn lane (HSM pg. 14-26). The attached Figure 5, Peak Hour Traffic Counts (MPOJC) depicts the failure of the southbound thru lane in both the AM and the PM Peak Hours if the outer lane was simply converted to a dedicated right turn lane. The addition of this turn lane adds width on the west side of Dubuque Street and does not have an effect on the impacts to the wooded bluff.

17. Are dual left turn lanes required on eastbound Park Road? Can we have a shared right and left-turn lane to reduce the width of the new bridge?

In January, 2011 HNTB Consultants completed a Build Traffic Operations Analysis. This analysis uses peak 2040 traffic forecasts as provided by MPOJC to develop future peak hour traffic volumes in the study area. As a result of the analysis, a second eastbound left turn lane was needed to achieve an acceptable level-of-service of C or better. This movement will be analyzed more closely during final design.

18. Is the 3rd lane on Park Road from the bridge to Riverside Drive really needed?

This improvement was recommended by MPOJC prior to 2008 and was included in the approved CIP. It is needed to achieve an acceptable level-of-service of C or better on Park Road. Without the improvement, delays on Park Road would be experienced as left turning vehicles are not able to leave the traveled way while waiting to turn. In the future, the volumes at Dubuque Street and Park Road are expected to remain relatively the same. However, the volume coming into and out of the lot at Hancher Auditorium due to events and commuter traffic is expected to grow with a majority of the exit traffic travelling north.

19. Are there additional options available for shrinking the horizontal footprint and minimizing impact along the Bella Vista Hillside at Dubuque Street and Park Road?

Geometric options:

- Use of retaining walls along the east sidewalk to match into existing grade faster.*
- Steeper slopes could be used along the east side of Dubuque Street*
- Reduced parkway width between the curb and sidewalk*
- Reduced sidewalk width*

There are potential maintenance, drainage and cost issues associated with these changes.

Landscaping options:

- Tree wells to protect mature trees – adding soil (beyond 6” in depth) around existing trees can cut off air circulation to the tree roots and limits access to moisture and nutrients, causing damage to the tree. Tree wells are a possible solution, but could be costly and are not always effective in salvaging the tree. Tree wells should be*



constructed to not exceed 3' of additional soil cover and should be a minimum of 3' from the trunk, with special accommodations for drainage and air circulation within the fill material.

- *Tree replanting – planting additional trees on the hillside is a preferred method of mitigating any tree loss during construction. Although the new trees will be smaller, planting soil conditions, tree type/species, and location can be controlled to ensure future success of the landscape and address any concerns with screening and buffers.*
- *Native plantings – to address maintenance and steep slope concerns, the hillside and adjacent slopes could be planted in a native mix of grasses and groundcovers. Once established, these low-maintenance plantings would require only seasonal mowing and minimal watering. The bases of steep slopes could also be designed with plantings that act as a linear rain garden, helping to manage storm water runoff.*

20. What, if any, are the design criteria affecting clear zone and the use of barriers?

The large retaining wall on Dubuque Street will be set back from the roadway at a distance greater than the required clear zone from the AASHTO roadside design guide. As such, the top of the wall does not require a crash worthy barrier (AASHTO Roadside Design Guide Table 3-1). This clear zone will be verified and analyzed more during final design.