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The screening matrix, with Concepts 1 – 7 and the two trail grade separation options (Concepts 8 and 9) were presented to the TAC for review and discussion. Through those efforts certain concepts were identified as less desirable, and likely to not gain public support. Concepts 3, 4, and 7 were determined to not provide sufficient improvement toward the study goal and objectives and therefore removed from further consideration. This approach was generally supported by the PAC.

The resulting list of improvement concepts included the following for further evaluation within the framework of the screening matrix:

1. Do Nothing
2. 4-Leg Signal System, including Thornton Street with East River Parkway Split
3. Roundabout – 1 Two-Lane Enter/Exit (became known as the “Single lane” roundabout)
4. Roundabout – 2 Two-Lane Enter/ Exit (became known as the “Multi-lane” roundabout)
5. Trail Bridge
6. Trail Underpass

The screening matrix was reviewed by both the TAC and PAC for their interpretation of the objectives rating for each concept and the results are shown in the *Concept Screening Matrix* in **Appendix D**. The results of the Positive (+), Neutral (0), and Negative (-) rating process indicated the TAC ratings for Positive Impacts were slightly higher for the roundabout concepts as compared to the 4-leg signal concept. The Multi-lane Roundabout (with 2 Two-Lane Entry/Exit) concept received the most Positive (+) Impact ratings based upon performance.

The PAC ratings for Positive Impacts showed a slight preference to Concept 5, the Single Lane Roundabout (with 1 Two-Lane Entry/Exit) configuration compared to Concept 2, 4-Leg Signal or Concept 6, Multiple-lane Roundabout (2 Two-Lane Entry/Exit).

The ratings for the trail grade separated options indicated the TAC and PAC both showed a preference to the Pedestrian Bridge concept versus the Pedestrian Underpass concept. However, as previously reported, the trail bridge is of serious concern to National Park Service staff due to visual impacts along the river bluff.

## 5.0 Refinement of Alternatives

The establishment of the four main intersection concepts plus the trail grade separation concepts, the technical evaluation conducted by SEH, and subsequent review by the TAC and PAC provided an initial direction for the identification of an ultimate improvement option for the intersection. However, during discussions with the PAC, committee members expressed skepticism regarding the certainty of the year 2030 forecast traffic which was based upon the Central Corridor Light Rail Transit studies. Without resolution to this issue and a collective lack of confidence in the projected forecast year conditions, it was determined that both short term and long term improvement alternatives should be considered.

The long term improvement alternatives retained the four primary intersection concepts identified from the screening matrix exercise. The 4-Leg Signal System and Roundabout concepts were developed to accommodate forecast year 2030 conditions. The Trail Bridge and Trail Underpass alternatives were carried forward for additional consideration. Each of these concepts presumed full reconstruction of the intersection.

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Neither Hennepin County, the City of Minneapolis, nor the Park Board had yet to program funds to reconstruct the intersection. When combined, the uncertainty in future traffic demands and the absence of a specific financing plan served to reduce the likelihood that a significant reconstruction project could be approved in the short term. It was recognized that the full intersection reconstruction options should be retained as potentially viable alternatives for the long term but that the study should re-focus on a short term plan that has less cost and impact.

The study team worked to develop a low-cost, traffic management approach that addresses the study objectives in the short term. The elements of this alternative needed to provide an improvement upon the current congestion, clarity, user behavior and resultant safety issues. Improvements should be provided to benefit all users of the intersection, not require major reconstruction impacts, and be able to be implemented in conjunction with early stages of construction on the Central Corridor Light Rail Transit project so that resulting traffic pattern changes can be better accommodated.

The concept developed for the short term improvement alternative was named the Traffic Management Plan and involves the following: Minor pavement widening on two approaches to the intersection; reconfiguration of intersection approach lanes to better serve traffic volume demands; new traffic signing for improved lane assignment interpretation by drivers; improved traffic signal indication locations to improve clarity of right of way assignments, and a new traffic signal system that utilizes the latest technologies in traffic signal controllers and video detection to more effectively serve bicyclists. In addition, the plan also provides for enhanced bicycle treatments including dedicated lanes and bike boxes. The concept for the Traffic Management Plan is illustrated in *Figures 13 and 14* in the Exhibits Section near the end of this report.

## **6.0 Technical Presentation of Alternatives**

The Technical Advisory Committee (TAC) assessed each alternative for its ability to achieve study goals serving all users including pedestrians, bicycles, automobiles, buses along both legs of Franklin Avenue, and trucks over the Franklin river bridge and on 27<sup>th</sup> Avenue north of the intersection. Each long term concept was evaluated to serve traffic demand volume assumptions for 2030 conditions and the traffic management plan was developed to serve short term needs through 2014. In depth discussion of these user driven demands is provided in the following sections.

### **6.1 Intersection User Considerations**

The objectives for this project are to improve pedestrian, bicycle, and vehicle safety; improve intersection clarity to satisfy user expectations; and to reduce delay for all users. These goals were identified early in the intersection study process and provided the foundation from which preliminary concepts were developed and evaluated. The next three sub-sections identify key aspects and considerations for each of the major user types at the intersection – pedestrians, bicyclists, and motorized vehicles.