

# The Saving PLAN for Red Bridge Road

## History of previous proposals

There have been many proposals for Red Bridge Road. It is important to know the significant differences between them to understand how the latest proposals compare to what was previously rejected by the community and by the newly-elected council.

2003: HDR initial proposal. Five lanes from Holmes Road to Grandview Road.

2006: HDR revised proposal. Five lanes through Minor Park. Three lanes east of Blue River Road.

2007: Public Works proposal. Two lanes with median. No changes east of Blue River Road until average daily traffic reaches 16,000.

2007: City council halts land condemnation.

2008: BWR proposal. Three lanes with 10-foot wide trail.

In terms of overall right-of-way impact, the latest BWR proposal is greater than any since the initial proposal from 2003. All proposals featured a “fly-over” bridge spanning the 100-year flood plain and railroad. The significant and negative impact of that bridge to public safety, the park, and surrounding neighborhoods led to the formation of Friends of Red Bridge.

All of the above proposals have not only failed to address any of our concerns, they have introduced new safety issues.

## Rationale for a citizen study of Red Bridge Road

The Friends of Red Bridge advocated for a second study of Red Bridge Road using the set of best practices known as context sensitive solutions (addendum A). The RFP which was eventually drafted for this study of the road held some promise that such methods would be employed. However, the final contract mandated yet another big bridge, which was the single most objectionable feature of the previous proposals. The actual conduct of the study also bore no resemblance to context sensitive solutions, and continued to trivialize the reasons that the previous plans were rejected. The resulting plan fails to constitute an alternative to the previous plan. What changes were made raise not only new safety issues, but also lay the groundwork for future, even greater expansion.

Therefore, Friends of Red Bridge has independently researched and funded a true alternative plan to present for discussion and approval.

## Objectives of the Friends of Red Bridge study

Broadly speaking, we sought a plan that excelled in three areas: mobility, economics, and environment, and we believe that we have achieved that goal.

### Mobility

Certainly the primary function of a road is one of mobility. To that end, moving the greatest number of vehicles at the greatest speed is usually given the highest priority by transportation agencies. However, the realization that such a practice is a self-defeating exercise is spreading, and increasing numbers of planners and engineers have come to embrace a different concept of what mobility should mean. To us, it can be seen to have the following components:

- Access—The ability to get onto the roadway from private drives and connecting side streets.
- Multi-modality—Making the road (or by means of separate facilities) useful, safe, and pleasant for pedestrians and cyclists.
- Safety—Identify existing dangers and reducing, mitigating, or eliminating them. Consider the possible safety issues that may be generated by roadway modification. Preference is given to reducing injury accidents and fatalities over property-damage-only accidents.
- Speed—Maintaining a consistent, safe speed along the roadway as this will help achieve other goals as well.
- Traffic flow—Lessen congestion without creating excess capacity that would draw traffic to the road from other roads, or cause users to take unnecessary or over-long trips.

### Economics

Economic concerns are heightened by the increasingly tenuous condition of south Kansas City neighborhoods, and the rapidly growing constraints on the city's budget.

We consider the following to fall under the rubric

of economics:

- Budget—The budget should apply to the entire project area to ensure that no section is neglected.
- Design and construction costs—Do they result in good “bang for the buck”?
- Wealth impact—How will property values be affected? How will local businesses be affected?
- Federal funding—Can additional federal funds be applied to the project?
- Future maintenance costs—Features which cost less to maintain or which eliminate maintenance altogether are favored.

## Environment

Roadways have a tremendous impact upon the environment but this has traditionally been overlooked and left out of the planning process until the end when modifications are next to impossible. We believe that environmental concerns—ecological as well as neighborhood, scenic, recreational, and historic—need to figure into every stage of consideration.

Examples of environmental considerations include:

- Air & noise pollution
- Community cohesiveness—A sense of being safe and at home in one’s house and one’s neighborhood.
- Green solutions—Recently endorsed by City Council and Parks Board resolutions, this means filtering storm-water runoff near where it falls rather than channeling it into

our rivers and thereby adding to water quality and flooding problems.

- Historic legacy—The rural character of the mid-19<sup>th</sup> century is largely intact in the Minor Park area, site of some of the most visible and extensive trail remnants from the days of the Great Migration along the Santa Fe, Oregon, and California trails. This legacy has the potential for preservation and enhancement in a way that would also have significant positive economic value (from local to international tourism).
- Metro Green and area trails—Multiple trail systems are being developed to enhance the recreational value of, and quality of life in, the Blue River Valley. These should tie-in to the pedestrian and bicycle facilities connected with Red Bridge Road in a seamless and complementary fashion.
- Park assets and values—Minor Park and the adjoining Blue River Parkway constitute a “bit of country in the city” with rugged topographic features, the river, and many large trees. Conservation groups regularly convene to defend these values against the dumping of trash and the encroachment of invasive plant species. A high priority should be placed upon the conservation of these values as, once lost, they are usually impossible to regain. Therefore, the roadway should complement this setting and not fight it, dominate it, or detract from it.
- Right-of-way impact—Although this might also be placed under “wealth impact” since property values are at stake, the effect a roadway has upon the right of way also affects quality of life, and ecological factors including the city’s tree canopy.

- Sense of place—A roadway should give one a sense of being immersed in a special environment that uplifts, calms, and gives a sense of safety and well-being. It should not elevate psychological stress or cause the user to feel degraded or alienated.

Properly balanced and kept in mind at all stages of the planning process, we believe that these goals can be achieved in a mutually-reinforcing way that will achieve a sense of excellence and long-lasting value for all roadway users.

#### Source materials for The Friends of Red Bridge study

The Friends of Red Bridge study of Red Bridge Road has been an ongoing process drawing upon a wide range of research and information, including:

- Red Bridge Road Concept Study, Holmes Road to Grandview Road, Kansas City, Missouri (Final Report published by HDR, inc., August 2004)
- Traffic count of major intersections conducted by BWR Corp. in 2007.
- Public comments published in the official record of public meetings on Red Bridge Road.
- Traffic analysis of Red Bridge Road and outline of alternative by Michael Wallwork, P.E. of Alternate Street Design, P.A.
- Newspaper articles and internet-based research
- Meetings and discussions with FoRB members and with members of the local design and planning community
- Assistance was received from the statewide organization Scenic Missouri, and the Pennsylvania-based Safety, Agriculture,

## Review of Previous Study

Red Bridge Road Concept Study, Holmes Road to Grandview Road, Kansas City, Missouri (Final Report published by HDR, inc., August 2004) provides useful data for an analysis of the Road, but also contains assumptions and conclusions that have since been called into question.

### Functional classification of Red Bridge Road

*“The flexibility available to a highway designer is considerably limited once a particular functional classification has been established.” –Federal Highway Administration*

The classification of the road as an arterial (typical volume of 20,000+ vehicles per day) was based on the city’s major street plan, a 40-year-old document which has been criticized as out-of-date and based on an outmoded model of urban planning. (The process of updating the major street plan is about to begin.) Current and historical levels of traffic do not support a classification greater than collector (typical volume of 10,000 to 15,000 vehicles per day). Upgrading Red Bridge Road to conform to arterial geometry will increase both vehicle volume and speed, and decrease access — outcomes undesirable for the community.

### Growth of future traffic

The previous study indicated traffic would double or triple by 2025. However, the most recent study

(BWR corp., 2007) indicates only minor growth through 2030 — well within collector classification.

#### Impact of the reconstruction of highway interchange

The previous study failed to predict the dramatic drop in peak hour traffic volumes that have been observed in the latest traffic count (BWR, 2007). Traffic turning from southbound Holmes Road onto Red Bridge Road declined by 60% from 2001 to 2007. Traffic going east through the intersection of Red Bridge and Blue River Roads declined by 41%, and traffic arriving at Grandview Road on Red Bridge from the west declined by 25% (HDR & BWR peak-hour count comparison). These declines were observed to have occurred in conjunction with the partial opening of the Three Trails Crossing interchange.

#### Accident Data

All injury accidents are shown in the previous study to have occurred at intersections. Between intersections, all accidents were property-damage-only and of uniform distribution by segment.  
(addendum B).

#### Justification of road and bridge expansion

The statement of project purpose and need in the HDR study and other official documents justified road widening and a larger bridge based on the functional classification of the road, the obsolescence of the existing bridge and a projection of a doubling/tripling of traffic volume by 2025. It is important to note that other reasons

for the expansion introduced in the political realm: flooding, and train delays, for example, are not adduced in these official documents. Instances of flooding and delays due to passing trains are not quantified in the HDR study. However, hydrologic data maintained by the National Weather Service show flooding to be a rare event — a conclusion supported by the experience of area residents. Train delays are insignificant when compared to those of nearby signals. Emergency responders report no hindrance to service due to the existing road. Therefore, we conclude that even without the negative aspects factored into the analysis, the benefits of a fly-over bridge do not justify the cost.

## **Friends of Red Bridge Alternative Proposal and Options**

### Roundabouts

The primary source of congestion and site of nearly all injury accidents are the four major intersections. Roundabouts are recommended to improve safety, alleviate congestion, calm traffic, provide landscaping opportunities, reduce auto emissions, and improve access.

- Holmes Road: two-lane roundabout
- Blue River Road: single-lane roundabout
- Jackson Avenue: single-lane roundabout
- Grandview Road: single-lane roundabout

Additional single-lane roundabouts for neighborhood access and traffic calming are optional at Montgall, the apartment area, the Terrace Lake commercial area, and Myrtle Avenue (which could be combined with a new

small connecting street between Myrtle and Cleveland for greater access for Terrace Lake Gardens).

No greater improvement to public safety, traffic flow, and air quality could be made than through the introduction of roundabouts on Red Bridge Road, and at an extraordinary benefit to cost ratio.

However, roundabouts have never been a part of any proposal for Red Bridge Road. No effort has been made to educate the public on the benefits of roundabouts, and indeed the greatest obstacle to roundabout conversion is a lack of understanding of their benefits combined with the prevalence of negative misconceptions (addendum C).

Correct and complete information should be made available to the public and government officials before deliberations or surveys are conducted.

#### Quiet Zones for Safety

Incident reports maintained by the Federal Railroad Administration are the official safety record of the Union Pacific line traversing the Blue River valley in the Red Bridge area. An examination of those records reveals a superior safety record for the Red Bridge Road crossing with only one property-damage incident since the installation of crossing gates, and no record at all of injuries (addendum D). This can be attributed to the curvature of the approach at that crossing which slows traffic, and makes it less likely drivers will attempt to “beat the train”.

In the 1970s and 1980s, the nation faced a serious railroad crossing safety issue. The installation of crossing gates since that time has greatly improved

this situation. However, further improvements to safety for most crossings are possible through the implementation of FRA “Quiet Zones” as has been done on the same U.P. line as it crosses 151st Street and also Kenneth Road in Overland Park, Kansas. Quiet Zones have also been constructed in Lee’s Summit, Olathe, and Parkville. There are over 20 on Union Pacific lines in Saint Louis. A Quiet Zone could be constructed at the Red Bridge crossing without widening the road or otherwise disrupting the character of the park (addendum E).

### A New Two-Lane Bridge

We recommend a new bridge over the Blue River along roughly the current alignment with modest alterations to improve line-of-sight and curvature, or on a new, southwest-northeast alignment for the same reasons (addendum F). As for the existing bridge, it could be maintained as a pedestrian bridge, though a funding commitment to maintain it in good condition would be required. That being unlikely, the preferred alternative would be to remove it. However, the new bridge may incorporate the pink granite rock from the existing bridge as an aesthetic element. Another option that would have functional, aesthetic, and economic benefits would be the construction of a modern covered bridge using the most durable and appropriate materials (addendum G). These could include wooden sides and a shingled roof to honor the original 1859 bridge (addendum H) and to celebrate the history of the area. Many covered bridges are now being built of prefabricated weathering steel. This would not only lower maintenance costs, but could also considerably reduce construction time. Such a structure would draw people to the park, which could revitalize the

Red Bridge Shopping Center. It would also be a source of local pride as well as having the advantages of lower cost of maintenance, increased safety by sheltering the road and greatly increased life span. If a simple truss bridge were to be built, it could also be prefabricated to cut cost and installation time.

While our recommendation is for a new bridge, it should be made known that the current bridge can be repaired at a cost of \$1.5M - \$2M which would enable it to be used for vehicular traffic for the next 15—20 years. A separate bridge could be constructed for bikes and pedestrians.

All of these alternatives would not only accommodate bikes and pedestrians, but also have adequate shoulder area, and be elevated above ground level to reduce exposure to flood waters. FEMA regulations, often misrepresented, do not prohibit this. The bridge deck would be horizontal to minimize icing danger and linear to maintain safety. Depending on the alignment, any road closure would be for a relatively minimal time.

#### Two-Lane Road

In keeping with the rural character of Minor Park, we recommend maintaining the two-lane road through the park and in residential sections. Shoulders would be reconstructed with reinforced earth and/or grass pavers (addendum I) to effectively handle storm water runoff, prevent ruts, and halt erosion problems threatening the swales which are also a cause of flash flooding. Curbs and storm sewers near Holmes Road would be eliminated. Bioswales (addendum J) and rain gardens would be a part of this solution.

Park facilities to the east of the Blue River would be accessed by new roads connecting them to Blue River Road near Red Bridge Terrace. The park entrance road east of the bridge would be removed to improve traffic flow and improve the park drive-through experience. (Children International recently announced their plans to close their Red Bridge Road entrance as well.) For the suburban context east of College Avenue, curbs with curb cuts with bioswales for drainage, or reinforced earth shoulders as appropriate to drainage patterns would be installed. The commercial and apartment area would incorporate a landscaped median with left-turn pockets to improve traffic flow. Though a continuous center-turn lane would provide that benefit, they are not recommended:

*Two-way left-turn lanes generally are not recommended in residential areas because they do not afford a safe refuge for pedestrians. Also, the number of driveways can create unsafe vehicle maneuvers. — U.S. Department of Transportation, Flexibility in Highway Design*

The two-lane road would be maintained in the residential areas, such as east of the commercial area to Grandview Road. The two-lane road geometry and roundabouts work as a pair. Roundabouts add capacity where it is needed (at intersections). The two-lane road between the roundabouts still has more capacity than the improved intersections, and is the best fit for the residential context.

### Multi-Modality

Pedestrians would be accommodated by a sidewalk

along the road. In more heavily-populated areas, it may be on both sides of the road as may be approved by adjacent property owners who by law will be responsible for maintenance and cost of replacement , or on one side only as appropriate to the pedestrian volume. Through the park, the walkway would be a park trail to match other trails transecting the park, and along the roadway only where needed (bridge, railroad crossing). The walkway would follow a path through the park allowing pedestrians to enjoy park values free from the pressures of passing traffic.

Bicycles would be accommodated by bike lanes on the road or on nearby trails. The travel lanes would be reduced from 12' to 9'-11' with 4'-5' bike lanes. This would reduce speeding and be in keeping with New Urbanist design standards. Bike lanes on the bridge could be contiguous with the travel lanes, or separated, sharing the pedestrian walkway on the side of the bridge.

### Aesthetic and Context-Sensitive Additions

To give park users a sense of quality development and a unified aesthetic motif which enhances the natural and historic sense of place that Minor Park provides, we recommend the following:

- Burial of overhead utility lines and utility boxes.
- Steel-backed timber guardrails (addendum K)
- Large trees planted near the road but behind guardrails.
- Native roadside plantings
- Improve right-of-way maintenance along the whole of Red Bridge Road to Parks

## Department standards

### **Conclusion**

We believe that the Friends of Red Bridge Saving PLAN will best meet the needs of the surrounding community without the corrosive effects that would result from other proposals.

Our proposal saves the park, saves the neighborhood, and saves lives, and, at an estimated cost for the entire project that will not exceed the amount budgeted for phase I (Holmes — Blue River), the Saving PLAN saves money, too.